

**Final Report - - Executive Summary
Phase Two of an
Audit of the Affiliated Transactions Between
New Jersey Natural Gas Company and
New Jersey Resources Corporation
and its Affiliates and a Management Audit of
New Jersey Natural Gas Company
Docket No. GA22020074**

Public Version: Confidential Materials are Redacted

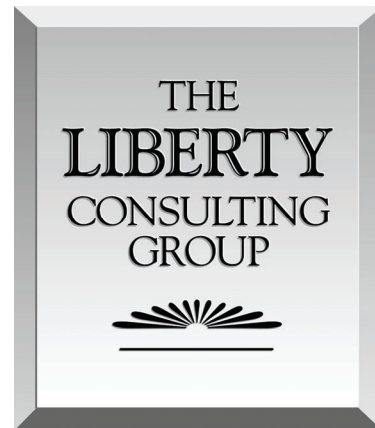
Presented to:

***Board of Public Utilities
State of New Jersey***



Presented by:

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Executive Summary

A. Introduction

This report summarizes the second, *Comprehensive Management Audit*, phase of an Audit of the Affiliated Transactions and a Management Audit of New Jersey Natural Gas Company (“NJNG”) that The Liberty Consulting Group, conducted on behalf of the New Jersey Board of Public Utilities. We performed this audit in two phases:

- Phase One: A focused series of topics that address utility natural gas supply procurement and management, the impact of the relationship between the utility and affiliates that operate in this area, the allocation of costs to all affiliated entities, the reports prepared by the utility and submitted to the state of New Jersey and federal authorities, and the Company’s compliance with affiliate standards that enforce the New Jersey Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 *et seq.* This report describes the results of our examination of the scope encompassed by these topics
- Phase Two: Subsequent examination and evaluation of functions as part of a comprehensive management audit of New Jersey Natural Gas. An accompanying report describes the results of our examination of topics within that scope.

We appreciate the opportunity to be of service for the New Jersey Board of Public Utilities, we thank the strong support from its Staff across the completion of our work.

B. Chapter II: Organization and Executive Management

This chapter addresses a series of topics categorized under the headings of executive management and its relationship to corporate governance. A number of other chapters of this report address other topics so categorized; *e.g.*, the structure and operation of the boards of directors and their committees, financial insulation and protection of NJNG vis-à-vis its affiliates and parent, the allocation of personnel resources among NJNG, the service company, and non-utility affiliates, internal controls and auditing, cost assignment and allocation requirements and service agreements, agreements between NJNG and affiliates specific to gas asset and supply planning and operations to the associated relationships and interactions, and security of facilities, systems, and information.

Examining organization and executive management as it affects NJNG requires consideration of its colocation with a large, growing, and complex set of non-utility operations. Since the last audit of this type, for example, NJNG net financial earnings have grown by 79 percent, with those of its parent company, New Jersey Resources (“NJR”), non-utility operation segments growing by a much higher 133 percent, taking them from about one third to one half of NJR total earnings. Top-level executive leadership over more general corporate matters operates in common for NJNG and the non-utility NJR businesses. Similarly, common organization structure and executive leadership also exists for the wide range of administrative services across the range of NJR’s businesses, including NJNG. The appropriateness of the alignment, responsibilities, and focus of the structure and executive team members that serve in performing common functions comprised a key focus of the examination reported in this chapter. The ability of the overall organization and team alignment, authorities, responsibilities, and accountabilities of the executive complement within and dedicated solely to NJNG management and operations was equally central to our examination.

The work underlying the many other functionally focused chapters of this report focused as well on these three (NJR corporate, service company, and NJNG) perspectives as well. That work complemented the more overall approach taken to the matters reported here with an examination of organization, leadership, planning, resources, management, systems and tools, activities and other determinants of their success in serving NJNG interests objectively and fully.

The growth and change in NJR's non-utility operations has been accompanied by enhancement of the structure and leadership complement that addresses corporate and common service provision. Those enhancements leave NJR with a sound overall structure for managing what needs to be addressed at the corporate level and for logically aligning and assigning leadership to the full range of common administrative and support functions involved. Appointment of a non-utility business COO, a position parallel in reporting and operational responsibility to the NJNG-dedicated COO position, puts the NJR CEO in a similar position with respect to both these major arms of NJR's business. The evolution of NJNG's executive structure leaves the utility with an internal and dedicated leadership team whose authorities, responsibilities, and accountabilities conform to an approach under which NJR has left sufficient and in fact more than typical operational authority within NJNG. We found the NJNG leadership team fully engaged, sufficiently empowered, and adequately resourced to address utility needs and circumstances with an appropriate level of independence.

We did find three specific changes to the structure in order. First, as detailed more specifically in the *Procurement and Purchasing* chapter, the lead NJNG gas supply position should be elevated to the vice-presidential level, with reporting directly to the NJNG officer who leads the internal NJNG organizations operating under Energy Delivery. Second, as explained in the *Compliance & Ethics* chapter of this report, NJR should create a separate CCO position and place it directly under the NJR CEO. Third, over time, NJR should remove from the responsibilities of the non-utility business COO the responsibility that now resides there for matters related to strategy, across the parent, NJNG, and non-utility spectrum that NJR's business operations address. We recognize that it may take some time to make this change. With no indication of disadvantage to NJNG observable to date through our work, time remains to address the change in the context of overall leadership planning and development. Nevertheless, for the longer term, placing NJNG in a similar structural position vis-à-vis the non-utility businesses (whose COO now serves as lead strategy-focused executive) is best designed to ensure robust and fully objective strategy development for NJNG.

The last audit of this type raised issues with respect to the clarity of roles and responsibilities and the focus of elements of the NJR organization and those who lead and manage it. We paid particular attention to how corporate and to how common administrative and support service providers defined their responsibilities, determined plans and priorities for their work directly and indirectly engaging NJNG, managed the activities comprising that work, and ensured sufficient focus on the utility's needs and circumstances. We did not find that lack of sufficient clarity or focus continue.

Our *Organization and Executive Management* recommendations include:

- 1. Create a plan for eventually transitioning top-executive responsibility for strategy from the scope of the non-utility COO position.**

C. Chapter III: Governance

This chapter addresses NJR and NJNG governance structure, board composition and selection, independence and measures to avoid conflicts of interest, and sufficiency of focus on NJNG needs, resources, activities, and circumstances. We found board structure, committee alignment, and governance documents appropriate, with an exception addressed in this report's *Compliance & Ethics* Chapter. A separate board exists for NJNG, entirely composed of independent directors except for the NJR CEO. All the NJNG board members sit as well on the NJR board. The same independent director who chairs the NJR board chairs the NJNG board. Sound measures exist for identifying and vetting board member candidates.

We recommended enhancements to generally sound board oversight to address NJNG-specific matters, such as more complete and detailed review of large-scale capital additions, relationships and transactions involving NJNG capacity resource and gas supply planning and acquisition, ensuring regular audit examination of those transactions and relationships, and doing the same with respect to cost assignment and allocation. We recommended that the joint meetings of the NJR/NJNG boards should be preceded by meetings of the NJNG independent directors, who should have routine access to NJNG's most senior operating officer. This group of NJNG independent directors should directly and substantially engage in formation of the NJNG portion of board agendas, and provide summary reports of its meetings to the full board as it begins consideration of the NJNG items on the agendas for NJR board meetings.

Our *Governance* recommendations include:

- 1. Create a Utility Operations Committee of the NJR board of directors.**
- 2. With respect to information provided to directors prior to board meetings, trend the quantitative performance information provided and focus more on actions management is taking to enhance performance.**

D. Chapter IV: SOX, Controls, and NYSE Listing Requirements

This chapter addresses the NJR Control Framework, the process for managing Sarbanes-Oxley ("SOX") requirements, Internal Auditing and the governance role played by the Audit Committee with respect to these areas. This chapter also addresses compliance with the New York Stock Exchange ("NYSE") listing requirements. We generally found internal controls, including risk assessment, meeting SOX requirements, the structure and operation of the Internal Auditing department and the role of the Audit Committee adequate. We found compliance with NYSE listing requirements. We make recommendations regarding the administrative reporting relationship of the lead internal auditor, and recommend improvements to the audit planning process, based on anomalies revealed in our audit. We also suggest a re-examination of the decision to outsource the Internal Audit function.

Our *SOX, Controls, and NYSE Listing Requirements* recommendations include:

- 1. Change and clarify the reporting relationships of Vice President, Corporate Risk Management.**
- 2. Create a database of audit subjects that can be referenced as part of the establishment of the annual audit plan.**
- 3. Examine the scope of audits conducted since outsourcing to determine if a narrower scope might allow for greater coverage of audit topics.**
- 4. Provide a means for ensuring regular auditing of areas that pose risk arising from NJNG's affiliation with non-utility business operations.**
- 5. Arrange for an external assessment of the Internal Audit function as soon as possible and schedule such assessments to take place at least every five years.**
- 6. Conduct a detailed evaluation of the advantages and disadvantages of the alternative Internal Audit structures and present a recommendation to the Audit Committee for their decision to either retain the current structure or modify it.**

E. Chapter V: Compliance & Ethics

The utility industry, as the other four publicly traded holding companies with substantial New Jersey utility operations demonstrate, has undergone great change in the scope of compliance and ethics ("C&E") programs and in the comprehensiveness and structure with which they plan and execute them. NJR has expressed a sound level of commitment to the highest levels of compliant and ethical actions and behaviors, but a number of aspects of its program have not kept pace with industry developments or with those other four holding companies. The General Counsel of NJR also acts as its chief compliance officer ("GC&CCO"). This executive has been making changes that move in the direction of others, but not according to a clear plan or schedule that will address the full range of opportunities to improve the program to bring it more in line with increasingly common practice.

A first priority should be to expand the means by which senior leadership sets a "tone at the top" that reinforces the commitment to and the requirements and expectations that underlie and reflect its goal of securing highest level compliant and ethical actions and behaviors. Meeting that priority calls for a formal and expanded communication plan, regularly updated and executed. It also calls for clearer definition of the role of the NJR and NJNG boards in overseeing compliance and ethics program content, structure, and execution.

NJR stands alone among the four publicly traded holding companies with substantial New Jersey utility operations specifically, and the prevailing pattern in the industry generally, by combining into one position its chief legal and chief compliance officer ("CCO"). At the least, NJR should create a separate and senior CCO position. However, we consider it far preferable to combine that separation with reporting of the CCO to NJR's chief executive officer, rather than its general counsel.

The NJR Code of Conduct (“CoC”) operates as a prime communicator of C&E values, expectations, requirements, and processes to employees. It is sound overall, but NJR should adopt a number of measures to ensure that it clearly communicates the importance of expectations and requirements and how to meet them. These measures include supplementing the CoC with the broader, comprehensive C&E program governance document providing a robust description of program scope, processes, accountabilities, and responsibilities. NJR should also adopt a companion CoC for suppliers and vendors.

The use of regularly conducted and comprehensive risk assessment processes focused on C&E matters has become a central element of good utility practice. NJR’s GC&CCO has been making progress in securing input and analysis of C&E risks and how to identify, measure, avoid, mitigate, and respond to them. However, faster paced efforts and greater targeting of a formal and regularly repeated C&E risk assessment process and means for using its results are in order.

An effective C&E process calls for a range of sources through which individuals can report C&E concerns, make allegations of improper actions or behaviors, and ask questions to resolve uncertainties. NJR’s CoC makes clear a suitable range of sources, the availability to use them anonymously, and the prohibition of retribution for good faith reporting. NJR employs a widely used third-party source respected for providing systems that support anonymous and other reporting, and prompt transfer of reported information to those responsible for pursuing it. While sound overall, improvement opportunities exist in documenting procedures that produce clear accountability for preserving anonymity, controls over access to the case management system that contains sensitive information, and in charting a shorter, more direct path for reaching reporting portals when starting from the web page. NJR can also benefit from adoption of regular and comprehensive reports using case management system information in ensuring CCO management of cases and informing the boards of directors.

The case logging and management system and the procedures applicable in conducting investigations are sound. Improvements can be made in letting reporters who wish to remain anonymous know that some circumstances (e.g., requests or demands from court or law enforcement) may jeopardize continuing anonymity in order to provide fair notice to reporters and to give them confidence that tight controls exist on acceding to such requests or demands. There also should be clearer measures to exclude the subjects of reports from access to those reports. NJR has adopted procedures that limit or establish pre-clearance for certain political contributions. Best practice, however, would indicate reason to enhance them by expanding the politically oriented groups to which they apply and through consistent reporting of contacts with public officials that involve requested actions.

The list of improvement opportunities in this area is particularly long, but we emphasize that generating it did not result from observation of improper or questionable conduct or behavior, but from comparison to how others have addressed C&E matters programmatically, including, as explained, the other four publicly traded holding companies with substantial New Jersey utility operations.

Our *Compliance & Ethics* recommendations include:

Tone at the Top

1. **Develop and execute annual communications plans designed to ensure continuation of an effective C&E environment and climate and to provide periodic refreshers and reinforcers about C&E expectations, requirements, and changing circumstances. (See Conclusion #1)**
2. **Clarify and expand the description of the NJR and NJNG board of directors roles in C&E program oversight. (See Conclusion #2)**

Compliance Organization and Approach

3. **Create a separate CCO position and place it directly under the NJR CEO. (See Conclusion #3)**

Communication and Reinforcement

4. **Develop and operate under a comprehensive, consolidated description of the C&E program. (See Conclusion #5)**
5. **Develop and regularly issue to new outside providers and reissue to existing ones a supplier code of conduct. (See Conclusion #6)**
6. **Include among the measures that supervisors and those who report to them use to plan individual performance annually a clear, concise compliance and ethics component and make it clear that performance under that component affects compensation decisions. (See Conclusion #7)**

7. **Include in the exit interview process a small but clear set of compliance and ethics discussion areas. (See Conclusion #7)**

Formal Assessment of C&E Risks

8. **Create and regularly employ a structured, reasonably detailed, and broadly participative process for ensuring robust consideration of ethics matters in a combined C&E risk assessment process. (See Conclusion #8)**

Reporting, Investigation, and Resolution of C&E Allegations and Concerns Raised

9. **Document additional and clarify existing C&E procedures and practices. (See Conclusion #10)**
10. **Clearly communicate the possibility that circumstances will lead to disclosure of reporter identity, and develop and implement procedures clearly addressing the criteria, processes, and prior reviews that should precede such disclosure. (See Conclusion #10)**
11. **Establish more substantial controls governing access to and use of the C&E law Navex logging system and test the effectiveness of access limitations periodically. (See Conclusion #13)**

Other Procedures, Practices, and Controls

12. Enhance controls that address political contributions, requests, and contacts, and provide for regular reporting to the NJR and NJNG boards regarding these matters. (See Conclusion #15)

F. Chapter VI: Planning and Budgeting

We examined NJR planning responsibilities, processes, results, and their implications for NJNG. Our review encompassed:

- Strategic planning that sets missions, strategies and initiatives, and goals and objectives
- Long-term plans that set financial goals, capital allocations, and financial targets
- Processes for establishing plans and the resulting budgets that support monthly, quarterly and annual plans,
- Financial results versus budgeted amounts and analysis addressing NJNG performance
- Capital planning and management that provides important input into NJNG's long-term plans and budgets
- Income taxes and their allocation, and effects on NJNG capital allocation.

NJR strategic planning follows a generally qualitative path, driving towards expressions of strategic direction and high-level goals. Goals and objectives set guide the process for producing financial forecasts. These forecasts cover planning horizons of five years at the NJR level, setting financial targets, establishing capital plans, and producing capital and O&M budgets for the holding company. The strategic planning process concurrently addresses and plans for the operations of NJNG, considering its individual needs and circumstances. NJR's plans robustly consider and reflect NJNG needs and responsibilities, meet its customer's needs and market demands and provide the capabilities and resources required, all with due consideration for the risks involved. Planning for NJNG has employed effective high-level strategies, initiatives and processes with the proper consideration of strategic risks while providing the resources necessary for sound utility operations.

NJR's five-year, long-term plans express the results of the highest level of NJR financial planning, following multi-month development at the management and executive level, and approval from the top NJR officers. The NJR board approves these financial plans, which contain high-level parent financial goals; *e.g.*, compound earnings-per-share growth rate, dividend growth rates, strategic investment plans, financial results goals, and key financial metrics. The plans also set forth an overall NJR capital allocation plan, which provides context and parameters for NJNG funding of its gas distribution and transmission investments. Capital allocation to NJNG within the NJR holding company has historically been strong, and forward five-year planning appropriately continues to prioritize the utility's capital requirements.

Developing utility capital portfolios robustly and with clear recognition of operating utility needs and responsibilities has special importance in the capital-intensive utility business where NJNG operates. Building capital plans and budgets begins from the bottom-up by NJNG engineering personnel who introduce their views about local needs for investments in reliability, regulatory, new customer, and infrastructure requirements for inclusion into the planning processes. Capital

planning performed primarily by NJNG engineering is appropriately organized and effectively plans for the utility's extensive capital needs. Consequently, NJNG's capital budgets were shown to have increased dramatically from 2014 to 2023, and planned strong capital spending in forward financial forecasts.

Capital budgeting for NJNG, the analysis of results against the budgets that result, and prompt identification and response to address variances form key elements in effective plan execution and revision where necessary. Capital budgets and performance offer key vehicles for implementing a company's objectives and utility service strategies, making their relationship with high-level strategies and strategic initiatives important. We found NJNG performance to Board-approved capital budgets problematic since 2016, producing large capital spending variances from capital budgets. Notably, NJNG has significantly under-spent its Board-approved capital budgets on a regular basis from 2016 through 2022. Management should improve capital planning and capital execution processes to address large under-spending against approved budgets.

Income statements and operating expense budgets also provide vehicles for executing a utility company's objectives and business strategy, making their performance important. Numbers of employees at utility companies generally have a strong influence on operating budgets. NJNG has generally effectively budgeted and executed its income statement components (as opposed to capital), including gross margins, operating expenses, interest expense, income taxes and other income, from 2014 through 2023.

Utility holding companies often file one, consolidated income tax return for the parent company and its taxable subsidiaries, including its utility entity. Specific legal agreements and related processes usually exist to organize, analyze and file such consolidated tax returns, and to clearly allocate the responsibilities of each subsidiary to make or receive payments from the holding company in accordance with its net income or losses. While NJR and NJNG's tax processes have treated the utility fairly and on a stand-alone basis, NJNG is not party to such industry-standard tax consolidation or allocation agreements. We recommended adoption of an enforceable tax allocation agreement similar to those of other utility holding companies. Tax consolidation policies must also not negatively affect capital allocation to NJNG, which must be allowed to continually invest in its utility operating business to meet service requirements. NJNG capital investment allocations are driven by safety, reliability and utility operating considerations, and not by tax considerations.

NJNG bases gas usage billing determinants in base rate cases on weather-normalized usage for a historical test year. NJNG's billing determinants for gas usage and the associated rate design have been agreed upon by the parties to rate cases, including the company, BPU Staff and rate counsel. Gas usage included in NJNG's base rates for 2018 through 2023 were based on the usage of test years in 2015, 2019 and 2021, as agreed to in rate case stipulations. We recommended that NJNG should analyze and formulate recommendations to improve base rate case gas usage calculations to more accurately predict its actual gas usage.

Our *Planning and Budgeting* recommendations include:

- 1. Improve the capital planning and capital execution processes and their coordination to mitigate oft-recurring and large under-spending of Board-approved budgets.**
- 2. Create a legally binding and enforceable tax allocation agreement similar to those at other utility holding companies that treats NJNG as a stand-alone entity for tax purposes.**
- 3. Analyze and formulate recommendations to improve base rate case gas usage calculations to more accurately predict actual gas usage.**

G. Chapter VII: Finance and Cash Management

Our review of NJNG's finances examined finance and cash management at and for the utility to verify its effectiveness, focused on optimization from the perspective of NJNG. We examined the policies and practices applicable to short- and long-term debt issuances and reviewed the terms of those issuances historically and existing at the time of our field work. We examined whether there was any indication that differences in financial risk between NJNG and the remainder of NJR operations had negative influences on NJNG financial standing or debt costs, considering contemporaneous issuances by other utility enterprises

We sought to determine whether holding company or financial performance have affected the credit worthiness or other aspects of NJNG financing. To determine the potential for such impact in the future, we examined insulation of the utility from potential effects of adverse circumstances at the holding company or other affiliates and provisions in holding company or affiliate agreements or instruments that could encumber utility assets or otherwise implicate NJNG. We also examined the existence or potential for cross-subsidization under which NJR or its affiliates gain advantage from reliance on NJNG financial position or standing. We considered direct and indirect effects of the financing activities and instruments of the holding company and other affiliates on NJNG financial standing and performance.

We also examined the cash forecasting and management for NJNG, considering any interconnection between the utility and holding company and affiliates. We examined cash management methods, segregation of assets, and limitations on cash transactions. We considered the use of utility generated income in assuring effectiveness of its financing activities and the effects of NJR policies and practices with respect to dividends from the utility, use of retained earnings, and the maintenance of sufficient equity within NJNG.

NJNG has maintained a reasonably balanced capital structure since January 2014, with equity maintained generally at levels consistent with rate case results. Exceptions occurred at year-end 2021 and 2022, with equity levels above 50 percent, but still below the 54.0 percent NJ BPU-authorized level. NJNG does not employ formal processes for managing the equity levels to required levels. We recommended that NJNG, as have many other utilities in more recent years, adopt and apply formal, Board of Director-approved processes for addressing dividends, for evaluating equity levels quarterly, and for ensuring maintenance of equity at levels consistent with rate case results.

Financial performance of NJR's non-utility operations has proven financially successful enough over time to avoid stressing NJNG's financial position or operations. However, debt levels at the

holding company level have grown to high levels, due in part to acquisitions. Those levels increased from about 48 percent to 61 percent from 2014 to 2022 year-end. The growth underscores the importance of providing effective insulation of financing between NJNG and NJR and its other business operations. However, the existing levels of insulation have become very dated, given developments in the industry over the past few decades and in particular the criteria applied by the rating agency Standard & Poor's ("S&P"), which offers the best focus on financial risks for utilities operating in holding company structures. The "first-generation" protections applicable at NJR are not commensurate with best practice or the potential for harm to NJNG, should reversals in NJR's other businesses occur. S&P in fact signaled weak financial insulation of NJNG in 2018 roughly contemporaneously with a two-notch credit downgrade, soon after which the Company ceased using this leading ratings agency. NJR cannot promise continued sound performance of its non-utility businesses and we believe that the BPU should not count on such strength. NJR should put in place ring fencing and insulation measures consistent with S&P criteria; *i.e.*, sufficient to ensure that NJNG credit ratings are not influenced by the utility's existence in the NJR corporate structure.

NJNG had about \$1.4 billion in outstanding long-term debt at the time of our field work, consisting principally of privately placed senior notes secured by first mortgage bonds. Those issuances have come through processes managed in common by NJR's financial organization for debt of both NJNG and NJR. Private placement is reasonably common for smaller enterprises like NJR, whose debt issuances fall below the dollar levels typically placed publicly. We found NJNG's issuances of long-term debt financing appropriate and at rates commensurate with those of other reasonably comparable utility issuers.

Our examination of those rates found no indication that the greater risks of NJR's non-utility businesses have in the past caused rate premiums above those consistent with NJNG's own credit ratings. Our examination of the debt instruments of NJNG and NJR also found no indication of inappropriate utility encumbrances or other ties placing on NJNG risks associated with holding company and non-utility operations. However, the existing process of jointly issuing NJNG and NJR debt produces opportunity for cross-subsidization. We recommended the institution of separate processes between NJNG and NJR and its other businesses.

NJNG has effectively managed its cash and liquidity needs. There is some separation between NJNG and NJR's other businesses; *i.e.*, segregated bank accounts and the absence of a money pool. However, the NJNG's financial strength and credit standing have benefited NJR by producing for it significantly lower revolving credit facility rates than its credit circumstances would justify.

NJNG should end the use of a joint banking group and Board approval of debt (*e.g.*, long-term and revolving credit) through common processes with NJR. On the one hand, common processes have offered NJNG no benefit, and imposes risk through the potential for credit linking with NJR and its higher financial risk. On the other hand, NJR provides to NJNG no compensation for the rate discount that such commonality produces for the holding company. Strong enough to raise capital and maintain revolving credit on a stand-alone basis, NJNG should not allow uncompensated benefits at potential incremental risk by offering to its parent a benefit on less than arms' length basis. Most importantly, joint usage of bankers, treasury operations and revolving credit facilities

inappropriately expose NJNG to the risks of the holding company's more risky business operations and very substantial debt position. NJNG is currently not sufficiently insulated from such risks and requires and deserves greatly increased protection.

Our *Finance and Cash Management* recommendations include:

- 1. NJNG should establish formal, written dividend and capital management policies for its Board of Directors to monitor and to authorize appropriate dividend actions.**
- 2. Create for NJNG lasting and enforceable ring-fencing measures sufficient to make the utility fully insulated and to be rated solely on its own credit characteristics by the major credit rating agencies.**
- 3. Create for NJNG lasting and enforceable ring-fencing measures sufficient to make the utility fully insulated and protected from the long-term debt of the NJR holding company.**
- 4. NJNG should solicit and establish its own banking group, its own independent Revolving Credit Facility and make its long-term debt issuances independent of its holding company parent.**
- 5. NJNG should strengthen its Board of Directors and Treasury management governance to better support the financial interests of the utility.**

H. Chapter VIII: Accounting and Property Records

This chapter examines the primary financial systems, organizational structure, policies and procedures related to NJR accounting, the work order process, the monthly close process, continuing property records, overheads, and property sales. We also examine the controls and internal audits related to accounting activities, as well as financial reporting to the BPU and FERC.

We found the accounting systems to be state-of-the-art, and the accounting process adequate and well-controlled. The organizational structure typifies that common to other utilities operating with multiple affiliates in holding companies that use a service company to provide common shared services. We make one recommendation to increase focus on ensuring required periodic review of policy and procedure documents.

Our *Accounting and Property Records* recommendations include:

- 1. Complete a full review of all corporate accounting policies within the next year and establish a process whereby the stated policy goal of review and revision every four years is achieved.**

I. Chapter IX: Human Resources and Staffing

Consolidated resources operating under a central NJR Services Company ("NJRSC") Human Resources ("HR") organization have provided an effective and efficient means for ensuring that NJNG receives adequate and sufficiently dedicated and focused attention to meeting the utility's

human resources needs. The HR organization, which operates under senior executive leadership, addresses compensation, benefits, labor and employee relations, diversity, equity and inclusion, talent management and acquisition.

NJR makes use of an industry standard Human Resource Information System (“HRIS”). Such systems provide a major foundation for assembling HR information and for supporting and controlling a broad range of activities necessary for developing employees, managing employee performance and relationships with them, and ensuring compliance with growing requirements applicable to matters for which HR has responsibility. HR policies and procedures address a reasonably typical subject range and provide employees with clear and detailed guidance.

The NJRSC HR organization’s staffing and costs have remained in proportion to resource growth, with costs growing at rates below those of NJR-wide employee complement as non-utility business activities have expanded and as NJR’s employee population has grown as well. HR has assigned resources dedicated to working with NJNG leadership to address day-to-day personnel and other HR matters. The organization has made reasonably typical use of outside resources, adjusting them as evolving needs and requirements have required.

The HR organization operates under too narrow a range of specific goals and targets. They require expansion to provide a more robust means of measuring HR’s own performance in carrying out its functions and activities, and as well for measuring human factor contribution to business unit (including NJNG) performance and manager/supervisor performance in developing the workforce. Operating in a constantly and significantly changing environment, an HR organization should periodically benchmark its scope, operations, resource, tool and system, and other attributes. The NJRSC HR organization has not done so in too long.

The prior audit of this type identified succession planning as in need of expansion and other improvement. This critical function has developed substantially since, now operating under well-structured and comprehensive steps. The process has substantially expanded to cover an appropriate range and depth of positions. Management has obtained improvement in the numbers of ready and near-ready successors. However, more recent analyses have shown retirement risk among NJNG leadership as an emergent issue. In addition, professional development efforts still have not recovered from reductions in activities that accompanied now-gone COVID-19 restrictions. Efforts to ensure ready replacements for NJNG leadership are critical and would benefit from expanded professional development efforts.

NJRSC has substantial responsibility for compensation and benefits management. A separate chapter of this report addresses compensation. The prior audit of this type recommended measures to examine benefit costs and take appropriate steps to bring benefits in line with those of other utilities. We found substantial and recurring attention to benefits programs, comparability, and costs. Over the past five years, medical insurance costs have moved into line comparatively. Programs have undergone regular review for comparability, value, and costs. We found program content and alignment generally consistent with what we have seen elsewhere.

Staffing at NJNG and NJR corporate (principally the NJRSC resources that provide common services) have grown by 25 percent or so since 2018. We found overall increases justified by

business growth at both NJNG and NJR. Moreover, the growth at NJRSC has not caused unusual cost increases at NJNG, with the utility's costs from the service company increasing at very moderate levels. Nevertheless, the large overall increase at both entities warrants a review of whether consistent incremental yearly growth continues to produce an optimum alignment of resources, distribution between internal and external resources, and overall numbers. In addition, HR needs to develop a program for identifying projected departures of employees by position type, location, and retirement eligibility level. Such a program will enable management to make recruitment, reassignment, and training and development activities more timely and efficient. NJNG applies no standards or guidelines to manage overtime levels. On a total basis, overtime levels do not give cause for concern, but levels within several groups have reached 15 percent or higher, indicating a need for a formal process for reviewing the reasons to identify any recurring issues.

Our *Human Resources and Staffing* recommendations include:

- 1. Establish a broad set of performance measures addressing: (a) NJRSC HR's performance effectiveness, (b) employee performance effectiveness, and (c) supervision effectiveness.**
- 2. Return professional development activities to a level commensurate with their pre-COVID-19 levels, focusing on developing NJNG leadership with substantial natural gas distribution operating experience.**
- 3. Conduct a focused review, including benchmarking, of the changes in staffing structure and levels that have occurred over recent years.**
- 4. Undertake regular analysis of recurring levels of high overtime use.**
- 5. Develop a program for assembling and analyzing potential departure data for use in identifying recruitment and replacement needs.**

J. Chapter X: Compensation and Benefits

Executive compensation undergoes review annually under the direction of the NJR Board's Leadership Development & Compensation ("LD&C") Committee, which makes recommendations to the full board. The Committee has employed a leading firm to assist in examining the competitiveness of executive compensation elements. The structure of executive compensation makes reasonably typical use of base, annual cash-based incentives, and long-term equity-based incentives. We found the nature of the long-term award vehicles and target levels reasonably typical. The annual incentives use a similar structure for both executives and management personnel, consisting of multiple factors that consider financial, unit, and personal performance. The annual incentives include objective, quantitative operations-based performance factors. The CEO plays an appropriate role in addressing compensation decisions for executives (and as well for others) and is excluded from recommendations or decisions about his compensation, which lies strictly with the board of directors.

Compensation decisions for non-exempt, non-executives (generally termed “management” for compensation purposes) occur through a well-designed process that produces regular annual review and changes for these employees. Annual, merit-based increases in base salary and short-term cash incentives form the principal components of direct compensation for them. They do not qualify for regular equity-based incentive awards, but provisions exist for such awards on a special basis. A small but effective group of service company HR personnel employ well-defined and sufficiently scoped and sequenced compensation-related activities to make compensation decisions with sufficient analytical rigor, on a timely basis, and with measures to promote equity and calibration in annual decisions about merit increases and incentive awards.

Compensation targets and levels both appear consistent with those in the industry, as measured by the LD&C Committee’s independent consultant for executives and by service company HR experts for other, non-exempt employees. However, a lack of data has not permitted the independent consultant to benchmark compensation for a critical NJNG position; *i.e.*, its Vice President of Operations. Executive compensation has fallen at levels consistent with the Company’s targets. Compa ratios, which compare base salary to midpoint cluster reasonably around an expected value of 1.0 for other non-exempt employees across the salary grades the Company has employed. However, for salary grade ranges from 4 through 14, the [REDACTED]

[REDACTED]. We did not find the escalating targeted percentages of base salary out of line. What warrants examination is [REDACTED].

We found health and welfare offerings regularly assessed for competitiveness, consistency with industry trends, and responsiveness to the value employees assigned to them. We also found those offerings in line with the industry and that NJR has succeeded in producing competitive annual rates of change. We found post-employment benefits, which also undergo regular review, reasonably consistent with industry experience. Post-employment costs have fallen since 2019.

Our *Compensation and Benefits* recommendations include:

- 1. Identify a market competitive compensation value for NJNG’s executive position for Operations.**
- 2. Assess the reasons for the disparity in annual incentive rewards, relative to their targets, for the lower exempt salary grades.**

K. Chapter XI: Customer Service

We examined the management and operation of NJNG customer service activities generally from 2014 through 2022. Our examination included organization structure, resource alignment and numbers, and activities driving NJNG customer service costs. We examined and evaluated business practices, staffing, facilities, expenditures, performance levels, and management decisions that contribute to or solve problems. We placed particular emphasis on:

- The top-level management structure in place to plan, set goals and budgets for, oversee, and measure the levels and costs of service to NJNG customers in New Jersey

- Processes for setting goals and objectives and for tracking customer service performance
- Quality of service as measured by objective metrics
- NJNG's level of performance as compared to other customer service groups.

Overall, we found that NJNG's Customer Operations have for a number of years faced challenges created by the deployment of a new suite of systems to replace the company's legacy J.D. Edwards system, especially towards the end of the audit period. Call center performance across a wide range of measures deteriorated in 2022 and 2023 with the introduction of the [REDACTED].

[REDACTED]. NJNG has consistently upheld exceptionally high customer satisfaction ratings, as assessed by industry leading firms J.D. Power and Escalent. However, transactionally based customer satisfaction ratings started declining in February 2022, hitting an eight-year low in May 2022. Ratings dropped again in March 2023. This negative performance trend does not bode well for the upcoming deployment of the SAP IS-U (Industry-Specific Utility) customer billing module.

Across our review period, NJNG's Customer Service operation and maintenance expenses have increased. Staffing increased in most customer service and meter-related field functions in 2021 and 2022, including the call center, billing, meter exchange, meter reading, meter shop, and remittance processing. Call center and meter exchange overtime increases contributed to the higher costs.

The Call Center uses a work management system to forecast call center loads and to identify required staffing needs to meet them. However, staffing levels remained insufficient to address customer issues and unfamiliarity with the new agent desktop [REDACTED], introduced in 2022, further hampered the agents. The call center also struggled during the deployment of the [REDACTED] customer portal ("MyAccount") in 2023, leading to longer customer wait times and higher abandonment. NJNG's Call Centers have not been sufficiently staffed to meet service level objectives and performance goals, especially during the last two years of the audit period. NJNG brought on additional staffing in 2023 and 2024. Despite these increases, however, the upcoming deployment of the [REDACTED] customer billing and account management system completion will further stress the customer service organization. Additional CSRs and billing specialists may prove needed to support that transition and to avoid further performance declines. Ensuring sufficient staffing of call center and billing department prior to deployment should comprise an important priority.

Regulatory complaints had been steadily decreasing since 2014, then increased significantly in 2022, but still have remained at levels well below the Board's directive. First call resolution performance declined in 2022 and 2023. Meter reading performance has improved since 2014. Billing performance has remained stable since 2014, however this will be stressed with the pending deployment of the new customer billing system. Self-service utilization increased since 2014. Collections performance has declined since 2019, as delinquent accounts and receivables grew during the pandemic. NJNG routinely tests meters to ensure accuracy.

Our *Customer Service* recommendations include:

- 1. Ensure proper staffing of call center and billing department prior to the new customer billing system deployment.**

2. Review customer service business processes following the new customer billing system deployment to ensure cost efficiencies are achieved.

L. Chapter XII: Distribution and Operations Management

This chapter presents the results of our examination of NJNG's operation of facilities and systems that serve customers. It addresses the organization, resources, activities, methods, practices, system circumstances and configurations, and performance of functions that NJNG has organized under its Energy Delivery organization. The responsibilities and authority of the NJNG vice president heading Energy Delivery extend to distribution, transmission, NJNG's two LNG plants, and a groundbreaking facility that produces hydrogen for introduction into the delivery system. The scope of responsibilities placed at the NJNG level for these facilities is equally broad, extending to planning the facilities necessary to serve customers, engineering and design, construction, system control, and management and operation. Gas Supply, addressed in detail in the *Procurement and Purchasing* Chapter of the accompanying Phase One report, falls outside the responsibilities of the NJNG Energy Delivery organization.

NJNG relies, as natural gas utilities of its size typically do, substantially on outside firms to provide main and service installations and related activities. This chapter addresses the management of construction from an organizational perspective, but the *Contractor Performance - - Main and Service Installation* Chapter of this report examines construction performance. The Vice President – Energy Delivery also has responsibility for NJNG's customer service functions, which the *Customer Service* Chapter addresses in detail.

We found the Energy Delivery organization typical in how it assigns and integrates the functions necessary for effective and safe system planning, design, installation, operation, and maintenance. We also found notable the broad extent to which NJR has left responsibility for these functions within the utility, as opposed to organizations that provide services in common to multiple affiliates. In NJR's case those affiliates all provide non-utility natural gas related operations. The organization and the resources assigned to its various groups have remained at stable levels, promoting cost effectiveness, while accounting for the needs those groups address and the activities they require.

We did, however, conclude that completion of NJNG's program to eliminate leak-prone cast iron and bare steel pipe has presented an occasion for examining whether moderate resource reductions can follow the reduction in field work formerly required. Personnel at the management and executive level have commendable experience levels and tenures. Management faces a significant level of age-related departures, but has established a program to build entry level experience, a benefit of which will be to support advancement through positions that coming departures will affect most significantly.

The last audit of this type reported the lack of a dedicated planning organization. Our review found NJNG's organizational approach and planning efforts are now both reasonably well coordinated and commensurate with what we have observed at other similar natural gas distribution utilities. Moreover, we did not find reason for continuing concern about the level of changes in plan content from year to year. Plans now show a level of flexibility and accommodation commensurate with the kinds of year-to-year changes that affect companies facing circumstances like those of NJNG.

While we found planning effective over the five-year horizons NJNG has employed, we found out of the ordinary management's much longer, 25-year plan for replacing cathodically protected steel pipe of older vintages. If executed, it will cost \$1 billion or more as now envisioned. It is unusual for natural gas utilities to replace cathodically protected steel pipe on such a broad scale. NJNG has experienced higher leak rates on such facilities than we have seen elsewhere, but they remain at levels of about 100 per year. NJNG needs to address the root causes of those leaks with the assistance of recognized outside expertise, to enable it to optimize plans to address them. That expertise should also be used to prepare a comprehensive detailed analysis of the costs and benefits of large scale, long-duration steel pipe replacement in comparison to more moderate approaches. A 25-year, \$1 billion or more program warrants full and detailed explanation, support, and vetting using the best and most current information available now.

Our examination of system characteristics and operations data produced no reason to question the overall effectiveness of NJNG's operation of its system. Our review of documentation included, for example, policies and procedures, manuals, program descriptions, leak rates and backlogs, first responder timeliness, and inspection reports. We did not find at the time of our field work reason to conclude that gaps in documentation, a concern raised by the prior audit of this type, present material concerns overall. Incident reports and notices of potential violations ("NOPVs") have been comparatively small in number and not indicative of systemic or recurring concerns. We did, however, conclude that management needs to conduct efforts to reinforce among its field personnel the importance of recognizing and reporting meter-related issues such as those cited in BPU NOPVs.

We also found several other marginal changes in order. First, the apparent vintage of the company's Operator Qualification ("OQ") indicates a need for thorough review and revision. Second, the reportable incident threshold NJNG uses in connection with drug and alcohol testing should be updated to the current \$122,000 in damages. Third, naming the NJNG Manager of Gas Control as the designated member of the Northeast Gas Association Gas Control Committee will provide beneficial experience through participation in the group's annual winter gas-control drills, and engagement with the group's resources and participants.

Our *Distribution and Operations Management* recommendations include:

- 1. Conduct a study of future resource needs to optimize staffing.**
- 2. Reinforce recognition and reporting of meter issues such as those identified as recurring through BPU NOPVs.**
- 3. Perform a detailed examination of the high rate of leaks on cathodically protected steel.**
- 4. Undertake and make available to the BPU a complete cost/benefit study addressing the 25-year plus \$1 billion-dollar total pre-1970s steel pipe replacement program.**
- 5. Review and update the OQ plan.**

6. **Change the Drug/Alcohol policy property damage trigger to the current \$122,000 DOT 191 threshold.**
7. **Assign NJNG's Manager of Gas Control as the designated member of the Northeast Gas Association Gas Control Committee.**

M. Chapter XIII: Contractor Performance - Main and Service Installations

As is typical of many gas distribution utilities of its size, NJNG relies predominantly on outside contractors to perform main and service installation work. It uses alliance contracts with two providers ("Alliance Contractors") for that work. Those contracts have had particularly long, 10-year terms. Management has not subjected them to sufficiently robust competition. NJNG did refresh the alliance contracts recently, extending them for another similar 10-year term. It did so under a solicitation, but we did not find that solicitation sufficiently robust. We believe that arrangements like those under the alliance contracts should be regularly opened to competition that does not overemphasize single factors in a manner that can prematurely eliminate an otherwise sound offer from further negotiation.

There is not an opportunity to replace the alliance contracts for roughly the next decade, but NJNG does have the ability to make awards for work to others than the two Alliance Contractors. It should do so in order to gain comfort that Alliance Contractors' prices remain competitive over such a long term. By committing a substantial portion of the work normally awarded to the Alliance Contractors through solicitations, it should at the same time determine whether alternatives to its time and materials pricing (*e.g.*, unit pricing) have merit and to reinforce to the two Alliance Contractors the importance of their remaining price competitive.

NJNG has experienced significant increases in maintenance and installation costs since the COVID-19 pandemic, and it pays a large premium for work in its Northern Division (Morris County). These circumstances reinforce the already strong need for robust and regular testing of market competitiveness of services its Alliance Contractors provide. NJNG pays substantial attention to supervision and the quality of contractor work.

Our *Contractor Performance – Main and Service Installations* recommendations include:

1. **In the long term, institute a more inclusive and robust process for securing important long-term resources under contract, such as those for main and service installation.**
2. **In the immediate term, as the alliance contracts continue, set substantial goals for contracting with providers other than the existing alliance contractors, ensure meeting them, and assess results in determining the level of work it continues to give its alliance contractors across the remaining term of those agreements.**

N. Chapter XIV: Contractor Performance – Underground Locating

Management has contracted with a single firm selected competitively to perform distribution system mark-out activities to locate underground facilities. NJNG's Damage Prevention and Safety Awareness group, part of the System Enhancement organization, has administered the locating contractor's work. NJNG experienced a 21 percent increase in mark-out requests between

2014 and 2022. Diminishing damages from third parties over the same period aligned with BPU-established performance benchmarks. Low levels of damage by third parties in instances not preceded by a mark-out request demonstrate the effectiveness of raising awareness about the notification system among contractors, excavators, and the public. NJNG has managed its third-party locating contractor effectively, employing elevated quality standards while witnessing a modest annual cost increase of approximately three percent per year over the eight-year audit span.

We do not have any recommendations regarding underground locating management practices.

O. Chapter XV: External Relations

A Regulatory Affairs organization (“RegAffairs”) operating under NJNG executive management has responsibility for state regulatory and energy policy proceedings and interactions with representatives of the agencies and stakeholders involved. Its staffing has remained fairly stable since 2017, with the addition of two persons, one assigned to this audit and the other a regulatory analyst. The structure and staffing of RegAffairs provides for a means for performing NJNG regulatory affairs functions and activities efficiently, under direct NJNG senior leadership direction, and through a sufficiently qualified staff. Outside use of legal and other resources has been consistent with maintaining efficiency and internal control, and driven largely by major proceedings or matters that impose short-term needs for outside expertise. The costs charged to NJNG for outside resources appear consistent with their causation, with the exception of what have been very small outside costs associated with proceedings involving pipelines whose operations have consequence for both NJNG and affiliates, particularly NJR Energy Services (“NJRES”).

A small organization that has remained at three positions, has responsibility for local and state government affairs functions and activities, including lobbying and government and stakeholder communication and outreach. After accounting for a change in alignment with other costs under the executive with overall government affairs responsibility, costs have remained in the range of \$500,000 for a number of years. These moderate expenditures include outside costs, which involve limited payments for what NJR considers lobbying activities. Government affairs activities are structured and staffed to provide effective representation and communication of NJNG interests to and with state and local legislative and other government representatives, and stakeholders as well on public issues with utility implications.

A common NJR organization provides corporate communications services for all NJR businesses and operations, including those of NJNG. Corporate Communications, which has experienced stable staffing and costs for a number of years works with business unit and service company personnel to design, create, disseminate or make available, a sufficiently wide range of external (to stakeholders) and internal (to employees) programs and messaging, both regular and as needed by emergent circumstances. We found programs and messaging appropriately and timely focused on NJNG operations, issues, and circumstances. The organization makes only limited use of outside resources. It has used a reasonable array of social media platforms in recent years. However, like many NJR Service Company (“NJRSC”) organizations, it does not appear to, but should, use a comprehensive set of KPIs and metrics to measure performance effectiveness.

Investor relations has operated under consistently small staffing, overall costs, and use of outside resources to provide effective information to and communications with the investment community about NJNG's contribution to NJR's circumstances and performance.

Our *External Relations* recommendations include:

- 1. Allocate a minimum of one third of the costs of common representation of NJNG and affiliates in matters that substantially engage common benefits and risks.**
- 2. Conduct a focused effort to identify key success measures for Corporate Communications and develop a set of regularly measurable, measured, and analyzed metrics to ensure maximum performance effectiveness and efficiency.**

P. Chapter XVI: Supply Chain

The NJR Service Company ("NJRSC") Procurement and Contract Management organization provides centralized supply chain services for NJR's business operations, including those of NJNG. The group has grown from a staff of five in 2017 to seven, as growth in NJR's business operations, including at NJNG, has occurred. Outside services have driven cost increases in recent years. Implementing Project NEXT has been a significant contributor to those outside costs and to the creation of new supply chain management capabilities. Project NEXT brought, along with a new Enterprise Resource Planning ("ERP") platform, the introduction of an up-to-date, cloud-based procurement system. Supply chain activities have advanced substantially since 2018, following an outside review of centralization, standardization, automation, and metrics use. However, centralization and standardization recommendations have been deferred to permit integration of those efforts with what Project NEXT offers after completing its implementation. The time has come to advance centralization and standardization work. Similarly, the organization should address the need for developing a comprehensive suite of supply chain performance metrics accompanied by specific performance goals, reporting against them, and analysis of and response to the causes of variances observed.

Procurement operates under clear and comprehensive procedures, but those that call for competitive solicitation fail to address two needs that management should fill: (a) explicitly requiring the aggregation of individual, related solicitations to determine whether floor amounts that require bidding have been met, and (b) tracking purchases made without soliciting competitive offers.

NJR's Financial Planning & Analysis ("NJR FP&A") group examines proposed external costs in its annual budgeting reviews, but there is no process for regularly determining whether to use internal versus external resources. This *Cost Allocations* Chapter of the accompanying Phase One report addresses the need for such examinations; the NJR FP&A group is a logical source for ensuring the performance of individual reviews that collectively assure assessments of internal/external effectiveness and efficiency of groups with significant costs over a reasonable overall cycle. Each NJRSC organization that serves NJNG should conduct at least biennial surveys soliciting feedback from NJNG senior leadership, directors, and managers on the quality, timeliness, and costs of services provided. These surveys should specifically incorporate the Legal

Department's approach of addressing costs, service levels and changes to them as part of its regular process of soliciting feedback from its internal clients.

NJR was increasing goals and results for diverse supplier use prior to COVID-19; limits imposed by the pandemic produced a restriction on opportunities (outreach, for example) to continue progressing.

Our *Supply Chain* recommendations include:

- 1. Complete efforts to centralize supply chain operations and develop more comprehensive management reporting against usual industry metrics.**
- 2. Procurement operates under a procedure that promotes competition and provides generally sound controls, with two exceptions.**
- 3. Require at least biennial surveying of NJNG for each NJR common serving organization that provides services supporting the utility's operations.**

Q. Chapter XVII: Marketing and Clean Energy

NJNG has achieved significant energy efficiency benefits through its SAVEGREEN and Comfort Partners programs. The SAVEGREEN program helps residential and commercial customers reduce energy consumption by offering rebates, incentives, and low-interest financing for energy-efficient upgrades such as heating, cooling systems, and insulation. This program lowers energy bills for participants and contributes to environmental sustainability by reducing overall energy demand and greenhouse gas emissions.

The Comfort Partners program, which targets income-eligible households, provides free energy efficiency improvements that include insulation, weatherization, and energy-saving appliances. By addressing energy inefficiencies in low-income homes, Comfort Partners helps reduce energy bills, improves home comfort, and lowers the energy burden on vulnerable populations. Both programs support New Jersey's clean energy goals and contribute to statewide energy savings while enhancing customer affordability and comfort. Offered by NJNG since 2009, the SAVEGREEN energy efficiency programs have evolved, with more considerable changes introduced with the passing of the state's Clean Energy Act in 2018 and Executive Orders 315-317 in 2023, which accelerated New Jersey's transition to clean energy.

We found appropriate NJNG management of energy efficiency programs that address the requirements of BPU orders. NJNG and other New Jersey utilities recently assumed responsibilities for most state-run energy efficiency programs. NJNG has defined goals and budgets, set participant levels for each program, and coordinated with other utilities to enhance and standardize plans across the state. As required by the new BPU regulations NJNG now annually evaluates the impact of each program in meeting targets.

NJNG is nearing completion of the first three years (first triennium) of its approved energy efficiency program plan since the Clean Energy Act. Program performance over these three years has shown steady progress. From Program Year ("PY") 2022 to PY 2024, total energy savings

rose by about 53 percent, reflecting the growing impact of NJNG's energy efficiency programs. In terms of performance against targets, both PY 2023 and PY 2024 saw success, with PY 2023 surpassing its target by about 11 percent and PY 2024 exceeding its target by nearly 25 percent. Through its focus on both residential and commercial sectors, NJNG's programs have helped lower greenhouse gas emissions and improved energy efficiency across its service territory, aligning with the objectives set by the Clean Energy Act.

We also found the accounting for Clean Energy costs appropriate, with substantial oversight by the NJBPU in ensuring accurate cost reporting and recovery from customers. We found controls related to recording and reporting these costs adequate and supported by NJBPU oversight and internal audits, particularly for the SAVEGREEN program. Management conducted no audits for the Comfort Partners program during the audit period, but its lower risk and the magnitude of costs involved do not prioritize it for internal audit focus. Additionally, actual-to-budget comparisons proved reasonable and demonstrated that the program operates within the NJBPU-defined budget and as intended.

We do not have any recommendations for marketing and energy efficiency areas.

R. Chapter XVIII: Insurance

NJR manages on a central basis insurance for all of its business operations, including those of NJNG. Staffing has remained small and constant, with a leading firm providing external expertise, guidance, and market intelligence. Annual changes in insurance costs have been competitive with those in the industry. Recurring reviews regularly examine coverage costs and consider changes. However, it is not clear how NJR integrates insurance approaches and decisions with the overall corporate risk management program and processes. The use of captive insurance alternatives has grown substantially, with NJR not yet employing that alternative, but engaged in considering it. Decisions about the use of this alternative need to address specifically and uniquely the consequences for NJNG risks and coverage costs. It is not necessarily the case that what makes sense for NJR overall will optimize NJNG costs or risk coverage.

Our *Insurance* recommendations include:

- 1. Integrate insurance planning with the risk assessment process.**
- 2. Complete the examination of use of captive insurance with clear and explicit consideration of the impacts that creation of such an insurer would have on the risks borne specifically by NJNG and the costs of insuring them.**

S. Chapter XIX: Legal Services

A common service company-level Legal Department provides legal services for all NJR businesses, including NJNG. However, as noted NJNG manages internally legal work associated with regulatory affairs. The staff of eight attorneys includes substantial experience and is organized in a reasonably typical manner, recognizing the separation of NJNG regulatory legal responsibilities. The Legal Department has assigned two attorneys to the unique affairs of non-utility businesses, leaving six others whose responsibility alignment is fairly typical. The Legal Department also houses the Senior Claims Investigator position, an approach and staffing that

matches the level of claims work for a company of NJR's size. Common legal representation of NJNG and affiliates is common, particularly in federal regulatory matters. Appropriate measures exist to provide assurances that no conflicting interests between NJNG and affiliates commonly represented exist.

A clear and generally appropriate procedure for recording time spent by entity and activity benefitted exists, but should be clarified to make explicit that it applies to all time so spent, not just time that is "regularly" spent or "substantial" in magnitude. Effective policies and practices exist to manage outside counsel performance and costs. A lack of responsiveness to data requests seeking identification of measures used to assess Legal Department performance and costs leaves uncertain whether any actually exist. The Company's response to this audit and the reporting of changes made as a result of it should provide that identification.

Our *Legal Services* recommendations include:

- 1. Clarify time reporting procedures to make unambiguous the obligation to report all time spent for the benefit or on behalf of an entity or activity outside those to which personnel are regularly assigned.**

T. Chapter XX: Facilities and Real Estate Management

This chapter examined the management of facilities and real estate for NJNG. We did not find the roster of facilities used directly by NJNG or by the service company in support of NJNG excessive in number, size, or value. We saw no indication of vacant or underutilized space that burdens NJNG with costs.

Each of the last two audits of this type recommended changes in the structure used which relied on a small affiliate in the commercial and industrial development business for facilities and real estate management functions and activities. That reliance ended with assignment of those responsibilities to a service company-located Facilities group. Facilities group charges for internal labor have remained flat, but other factors have caused both very large growth in annual costs and similarly large overruns of yearly budgets. External factors, such as the construction and operations needs of a large new training center and headquarters renovation and refitting have contributed. However, management did not provide requested information at a level of detail that allows clear identification of systemic versus transitory causes of those increases and overruns.

In any event, a number of factors call for study of alternatives in managing facilities and real estate. These factors include the transition from the provision of services through a commercial affiliate, continuing to locate the Facilities group under Finance versus operationally-focused leadership, the needs imposed by new and reconfigured facilities, and the transition from several years of focus on capital work back to operation and maintenance. The study called for a should concentrate on the optimum organization, alignment, and resource balancing among internal and multiple external service providers.

A number of this report's chapters address issues with policies and procedures. The need to address them is particularly acute here, given that there are none, despite their commonality in the industry. As far back as the last audit of this type ten years ago, a recommendation to develop facilities and

real estate management policies has been extant. It remains valid today. Some feel that policies need not be written to be understood and effective. Rarely does that offer a satisfactory view when applied on more than a limited basis. However, the situation is more extreme here. Management appears to feel that even unwritten policies and procedures are not required because the functions and activities involved are not repetitive. Whether repetitive or not, the documentation of policies and procedures remains necessary.

Our *Facilities and Real Estate Management* recommendations include:

- 1. Identify the sustained drivers of the large increases in facilities management costs and budget overruns and revise the organization, structure, and resource alignment to optimize costs and performance effectiveness.**
- 2. Develop a comprehensive set of facility and real estate management policies and procedures and conduct a review leading to development of an optimum set of performance measures.**

U. Chapter XXI: Fleet Services

An NJNG Fleet Services organization has responsibility for fleet procurement, maintenance and repair. Its structure and staffing, which includes 16 persons, has remained stable since at least 2017. The organization performs vehicle repairs in-house, except for body work and transmission repairs. However, costs have grown dramatically, at a compound annual rate of about 11 percent from 2019 through 2022, with another increase of about 20 percent on a budgeted basis for 2023. Both internal and contracted services have contributed very substantially to this increase. Management has stated that COVID-19 circumstances drove large increases in outside costs, but those costs, as 2024 budgets demonstrate, still have not moderated. The vehicle fleet does not appear overly aged or newer overall than expected. NJNG employs an extremely limited set of metrics, as compared with others, to assess fleet management performance effectiveness and efficiency and has not formally examined changes in the use of outside services and resources in 20 years. Persistently high costs and the lack of a sufficiently robust set of performance metrics call for a structured evaluation of restructuring the alignment of internal and externally provided fleet management services and of the merits of continuing to purchase rather than lease vehicles. The study, which should be informed by outside expertise, should also develop a comprehensive set of performance effectiveness and efficiency metrics.

Our *Fleet Services* recommendations include:

- 1. Conduct a structured analysis of internally versus externally provided fleet services and of the continued preference for purchasing rather than leasing vehicles.**
- 2. Adopt a series of fleet management metrics commensurate with those of the industry and regularly report and analyze Fleet Services performance using them.**

V. Chapter XXII: Information Technology

This chapter addresses the Information Technology (“IT”) functions and activities that the central IT department provides to and for NJNG and NJR’s other business operations. This IT department

also includes responsibilities for cyber security, which the next chapter of this report addresses in more detail. The IT organization has grown in recent years, driven in principal part by expanded usage of platforms, systems, and applications. Expanding measures to ensure against cyber threats and Project NEXT have given significant impetus to this growth.

Project NEXT has an extremely large scope, covering a number of systems and capabilities already placed into service. Completed ones include enterprise resource planning (“ERP”), Customer Relationship Management (“CRMS”), Enterprise Integration Architecture (“EIA”), and Enterprise Business Intelligence (“EBI”). Work remains on Enterprise Content Management (“ECM”) and two other large systems central to NJNG operations; *i.e.*, the Customer Information System (“CIS”) planned for completion in 2025 and Work and Asset Management (“WAM”), portions of which went live in 2024.

The IT department does not undertake much development, instead relying on outside providers and developers, but does perform extensive work in supporting the business units in using, correcting, altering, and augmenting systems, platforms, and applications. The organization and resources are sufficient to support NJNG in the roles for which it has responsibilities, employing practices and procedures that engage utility end user personnel appropriately in planning, managing, and evaluating the effectiveness of IT-related work. With a sound cybersecurity baseline now established and much of the work of Project NEXT completed or nearing completion, it has become time for IT to augment the benchmarking of cost and performance in which it has already been engaging.

Our *Information Technology* recommendations include:

1. **Strengthen the IT cost baseline for use in planning and managing future resources and costs and develop a five- to ten-year plan addressing IT strategy.**

W.Chapter XXIII: Records Management

A small staff exercises responsibility for ensuring that retention of, protection of access to, and eventual destruction of documents operates in accord with ongoing business and long-term retention requirements. Its costs have remained moderate and stable. A clear and comprehensive designation of retention requirements by document exists and undergoes update overseen by Legal Department personnel to ensure currency with changes in retention requirements. Controls over access are sound and supported by automated methods. A number of findings from the last audit of this type and from an internal audit of about the same vintage have been addressed by subsequent changes in methods, document protection, storage location, and access.

We do not have any recommendations regarding records management.

X. Chapter XXIV: Physical Security, Business Continuity, and Information Protection

A small central organization provides physical security for the facilities of NJR and its operating businesses. Staffing and outside costs have remained stable. The range of measures employed is typical of similarly sized and scoped operations and video surveillance of facilities includes all

operating locations. However, Internal Audit examination of effectiveness in executing those measures is in order.

A Cybersecurity Policy provides for substantial protection of information and industrial controls systems. The operation of the cybersecurity group under the NJR CIO's executive direction complements the policy's protections. This report's *Cybersecurity* Chapter addresses that group's responsibilities and activities. The policy covers both Information Technology and Operating Technology systems and information. Disaster recovery and business continuity practices and measures are well documented and comprehensive. However, annual emergency response testing that incorporates backup personnel in key emergency roles would serve to identify the degree to which documented guidance for responding to emergencies is clear and logical.

Our *Physical Security, Business Continuity, and Information Protection* recommendations include:

- 1. Conduct a broadly based Internal Audit examination designed to test the effectiveness of physical security measures.**

Y. Chapter XXV: Manufactured Gas Plant Remediation

We examined the Program Organization and Staffing of NJNG's manufactured natural gas plant ("MGP") remediation program. We evaluated the degree of Company involvement in program design and execution, Company interaction with government authorities, and program control and record-keeping. As the previous audit of this type concluded, we found the program generally well managed. The scope of the program expanded during the current audit period from the three MGP sites (Atlantic Highlands, Long Branch, and Toms River) and two sites (Manchester and Berkeley) that received shipments of contaminants from the three MGP sites. Work is proceeding at all these sites except for Berkeley, where work remains on hold pending resolution of redevelopment and ownership uncertainties. More recent discovery of sites at Freehold (in 2017) and at Aberdeen (in 2019) has added to NJNG's responsibility. Work at those two locations remains in the earlier, investigative phases. Expenditures over the nine years have totaled about \$113 million at all sites, with management estimating a most likely \$124 million in remaining liability.

NJNG has consistently applied a sound and well-experienced organization to the management of remediation activities, with replacements necessitated recently producing well-qualified successors. Near the end of the last audit period, passage of New Jersey's Site Remediation Reform Act ("SRRA") streamlined the process of working with the New Jersey Department of Environmental Protection ("NJ DEP") and comprised an important development in the conduct of NJNG's Remediation Program, by placing at each site a State-Licensed Site Remediation Professional ("LSRP"). NJNG assigns to each site an internal environmental engineer, who works closely with a Company-contracted Oversight Engineering Consultant ("OEC").

The direct roles taken by NJNG organizations in remediation program management and control formed a central focus of our examination. Those organizations operate under senior NJNG executive leadership through a director-level Environmental Services organization. We found that organization, supported in a number of areas by service company personnel, actively and sufficiently engaged in program definition, planning and cost estimation, and in designing, testing,

and monitoring program activities. Environmental Services also ensures, using competitive solicitations, the securing of well-qualified outside expertise necessary, given the highly specialized field activities required. Environmental services personnel take direct and comprehensive roles in budgeting, progress and cost monitoring, and review of work timeliness and quality. We also found interaction between Company personnel and government resources sufficient.

We found appropriate systems, resources, and measures for ensuring the accurate capture of remediation costs and their accounting treatment for recovery in accord with the applicable rate rider (“RAC”). Controls over remediation costs are sound and Internal Audit has on a reasonably frequent basis examined the processes surrounding them. However, no documentation of the processes for and no records reflecting the recording and recovery of costs exist.

We recommended development of procedure documents defining remediation cost capture and treatment through the RAC process, in order to lessen dependence on institutional memory to keep them effective. Planning and execution of remediation activities is subject to significant uncertainty and interaction with government representatives, creating significant budgeting challenges. Despite recognizing that limitation, the consistent and very large budget underruns experienced should be addressed in order to provide baselines that provide an improved means for holding responsible management accountable for both cost performance and for moving remediation along carefully, but with a reasonable pace. Consistently unrealistic projections of work and costs diminish that ability, even where external circumstances are large drivers of the rate at which progress can occur.

Our *Manufactured Gas Plant Remediation* recommendations include:

- 1. Create policy and procedure documents that define how Remediation Costs are captured, and the detailed steps and schedules associated with the RAC process.**
- 2. Revise the process for forecasting Remediation Costs.**

Z. Chapter XXVI: Cybersecurity

The common Information Technology (“IT”) department that serves the IT needs of all NJR business operations, including those of NJNG, has responsibility for cybersecurity matters, including risk and threat identification and assessment, mitigation, and response. The NJR board of directors, supported by the direct engagement of its Audit Committee, provides sound oversight of means for identifying, mitigating, and responding to cyber threats. Governance and planning at the executive level fall under a Cyber Resiliency Committee. Day-to-day responsibility falls under a director-level position reporting to the NJR Chief Information Officer (“CIO”). Staffing under this director has grown significantly and appropriately to address cyber threats through an organization that has produced notable growth in maturity level, as measured by industry standards.

That growth has brought NJR to a level that is commensurate with the large majority of industry peers. The enhancements made have brought effective oversight, resource levels, systems, applications, methods, tools, risk assessment, protections, and response capabilities, albeit with a

necessary increase in expenditure levels. The organization takes a focused, systematic, and documented approach to addressing BPU structural, procedural, and reporting requirements. Training and regular communication to reinforce the significance of cyber threats and means for preventing and responding to them are substantial.

While understandable, the cost growth in addressing cybersecurity faces continued upward pressure as do other areas for which the NJR-wide CIO's organization has responsibility. Threats, still increasing vastly in type and numbers, drive that pressure on cybersecurity threats, while breakthroughs in technology and changes in how customers use technology are more material in pressuring costs in other IT areas. Whatever the source, however, there is substantial uncertainty in how and how fast change will continue, making more dynamic strategy development important in providing the flexibility to respond in a way that will balance IT costs, directing them to areas where needs and opportunities change or emerge more quickly or slowly. The preceding Information Technology Chapter of this report, particularly its Conclusion #4 and Recommendation #1 address this IT planning issue. The scope of that recommendation includes the need to ensure that cybersecurity forms a central part of moving planning to the level that circumstances in the industry require to continue effective and cost-efficient performance.

We do not have any separate Cybersecurity recommendations, however, Recommendation #1 from this report's *Information Technology* Chapter applies to this area of our review.

**Final Report
Phase Two of an
Audit of the Affiliated Transactions Between
New Jersey Natural Gas Company and
New Jersey Resources Corporation
and its Affiliates and a Management Audit of
New Jersey Natural Gas Company
Docket No. GA22020074**

Public Version: Confidential Materials are Redacted

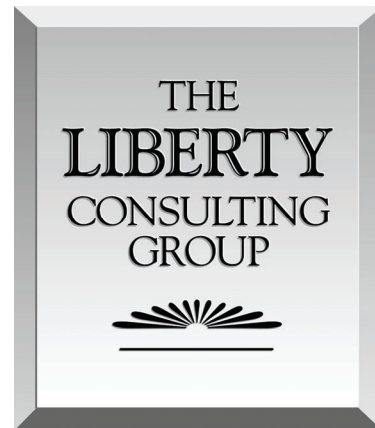
Presented to:

***Board of Public Utilities
State of New Jersey***



Presented by:

***The
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April 23, 2026

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Chapter I: Introduction

A. Background

This report summarizes the second, *Comprehensive Management Audit*, phase of an Audit of the Affiliated Transactions and a Management Audit of New Jersey Natural Gas Company that The Liberty Consulting Group, conducted on behalf of the New Jersey Board of Public Utilities. We performed this audit in two phases:

- Phase One: A focused series of topics that address utility natural gas supply procurement and management, the impact of the relationship between the utility and affiliates that operate in this area, the allocation of costs to all affiliated entities, the reports prepared by the utility and submitted to the state of New Jersey and federal authorities, and the Company's compliance with affiliate standards that enforce the New Jersey Electric Discount and Energy Competition Act, N.J.S.A. 48:3-49 *et seq.* This report describes the results of our examination of the scope encompassed by these topics
- Phase Two: Subsequent examination and evaluation of functions as part of a comprehensive management audit of New Jersey Natural Gas. An accompanying report describes the results of our examination of topics within that scope.

We have performed six previous management audits of this type for the New Jersey Board of Public Utilities, most recently at Jersey Central Power & Light Company and FirstEnergy. Previous audits included Atlantic City Electric, South Jersey Gas, a previous audit of New Jersey Natural Gas, and two at Elizabethtown Gas.

B. Structure of This Report

This report combines the chapters that describe the findings, conclusions, and recommendations that we have reached in the areas comprising Phase Two of our engagement. This report's structure employs the following outline:

- Chapter I: *Introduction*
- Chapter II: *Organization and Executive Management*
- Chapter III: *Governance*
- Chapter IV: *SOX, Controls, and NYSE Listing Requirements*
- Chapter V: *Compliance and Ethics*
- Chapter VI: *Planning and Budgeting*
- Chapter VII: *Finance and Cash Management*
- Chapter VIII: *Accounting and Property Records*
- Chapter IX: *Human Resources and Staffing*
- Chapter X: *Compensation and Benefits*
- Chapter XI: *Customer Service*
- Chapter XII: *Distribution and Operations Management*
- Chapter XIII: *Contractor Performance - Main and Service Installations*
- Chapter XIV: *Contractor Performance – Underground Locating*
- Chapter XV: *External Relations*
- Chapter XVI: *Supply Chain*
- Chapter XVII: *Marketing and Clean Energy*

- Chapter XVIII: *Insurance*
- Chapter XIX: *Legal Services*
- Chapter XX: *Facilities and Real Estate Management*
- Chapter XXI: *Fleet Services*
- Chapter XXII: *Information Technology*
- Chapter XXIII: *Records Management*
- Chapter XXIV: *Physical Security, Business Continuity, Information Protection*
- Chapter XXV: *Manufactured Gas Plant Remediation*
- Chapter XXVI: *Cybersecurity*.

The accompanying Phase One report addresses the *Audit of the Affiliated Transactions Between New Jersey Natural Gas Company and New Jersey Resources Corporation and its Affiliates* topics of this audit's scope.

***Chapter II: Organization and Executive Management
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Chapter II: Organization and Executive Management

A. Background

This chapter addresses NJNG leadership's authority and accountability to make decisions and commitments and take actions necessary and appropriate to provide safe, adequate and proper service to its customers at reasonable rates. It also addresses whether relationships and interactions with its parent, service company, and affiliate support or may constrain or limit that authority and accountability. This chapter also addresses Enterprise Risk Management, which comprises a central focus of senior executive leadership and the boards of directors.

This chapter focuses principally on the structure of the leadership teams at New Jersey Resources ("NJR"), the service company, NJNG, and the non-utility operations and on the persons forming parts of those teams. Separate chapters address how leadership and management at the functional level plan, execute, manage, and measure the programs, projects, systems, activities, and other measures that form part of the responsibilities and accountabilities of those functions.

Thus, this chapter addresses the results of our examination of how effectively executive structure and leaders operate overall in terms of the attributes listed at the beginning of this paragraph. It is possible, as examination of the other chapters of this report demonstrate, for effective overall guidance to leave opportunities for improvement at the functional level, or for planning, execution, management, and measurement at the functional level to prove effective despite an opportunity for enhancing overall executive management alignment and focus.

Scope guidance for this engagement included a number of subject areas categorized under the topics of Executive Management and Organizational Structure. We addressed many of them at the functional level, which is the structure that most other chapters of this report employ. The chapters that address these subjects listed under the Executive Management and Organizational Structure category include, for example:

- The *Governance* chapter of this report, which addresses structure, membership, responsibilities, and operation of the boards of directors and their committees
- The *Finance and Cash Management* chapter of this report, which addresses financial insulation and protection of NJNG vis-à-vis its affiliates and parent
- The *Staffing* chapter of this report, which addresses the allocation of personnel resources among NJNG, the service company, and non-utility affiliates
- The *Controls, SOX, Internal Audit, and NYSE Listing Requirements* chapter of this report, which addresses internal auditing, the use of outside auditors and their independence, and controls
- The *Cost Allocations* chapter of this report, which addresses cost assignment and allocation requirements and service agreements
- The *Procurement and Purchasing* chapter of this report, which addresses the nature of agreements between NJNG and affiliates specific to gas asset and supply planning and operations, and associated relationships and interactions
- The *Supply Chain* chapter of this report, which addresses other contracts and their execution

- The *Records Management, Security, and Customer Service* chapters of this report, which address information security.

B. Findings

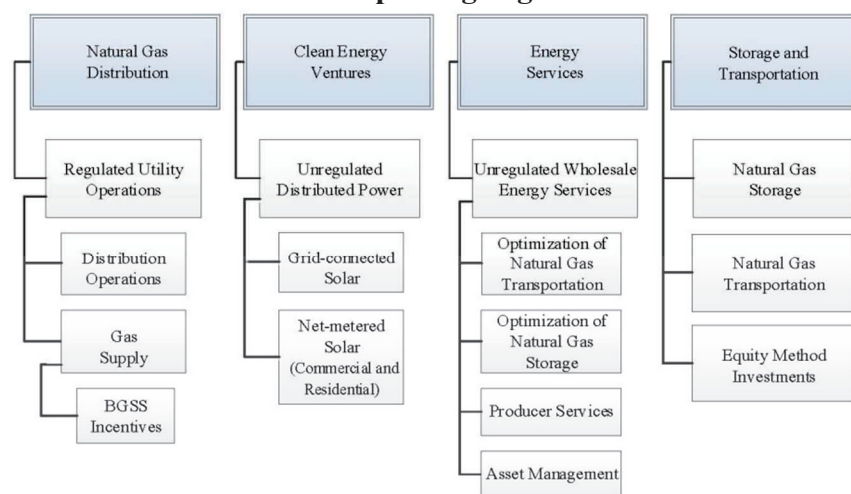
1. NJR's Businesses

Executive management of matters that involve or affect NJNG are substantially interconnected with what has become a large and more varied set of non-utility operations under common parent NJR. A Fortune 1000 company having about 1,200 employees, NJR provides natural gas and clean energy services that include transportation, distribution, asset management, and home services.¹ NJR's principal subsidiary NJNG serves more than 500,000 million customers in New Jersey's Monmouth, Ocean, Morris, Middlesex, and Burlington counties, through a system that comprises more than 7,600 miles of transportation and distribution infrastructure. NJR reports the following as comprising its core business operations:

- **NJR Energy Services** ("NJRES") manages natural gas transportation and storage assets and provides physical natural gas services and energy solutions across North America
- **NJR Clean Energy Ventures** ("NJRCEV") invests in, owns, and operates solar projects with combined capacity of some more than 365 megawatts
- A **Storage & Transportation** business owns facilities (Leaf River Energy Center and Adelphia Gateway Pipeline Project) and has a 50 percent equity ownership in Steckman Ridge natural gas storage facility; the customers for these facilities range from local distributors and producers to electric generators and wholesale marketers
- **NJR Home Services** ("NJRHS") provides heating, central air conditioning, water heaters, standby generators, solar, and other indoor and outdoor comfort products and service contracts to residences throughout New Jersey, employing programs like; Conserve to Preserve®, the SAVEGREEN Project® and The Sunlight Advantage® to assist customers promoting conservation and encouraging efficiency.

An NJR 10-K lists four reporting segments. They exclude corporate support services, Home Services (which includes NJRHS), and Other, which do not meet criteria for treatment as a separate reporting segment. NJR also excludes its commercial real estate holdings of subsidiary Commercial Realty & Resources Corp. ("CR&R") and home warranty contracts provided by NJR Retail under a partnership with AIG, that no longer provides such offerings.²

NJR Reporting Segments



The next table shows changes in the revenues and earnings contributions from each NJR segment as compared with those current as of the prior audit of this type.³

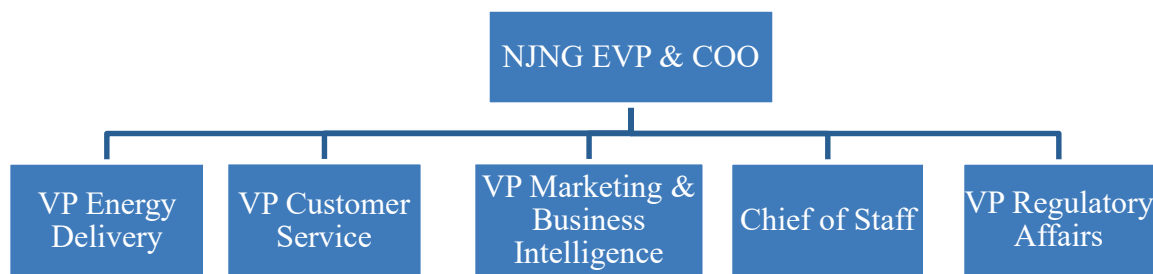
NJR Business Segment Revenues and Earning

Net Financial Earnings				
Segment	2012	2021	2023	Δ
NJNG	\$73.238	\$107.375	\$131.414	79%
Non-Utility Subtotal	\$39.358	\$100.337	\$130.413	231%
NJRCEV	\$19.452	\$16.789	\$44.458	129%
NJRES	\$10.791	\$71.117	\$68.517	535%
S&T (Midstream)	\$6.749	\$13.046	\$12.835	90%
Home Services & Other	\$2.366	-\$0.615	\$4.603	95%
Total	\$112.596	\$207.712	\$261.827	133%
Revenue				
Segment	2012	2021	2023	Δ
NJNG	\$627.713	\$731.796	\$1,012.633	61%
Non-Utility Subtotal	\$1,625.063	\$1,423.944	\$966.244	-41%
NJRCEV	\$2.257	\$92.275	\$124.131	5400%
NJRES	\$1,580.611	\$1,228.420	\$691.616	-56%
S&T (Midstream)		\$51.020	\$92.859	82%
Home Services & Other	\$42.195	\$52.229	\$57.638	37%
Total	\$2,252.776	\$2,155.740	\$1,978.877	-12%
<i>Millions of dollars</i>				

2. NJNG Executive Organization

The organization dedicated with small exceptions essentially uniquely to NJNG's utility business at around the time of the last audit of this type was led by an Executive Vice President and COO of NJNG, reporting to NJR's CEO.⁴ The next chart shows the executive organization under this NJNG EVP and COO, who reported to the NJR CEO who also served as NJNG's top officer.

2013 NJNG Executive Level Organization



The 2013 senior NJNG positions under the Executive Vice President and COO of NJNG included:

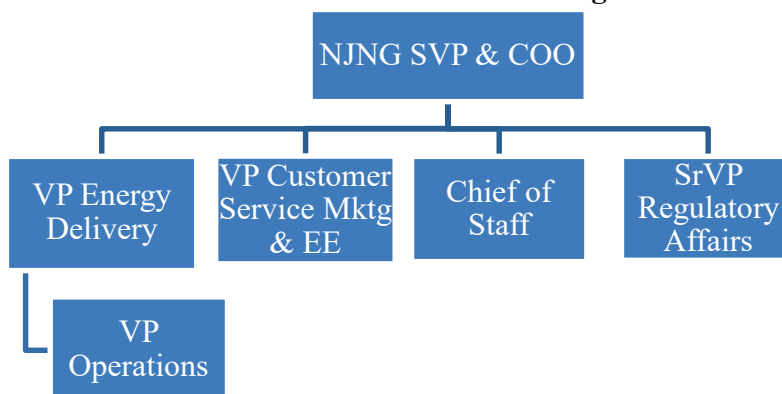
- Vice President, Energy Delivery
 - Director, Energy Delivery Support
 - Director, Systems Enhancement
 - Director, PMT
 - Director, Field Operations
 - Director, Engineering
- Vice President, Marketing and Business Intelligence
 - Manager, Core Business Development
 - Manager, Marketing Performance, Measurement, and Support
 - Manager, Customer Satisfaction
 - Director, Conservation and Clean Energy
 - Director, Corporate Communications
 - Manager, Customer Service
 - Natural Gas Vehicle Consultant
- Vice President, Customer Service
 - Manager, Customer Service.

Government Affairs (under a position designated as Chief of Staff) and Regulatory Affairs (under a Vice President reported separately to the NJR CEO in 2013. The head of Government Affairs had no direct reports. Those of the NJNG Vice President Regulatory Affairs included:⁵

- Regulatory Affairs Counsel
- Director, Customer and Community Relations
- Director, Environmental Services
- Director, Gas Supply
- Director, Revenue Requirement.

The next chart shows the current executive level organization under NJNG. The NJR CEO also serves as the CEO of NJNG. Note that some functions formerly carried out for all of NJR, but located within NJNG (e.g., Communications) have moved to the service company.

2023 NJNG Executive Level Organization



The 2023 senior NJNG positions under the Executive Vice President and COO of NJNG included:⁶

- Vice President, Energy Delivery
 - Vice President, Operations
 - Director, Customer Service
 - Manager, PMT
 - Director, Field Operations
 - Gas Control
 - Director, Engineering
 - Director, System Enhancement
 - Director, Energy Delivery Support
 - Sr. Vice President, Regulatory and External Affairs, Marketing, and Energy Efficiency
 - Managing Director, Gas Supply
 - Managing Director, Marketing and Energy Efficiency
 - Marketing Cloud Process Manager
 - Energy Efficiency Special Projects Manager
 - Manager, Energy Efficiency Marketing
 - Manager, New Business Support and Analytics
 - Director, SAVEGREEN
 - Director, Rates and Tariff
 - Director, Revenue Requirement
 - Director, Environmental Services
 - Regulatory Affairs Counsel
 - Manager, NJNG Business Development
 - Sustainability and Outreach Analyst
- Director, Customer & Community Relations.

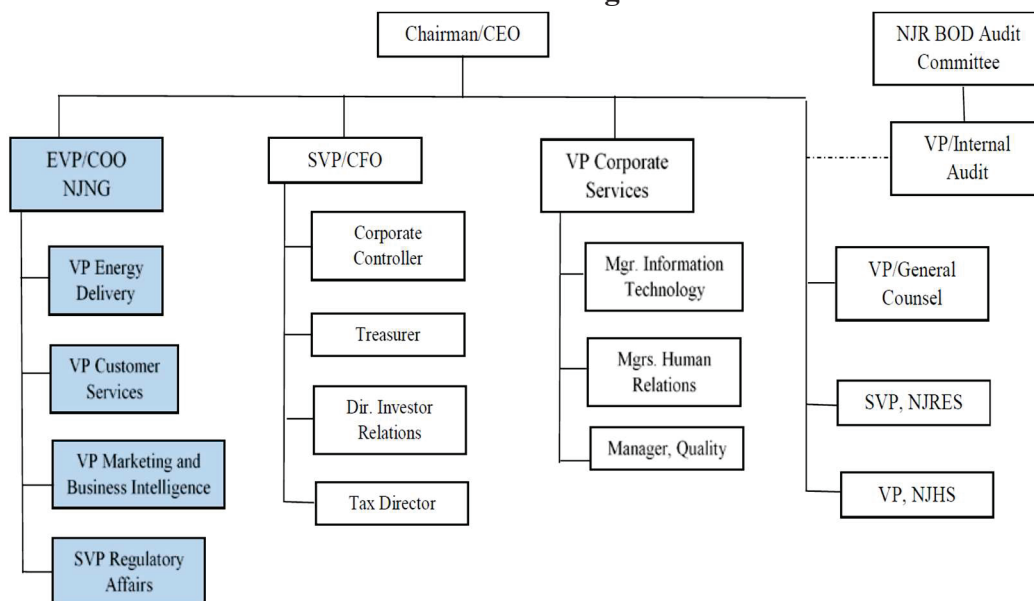
3. NJR Executive Organization

NJR's approach leaves, by comparison with many other utility holding company structures, a comparatively large set of utility operating responsibilities within NJNG itself. Whether because NJNG operates as the only utility subsidiary or not, the utility's dedicated executive team nevertheless has a comparatively greater scope of authority and accountability for utility performance than many of its peers who operate in holding company structures. Nevertheless, NJNG relies, as those peers commonly do, on a substantial set of corporate and support services

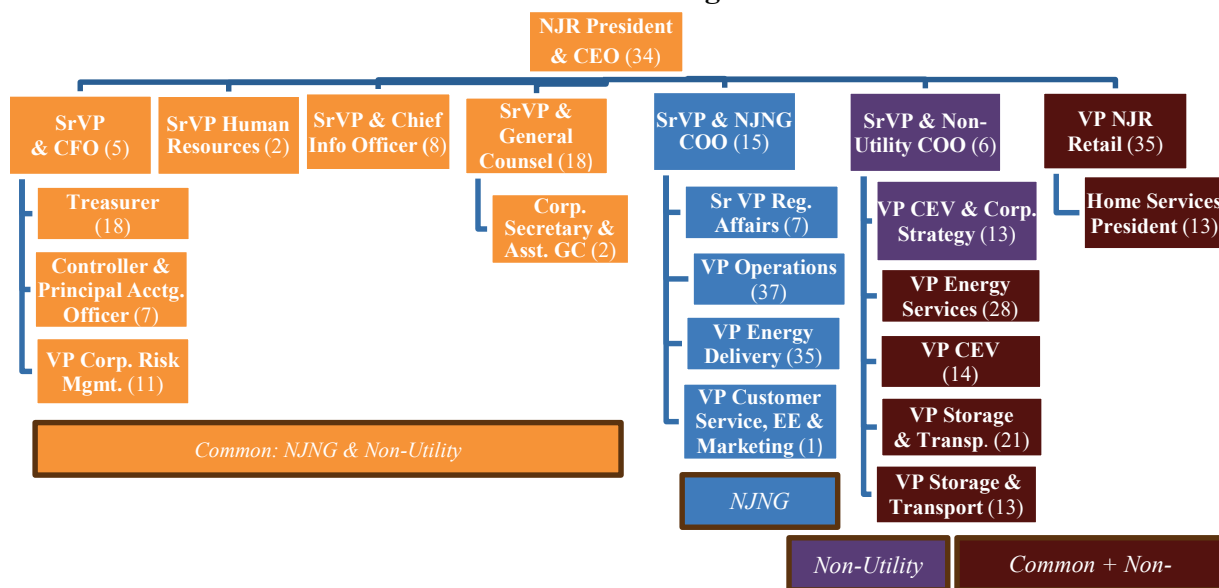
provided commonly through a service company. Top leadership and board of director oversight also come, again as is common for holding companies, from a common set of the most senior executives and a parent board. NJNG does, however, have a separate board from that of parent NJR.

The *Governance* Chapter of this report addresses the roles, responsibilities, and authorities of the two boards, their interaction, and their effectiveness in serving NJNG's particular needs, risks, opportunities, and circumstances. The common meetings of the two boards make executive interaction essentially the same vis-à-vis both boards. The next table shows the NJR organization as of 2014, as reported by the previous audit of this type.

2014 Overall NJR Organization



Current NJR Overall Organization



The Senior Vice President and Non-Utility COO also has NJR-wide responsibility for Business Strategy and External Affairs. The executive team also includes an NJR Vice President – Corporate Business Development, who has been with NJR for 22 years. This executive’s responsibilities include coordinating the identification, assessment, and, if decided, execution of larger, longer-term transactions (*e.g.*, businesses or major assets). This executive has no staff, but works with management of the business unit involved; *e.g.*, the NJNG Sr. VP, Regulatory Affairs, who has business development responsibilities should potential transactions involve utility business or operations.⁷

NJR’s Sr.VP and Chief Operating Officer of Non-Utility Businesses also has responsibility for directing NJR corporate strategy, government affairs, communications and sustainability functions. This senior officer formerly had executive responsibility for government affairs, strategy, and communications before assuming non-utility leadership role.⁸ An executive under this senior vice president supports corporate strategy functions and activities, while at the same time having executive responsibility for non-utility affiliate CEV.⁹

4. Enterprise Risk Management

An Enterprise Risk Management (“ERM”) team coordinates the production of an annual enterprise risk assessment. Internal Auditing and the ERM team work together to identify highest priority risk areas, considering the results of the annual assessment and the information accumulated in preparing it. This prioritization work includes interviews with executives and surveys of board members. Internal Auditing closely integrates development of annual audit plans with these activities that it conducts with the ERM team.

That assessment produces a tiered list of 46 risks categorized into three “Inherent Risk” tiers; *i.e.*, High, Moderate, and Low. The assigned “Risk Owners” included senior NJNG personnel, including the utility’s COO. The assessment process has used the two classically employed

quantitative factors of occurrence likelihood to measure and prioritize risks. It also quantitatively addresses the effects of mitigation measures to produce quantitative measurements of residual risk. The spectrum of risks assessed includes a very broad range of areas, many addressing NJNG operations generally with some targeted at core utility operations (*e.g.*, project and service delays, supply chain disruption, cybersecurity, utility legal and regulatory change, gas commodity and transportation availability and pricing, financing impacts from non-utility business reversals, utility industry consolidation, environmental liabilities, customer resistance to utility prices, labor problems, changes in customer energy use).

For example, the 2022 process identified 13 Tier 1 (highest) risk areas, with the vast majority of them generally relevant and a number directed at core NJNG operations. The assignments of NJNG personnel, including its COO as risk owner for many of them, exemplify the direct and substantial engagement of NJNG personnel in the management of key risks.

The charter of the NJR board's Audit Committee makes it responsible for assisting the full board in overseeing risk assessment and management, including review of the framework used, review and discussion with management of all risks threatening strategic plan execution and company safety, soundness, and control environment.¹⁰ Our review of board of directors documentation showed regular and reasonably comprehensive reporting to the Audit Committee and discussion of risk management matters.

5. Litigation with Executive or Governance Implications

Registrants such as NJR must file with the SEC under 17 C.F.R. § 229.103 (Item 103) legal proceedings brief descriptions of “any material pending legal proceedings, other than ordinary routine litigation incidental to the business.” Annual SEC 10-K filings since 2020 have reported only limited legal proceedings, with nearly all of them related to MGP plants. The principal exception came in the 2021 10-K, which noted an impairment of its equity investment in the canceled PennEast natural gas pipeline project following “numerous regulatory and legal challenges.” Interviews with board members, executives, and legal personnel, along with the document reviews we undertook in preparing all the chapters of this report, disclosed no instances of reportable litigation.

C. Conclusions

- 1. The structure of the leadership team within NJNG produces a scope and depth of responsibility and authority that appropriately supports its ability to act with a sufficient level of authority and independence, with the status of the NJNG manager responsible for natural gas supply and exception.** (*See Recommendation #2 of the Procurement and Purchasing Chapter of the accompanying Phase One report.*)

NJNG's internal executive structure extends to more than the responsibility and authority typically given to a utility operating company in a holding company structure. That NJNG is the only utility operating subsidiary has likely contributed to this difference. However, whatever the reason, the internal NJNG organizational and leadership structure produces a team of NJNG executives generally sufficiently empowered, independent, and accountable for utility operations. Interviews with those executives, their managers, as well as service company and corporate executives and managers, confirm their apparent responsibilities, authorities, and accountability for NJNG

operational performance is consistent with how they actually lead and manage. Documentation reviews confirm the same.

At the same time, the overall NJR corporate and holding company structure within which NJNG operates supports efficient and effective offerings of commonly provided corporate and support services for NJNG, along with other NJR business operations.

Over the decade since the last audit of this type, continued adaptation and expansion of the internal NJNG organization structure and leadership positions have responded to changing circumstances and emerging needs and opportunities. Changes to address SAVEGREEN and other energy efficiency operations stand as a principal example. The current internal NJNG executive structure also emphasizes both the operational and customer service functions that reside fully within the utility.

However, the *Procurement and Purchasing* Chapter of this report describes an exception to this general conclusion about the NJNG executive structure. It offers through its Recommendation #2 a specific change that NJNG should make. That report chapter addresses NJNG's gas supply function. As that chapter details, the executive structure of the Gas Supply function does not reflect its significance or need for independence. That chapter's Recommendation #2 addresses the reasons that call for making the head of gas supply an executive function reporting to the top NJNG officer (Senior Vice President and COO), rather than through the executive responsible primarily for regulatory affairs.

The next table shows that gas purchase costs have run at approximately double the amounts of other O&M expenses. Despite the much smaller amounts of those O&M costs, three separate NJNG vice presidents divide responsibility for their management. Moreover, as the Procurement and Purchasing chapter makes clear, both theoretical and actual issues of independent NJNG gas supply operation exist, given the nature of the operations of other NJR affiliates.

Gas Purchasing Share of NJNG O&M Costs

Operating Expenses	2023		2022		2021		2020		2019		Average
Total	\$805.105		\$909.714		\$582.803		\$556.511		\$599.604		\$690.747
Shares	\$	%	\$	%	\$	%	\$	%	\$	%	%
Gas Purchases	\$425.427	53%	\$557.232	61%	\$260.714	45%	\$287.307	52%	\$336.489	56%	53%
O&M	\$226.780	28%	\$198.546	22%	\$203.740	35%	\$162.792	29%	\$171.198	29%	29%

Procurement and Purchasing Chapter Recommendation #2 calls for three specific changes:

- Establishing an NJNG executive level position for gas supply management
- Reporting of that position to the top internal NJNG officer, its Senior Vice President and COO
- Greater engagement of the separate NJNG board in oversight of NJNG gas supply.

The changes recommended will respond to influence that interests of affiliates have had since the last audit of this type and before on NJNG gas supply planning and transacting. The change will, as the *Procurement and Purchasing* Chapter describes, improve visibility at the top NJNG executive and board of directors levels.

2. The organization and executive alignment for providing common support services and corporate management and oversight provide an effective structure for serving NJNG's needs effectively and for ensuring proper focus on the utility's needs and circumstances, with two exceptions. (See Recommendation #1)

The functional alignment of corporate support services and the alignment of executive leadership of them is reasonably typical of holding companies that support and oversee both utility and non-utility organizations. As NJR's non-utility operations have grown and changed in size and complexity since the last audit of this type, senior NJR leadership and the board have changed to ensure continued alignment with changing needs. In particular, incorporation of a non-utility COO position recognizes the growing leadership demands from that NJR sector.

Conclusion #3 and accompanying Recommendation #3 of the *Compliance & Ethics* chapter of this report address the first exception to this conclusion. The next conclusion addresses the second exception.

3. Consolidation of non-utility business operations leadership under a single senior executive is sound, but has left executive responsibility for strategy configured in a manner not optimum for the long term. (See Recommendation #1)

We found the creation of a top-level COO executive position for NJR's now very large and complex non-utility businesses effective. Consolidating that responsibility at the second executive level (*i.e.*, directly below the NJR CEO) transfers some measure of the activities and therefore attention of the NJR CEO to the non-utility business COO. Both of NJR's two principal arms (NJNG and non-utility businesses) now occupy the same position and both have a senior executive in charge.

However, the non-utility COO remains the senior executive responsible for strategy for all of NJR, including NJNG. The *Planning and Budgeting* Chapter of this report did not find NJNG disadvantaged in any noticeable way as a result of this combination. Nevertheless, it should not be considered optimum for the longer term to make the executive responsible for the bottom-line operational performance of the non-utility businesses responsible at the same time for strategy development and oversight of both those businesses and NJNG. The accountability for bottom line non-utility operational performance may not necessarily or always pose tensions that can affect the depth of effort applied to both sectors or affect the objectivity of decisions about strategies, particularly for two sectors operating in major degree in the same markets.

NJR operates as a comparatively smaller holding company when compared to others. With smaller size often comes increased flexibility in making executive personnel changes. NJR's non-utility COO had served already in roles that included responsibility for strategy. It is not problematic that leadership planned for the corporate-wide strategy role to remain for some time. Creating an executive structure equilibrium can take time when adding new positions, particularly top-level ones. However, it should be recognized that the arm of the business whose leadership has responsibility for that arm's bottom line and for development and oversight of strategy at both arm's (here NJNG and non-utility businesses) can produce some level of imbalance in assessing and resolving tensions that inevitably result when resource limitations require, as they inevitably will, choices between the two arms.

4. Leadership and management of commonly provided corporate and support services show sufficient knowledge of and attention to the needs and circumstances that differentiate NJNG from other NJR businesses served.

The last audit of this type found issues with clarity of responsibilities among groups responsible for serving both NJNG and affiliate needs. We examined the many functions and activities performed in common for NJNG and those other and the organizations, executives, and managers who perform them. Our examination included clarity of roles, focus on NJNG needs, and recognition of the utility's public service obligations.

We did, as noted, find concerns about the influence of affiliate interests on NJNG gas supply. However, apart from that exception, we found those responsible for leading and managing functions and activities serving NJNG and others at the same time aware of the needs of NJNG and sufficiently focused on assuring that they were meeting them. The other chapters of this report that address their management and operations include a number of specific recommendations for improvement. However, we did not find any lack of clarity or focus on NJNG's needs and interests.

5. We found executive leadership at the NJNG, service company, and corporate levels qualified, capable, and engaged.

The executive team members are capable and experienced, with changes made in recent years successful in bringing in outside perspectives and significant qualifications. All of the team members showed substantial familiarity with their roles, and with the opportunities, challenges, risks, and other circumstances pertinent to their areas of responsibility. Each demonstrated conversance with NJNG's circumstances and with how those circumstances affected their particular areas of accountability and responsibility. NJR has experienced significant growth and change in its non-utility responsibilities. We saw no indication that that growth and change has caused diminishment in executive focus on NJNG either in terms of the alignment of functions and activities organizationally, executive leadership of them, or resources assigned to them.

On an overall basis, the structure, leadership, responsibilities, authorities, and accountabilities of the NJR and NJNG executive organizations provide an appropriate framework for ensuring adequate resource (financial and personnel) allocations to NJNG, ensuring NJNG financial independence, addressing affiliate relationships and transactions, ensuring compliance with legal, regulatory, and contractual requirements.

6. NJR takes a structured approach to risk management, engages NJNG in identifying and managing risks, and includes sufficient executive and board of director engagement.

Annual risk assessments employ a quantitative approach to measure risk likelihood of occurrence, consequence upon occurrence, the effects of mitigation measures on risk magnitude, and the resulting exposures after considering those measures. The risk management process promotes accountability for risk management by assigning "ownership" of risk areas to senior leadership. The risks identified include a broad range of those that both generally and directly involved NJNG, whose senior leadership is assigned to a significant number of them as owner. A strongly coordinated process between an ERM team and Internal Audit ensures both a comprehensive and delineated risk register used in developing internal audit plans.

Executive engagement in risk assessment and management is direct and substantial. The NJR board, acting in large part through the direct and regular engagement of its Audit Committee, maintains oversight over the risk assessment and management process and of the current status of risks and their management throughout the year.

7. There are no reported lawsuits that appear to raise executive management, corporate governance, or their potential direct or indirect impacts on NJNG.

Financial disclosures made under substantial federal requirements disclose no litigation with significant potential for raising such issues. Neither did interviews with board members and legal department leadership or reviews of other documentation produced through our data requests.

D. Recommendations

1. Create a plan for eventually transitioning top-executive responsibility for strategy from the scope of the non-utility COO position. (See Conclusion #3)

There is no reason to find concern that the combination of top-executive responsibility for corporate strategy with the non-utility COO roles has disadvantaged NJNG to date. The issue is removing over the longer term the potential that the added performance drivers of the latter role do not influence, even if subtly or unconsciously, the processes undertaken or the results achieved in developing strategies of consequence for NJNG or in measuring and managing their effectiveness as laid out and as affected by circumstances that will require continuing to review and revise them. A fully balanced approach would place both NJNG and the non-utility business arms in the same position organizationally vis-vis those responsible for supporting strategy development and other activities involved. Strategy formation and evaluation certainly have been more dynamic for the non-utility businesses at NJR. However, the need for constant and deep attention to strategy is critical for NJNG as well. Simple reference to the risks that result from the annual risk assessment process described in this chapter underscore the importance that attention. Moreover, the very fact that the very dynamic nature the non-utility strategy has at NJR adds to the need for ensuring that sufficiently detailed and fully objective attention to NJNG strategy not over the longer term diminish.

Certainly, NJNG leadership and management participate robustly in utility strategy development and execution as it affects the utility, championed by NJNG's COO. Utility Management engages substantially in assessing the effectiveness of strategies adopted as they play out in uncertain circumstances as well. However, NJNG's operationally focused and aligned organizational structure leaves it dependent on a common NJR organization for process support and ultimate leadership when it comes to activities related to strategy. The difference is that the non-utility champion also manages key processes related to strategy formation and evaluation.

Leadership team structure change and evolution and development of individual executives and executive candidates comprise ongoing activities at entities like NJR and NJNG. Meeting the need for change here, while important, should be sequenced in a way and over a time period that is integrated with that panoply of executive alignment, position level, and individual development activities. It should also reflect the need to ensure that a transfer of the strategy-related responsibilities and accountabilities involved leave them in hands that provide leadership and the board with high confidence.

***Chapter III: Governance
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Chapter III: Governance

A. Background

This chapter addresses NJR and NJNG governance to determine board of directors structure, membership, and ability to anticipate and respond to strategic issues affecting NJNG. It treats:

- Board and committee structure
- Board membership selection
- Membership backgrounds and experience
- Director independence
- Separation of CEO and board chair roles
- Focus of the boards on NJNG needs, resources, activities, and circumstances
- Director conflicts of interest
- Audit Committee oversight to ensure audit independence
- Existence of lawsuits related to executive management or corporate governance issues.

B. Findings

1. *Boards of Directors*

a. NJR

The NJR board had 11 members until 2023 age-related retirements and additions brought the number to 10. Directors must retire as of the next annual meeting following their reaching age 75. A majority of NJR board members must, subject to annual validation, qualify as independent, as defined by NJR's Corporate Governance Guidelines and rules of the New York Stock Exchange ("NYSE") and the U.S. Securities and Exchange Commission ("SEC"). NJR reports all directors as independent except for the NJR CEO. Thus, all committees, excepting the Executive Committee on which the CEO serves, consist solely of independent directors as well.¹¹ An independent director serves as chair of the NJR board and of the NJNG board.¹² SEC guidelines also call for annual evaluations of existing directors and of nominees to the board for compliance with independence definition requirements. Factors that disqualify one from being defined as independent include a reasonably typical list that includes material relationships with NJR or affiliates, partnership or employment with the internal or external auditor, annual compensation of more than \$120,000 in direct compensation (excepting director, pension, and deferred compensation related amounts), and employment relationships with other companies involving significant commercial relationships or compensation committee interests.

NJR reports all directors other than the CEO as independent, which our review of the information provided about their backgrounds confirms. Six have significant ties to New Jersey, as reported by NJR. The next illustration shows the remaining members' skills and experience as reported by NJR. Independent directors also fill all seats on the NJR board Audit Committee, Nominating/Corporate Governance ("N/GC") Committee, and Leadership Development and Compensation Committee ("LD&C") members.¹³ NJR has separated the roles of board chair and CEO. The independent member, who had served as lead director before the separation in 2020, now serves as chair of the NJR and NJNG boards.

NJR Board Member Backgrounds



The next table lists the directors, their ages, backgrounds, tenure (first election through the end of current term), and board and committee assignments. The separate NJNG board of directors consists of a subset of the full NJR board membership. The table highlights the NJNG board members. The first member listed chairs both boards.

NJR and NJNG Board Of Director Membership

Name (Age)	Background	Tenure	Committees	Public Co. Boards
Donald Correll (73) <i>Exec. Com. Chair</i>	Water Capital Partners Retired American Water CEO	2008-2026	Executive, Audit, LD&C	Encompass Health
Stephen Westhoven (55)	NJR CEO	2018-2026	Executive	none
Sharon Taylor (69) <i>LD&C Com. Chair</i>	Retired Sr. VP-HR, Prudential Financial; Trustee of foundations	2012-2026	LD&C, N/GC, Executive	none
J. DeGraffenreidt Jr. (70)	Retired WGL Holdings Chair/CEO Former AGA Chair	2019-2027	LD&C, N/CG	none
Susan Hardwick (61)	CEO American Water Works Former Vectren executive	2020-2027	Audit	American Waterworks
Gregory Aliff (70) <i>Audit Com. Chair</i>	Retired Deloitte & Touche Partner	2019-2025	Audit, N/CG, Executive	Calif. Water Service Group,
Peter C. Harvey (65)	Law Firm Partner. former NJ Attorney General and federal prosecutor	2023-2027	none	none
Jane Kenny (71) <i>N/GC Com. Chair</i>	Whitman Strategy Mngng. Partner, former EPA Admin, NJ Gov. Policy Chief	2006-2026	N/CG, LD&C Executive	none
Thomas O'Connor (67)	Retired Chair/CEO DCP Midstream; Former Duke Energy	2017-2025	Audit, LD&C	Keyera Corporation
Michael O'Sullivan (63)	Retired NextEra Senior VP of Development	2022-2025	Audit	none

A number of new members have come to the NJR board since 2019; the company reports completion of orientation sessions for each essentially contemporaneously with their election.¹⁴ NJR offers a reasonably typical array of internal and external educational offerings for board members.¹⁵

The NJR board elected a new member, Peter C. Harvey, an attorney, former New Jersey Attorney General, and federal prosecutor in late 2023. Three directors reaching board age limits retired in 2023 and 2024:

- Robert Evans, retired CEO of Duke Energy Americas
- David Trice, retired CEO of Newfield Exploration
- George Zoffinger, retired CEO of Constellation Capital.

The same independent director chairs both the NJR and NJNG boards.¹⁶ No formal policy exists with regard to separating the roles of NJR CEO and board chair, but NJR continues to believe, as it had in 2021, that “current circumstances and operating strategies” make separation and independent standing board committees the most appropriate structure, subject to review as part of the annual board assessment process. The current chair has served in that role since January 2020. The board chair’s specifically enumerated roles and responsibilities include:¹⁷

- Ensuring board and committee functioning independently of management
- Chairing board meetings
- Developing board meeting schedules and agendas and committee meeting schedules
- Consulting to ensure sufficient time to address all scheduled board agenda items
- Calling and setting agendas for executive sessions of independent directors
- Evaluating and overseeing information from management
- Serving as liaison between independent directors and senior management
- Conferring with N/CG Committee chair on board committee membership
- Coordinating with N/CG Committee chair in performing board and committee evaluations
- Coordinating with LD&C Committee in evaluating CEO performance
- Remaining available for consultation and direct communication with major shareowners
- Retaining advisors and consultants requested by the independent directors.

NJR reports that the board’s chair can call special board meetings, and supervises meeting materials, agendas, and schedules actively. NJR also reports the conduct of regular executive board sessions of independent directors. Three director classes serving staggered three-year terms exist.¹⁸

Designation as independent requires annual board evaluation and determination that neither the member or immediate family members have any material relationship with NJR or any affiliate directly or as a partner, shareowner or officer of an organization that has a material relationship. Specific independence disqualifications involving director or immediate family members include:

- Employment or service as an executive officer
- Receipt of more than \$120,000 in direct compensation (with narrow exceptions, such as director fees, pensions, deferred compensation no longer contingent on continued service) during any 12-month period within the last three years
- Service as a current partner of the internal or external auditor
- Service as a current employee of the internal or external auditor (limited in the case of immediate family members to having personally worked on the NJR audit)
- Service within the last three years as a partner or employee of the internal or external auditor if having personally worked on the NJR audit within that time

- Employment within the last three years as an executive officer of another company where any of present NJR executive officers at the same time served on that company's compensation committee
- Current employment (limited in the case of immediate family members to service as an executive officer) of a company making to or receiving from NJR payments exceeding in any of the last three fiscal years the greater of \$1 million or two percent of the other company's consolidated gross revenues.

b. NJNG

NJNG has a board of directors separate from that of NJR, but consisting of members all of whom serve on NJR's board. The NJNG board typically meets on the same day as does the NJR board.

The independent director who chairs the NJNG board also chairs the separate NJNG board. NJNG's other board members include the NJR CEO and three other independent NJR directors:¹⁹

- The retired Chair and CEO of WGL Holdings, which operated mid-Atlantic natural gas, electricity, and energy services
- The President and CEO of American Water Works, the largest U.S. regulated water and wastewater utility company
- The retired Senior Vice President, Human Resources of Prudential Financial, a major insurance, retirement, annuity, investment, and financial advisory service provider.

A detailed board 2020 survey conducted as part of NJR's process for periodically reviewing board (parent and subsidiary) and committee roles, structure and meeting practices was the impetus for a change that made the same person chair of the boards of both NJR and NJNG and eliminated independent directors from the boards of other subsidiaries; *e.g.*, NJR Clean Energy Ventures ("NJRCEV"), NJR Energy Services ("NJRES"), and NJR Energy Investments. The NJNG board has consistently contained all independent directors, except for the NJR CEO. The CEO who preceded the current one had served as chair of the NJNG board. Under the current CEO, the independent director who chairs the NJR board has also chaired the NJNG board.²⁰ Changes in the outside membership have generally occurred in connection with departures from the parent board. NJR has not employed a rotation of its members to serve on the NJNG board, nor has membership only on the NJNG board been employed. Historically and at present, membership includes directors with generally greater levels of direct utility industry experience.

New Jersey Administrative Code Section 14:4-4A.6(a) requires annual certification that at least 40 percent of NJNG's board members satisfy New Jersey and independence qualification requirements and the names of those whose membership combines to meet those requirements. Management provided a January 2, 2021 certification of compliance from NJR's CEO.²¹ Our examination verified satisfaction of New Jersey connection and independence requirements.²²

c. Other Subsidiaries

The boards of NJR's other subsidiaries at one time included independent members, but no longer. The NJR CEO, the NJNG COO, and the NJR non-utility COO serve on the board of NJRSC, which provides services to the parent and subsidiaries.²³

2. Board Committees

a. NJR Audit Committee

The Audit Committee of the NJR board has five members, all of them independent. The Audit Committee meetings typically include participation from the non-Audit Committee Board members, while holding separate, additional committee meetings as well.²⁴ The board has considered all Audit Committee members financially literate, possessing accounting or related financial management expertise, and qualifying as an “audit committee financial expert” per SEC rules. The responsibilities of the Audit Committee have included:

- Overseeing management’s exercise of accounting, financial reporting internal control, and financial reporting responsibilities
- Selecting, appointing, compensating, and overseeing the independent accounting firm, approves retention of such firm for purposes additional to audit, and approves fees paid
- Reviewing scope and results of independent accounting firm and internal auditors’ work
- Reviewing adequacy of internal control over financial reporting
- Monitoring major financial and cybersecurity risk exposures.

Management has responsibility for managing risk, including the provision of oversight and monitoring to ensure execution of policies and processes in accord with performance goals and risk tolerance. The NJR board has responsibility for risk oversight, including review and oversight of financial policies, financing programs, capital and operating plans, benefit plan management, technology projects, and certain risk management policies.²⁵

The NJR board’s Audit Committee receives reports from management on material risks, proposed risk factors, public disclosures, mitigation strategies, and internal controls over financial reporting. Periodic Audit Committee discussions take place with the NJR CFO and other members of management regarding risks. An internal Risk Management Committee (“RMC”) develops, implements, and enforces risk management procedures for NJRES, NJNG and NJRCEV. The RMC evaluates credit policies and procedures, reviews material transactions, and identifies and discusses emerging risk issues. The RMC monitors subsidiary credit risk, trading positions, and trading risk policies and procedures. RMC composition includes personnel from NJR’s affiliated companies, meets monthly, and provides the Audit Committee with periodic reports of its activities and information collected and analyzed. The Audit Committee also monitors cybersecurity risks and management actions to monitor and control them. The committee receives at least quarterly technology upgrade and enhancement updates that bear on risk.

Other board bodies have risk responsibility as well. The LD&C Committee’s risk oversight scope extends to succession planning, human resources, human capital management, and executive compensation. The N/CG Committee oversees risks related to corporate governance, board refreshment and succession planning, corporate governance policies and practices, and environmental stewardship, sustainability and corporate social responsibility. The NJR board provides operational and financial risk oversight regarding subsidiaries. The NJNG board, per the December 2021 proxy statement, “enhances our operational and financial risk oversight.” The only specific mention of the other subsidiary boards in the context of risk oversight states that they no longer contain independent directors.

b. NJR LD&C Committee

The NJR LD&C Committee has had five members all independent, generally meeting four times per year. Its responsibilities have included: ²⁶

- Overseeing senior management performance and qualifications
- Interpreting, implementing, and administering annual compensation and benefits for NJR and subsidiary officers
- Reviewing and approving financial corporate goals and objectives relevant to executive officer compensation
- Evaluating executive officer performance relative to those goals and objectives
- Determining and approving executive officer compensation based on such evaluation
- Recommending to the full board annual and long-term incentive compensation plans
- Evaluating performance and determining officer salaries, incentive compensation and benefits
- Administering equity-based and other executive compensation plans
- Overseeing leadership development, including senior management succession planning, officer promotions, and affirmative action and diversity plans
- Reviewing all executive compensation policies and procedures, including incentives created and factors affecting excessive risk taking
- Following regulatory and legislative developments and considering best corporate governance practices.

The LD&C Committee takes reports from management addressing corporate culture, diversity, equity and inclusion, employee development, and compensation and benefits. The LD&C Committee engages with management in talent retention, development, and succession planning. The Board has primary responsibility for CEO succession planning and monitors management's succession plans for other key executives. The LD&C Committee reviews the results of annual employee feedback surveys that measure overall employee engagement.

c. NJR N/CG Committee

The NJR N/CG Committee has four members, all independent. It has generally met five times or so per year. Its responsibilities include: ²⁷

- Assessing needs for maintaining an effective board
- Making recommendations regarding Board composition, size, compensation, skills and talent needs
- Identifying individuals to serve as directors under Corporate Governance Guidelines criteria
- Recommending selection of nominees for election as directors
- Recommending directors to serve on board committees
- Leading board annual self-evaluation performance review
- Recommending corporate governance guidelines and overseeing related governance matters
- Advising the board on environmental stewardship, sustainability and matters regarding social responsibility, advocacy and reputation, including sustainability reporting

- Periodically assessing and responding to material risks arising from governance structures and processes.

NJR's Corporate Governance Guidelines also call for annual evaluations of board performance administered by the N/CG Committee, with the participation of all members and, should the board choose, contribution from outside advisors. The evaluation considers board structure, leadership, logistics, meeting conduct, responsibilities discharge, culture, and ethics. The process solicits recommendations for improving effectiveness. The board has also asked informally for feedback from company leadership. The Audit, the N/CG, and LD&C Committees also conduct annual assessments of committee performance assessments under committee chair administration.²⁸

The N/CG Committee administers annual NJR board evaluations of its performance, with all directors participating. The board has the power to retain assistance in the design and implementation of the evaluations. Principal assessment areas include structure, leadership, logistics, meeting conduct, discharge of responsibilities, culture and ethics, and effectiveness improvement opportunities. The committee's chair in the past year also met with each board member to secure views on board performance. The Audit, N/CG, and LD&C Committees also conduct annual self-evaluations of committee performance, collaborative interactions, and current Committee structures and compositions. Evaluations have found these attributes sufficient.

The board and each committee have undertaken self-evaluations in July of 2021, 2022, and 2023. Each found structure and composition sound and operation effective. Specific recommendations made included continuing NJR's more recent focus on talent management, introducing the board to primary external counsel, and additional topics for incorporation into agendas.²⁹

d. NJR Executive Committee

The NJR Executive Committee has had five members, consisting of the board and committee chairs, and the NJR CEO. It has had authority to exercise between board meetings all board powers not denied to it by the board or law. It has not met in recent years.³⁰

e. NJNG Board Committees

The NJNG board has no committees, but the parent committees address NJNG matters within their scope as described by committee charters and other governance documentation.

3. *Director Identification, Nomination, and Performance Evaluation*

NJR Corporate Governance Guidelines describe director qualification standards. The N/CG Committee applies them in identifying and evaluating director candidates, considering contribution to overall board background and expertise of the Board as a whole. The N/CG Committee has responsibility for regularly assessing board member skills and characteristics, considering demographics of the communities served and diversity of membership.

Management has described the N/CG's process of identifying board candidates as including consideration of skills and characteristics connected to NJR's business and strategy, current board makeup, the mix of skills and characteristics among existing directors, demographics of areas the company serves, diversity (of backgrounds, gender, age, race, ethnicity, and geography). The

N/CG Committee considers director candidate recommendations made by both director and shareowner-identified sources using these factors.³¹

Circumstances involving the identification of potential board members appear to have changed substantially since the preceding audit of this type from about 10 years ago. The N/CG Committee has on occasion retained a leading outside firm to assist it in board candidate identification and review.³² The N/CG committee has taken a reasonably focused set of steps to bring more structure and formality to board succession. For example, it has identified the desired areas of experience for the board, listing:

- Natural gas or electricity
- Renewable energy and energy efficiency
- Disruption/innovation
- Midstream markets
- FERC regulatory.

A skills matrix identifies key areas represented on the board, including:

• <i>Utility</i>	• <i>Regulatory/Governmental</i>	• <i>Accounting/Risk management</i>
• <i>Corporate governance</i>	• <i>Technology/Cyber</i>	• <i>Midstream markets</i>
• <i>Wholesale Marketing/Trading</i>	• <i>Community/Public Relations</i>	• <i>Legal</i>
• <i>Environmental</i>	• <i>Renewable energy</i>	• <i>Leadership development</i>
• <i>Succession planning</i>	• <i>Strategic planning</i>	

4. Principal Governance Documents

Principal NJR governing documents include:³³

- Corporate Governance Guidelines
- Audit Committee, LD&C and N/CG Committee Charters
- Bylaws
- NJR Code of Conduct
- Wholesale Trading Code of Conduct.

The Corporate Governance guidelines address a comprehensive list of areas, which include:

- Director qualification, candidate selection, and election
- Director orientation and continuing education
- Director responsibilities
- Board composition
- Board performance
- Director access to management and independent advisors
- Director compensation and share ownership
- Management evaluation and succession
- Lead Director policies if required
- Non-management director executive sessions
- Communicating with non-management directors.

NJR must also report in proxy statements contributions it has made to any tax-exempt organization in which an independent director serves as executive officer, to the extent exceeding in any single fiscal year the greater of \$1 million, or two percent, of the tax-exempt organization's consolidated gross revenues. The last two proxy statements reported no fiscal 2021 contributions exceeding these limits.

A written policy, managed by the Audit Committee, covers related person transactions. Such transactions include any transaction, arrangement or relationship, or series of related ones on which NJR or any subsidiary participates and which involve amounts exceeding \$120,000 and in which any related person has a direct or indirect material interest. The NJR Audit Committee relies on Item 404 of Regulation S-K, promulgated under the Securities Exchange Act of 1934 to determine whether related transaction requirements apply. NJR describes the policy as prohibiting related party transactions unless:³⁴

- The NJR Audit Committee reviews, approves, or ratifies the transaction under the policy guidelines
- Transaction terms compare with those obtainable in arm's-length dealings with an unrelated third-party,
- The transaction secures approval by disinterested NJR Board members
- The transaction involves compensation approved by the LD&C.

The last two proxy statements cited the same two related person transactions involving directors or executive officers, both with entities other than NJNG, and both reviewed and approved by the NJR Audit Committee:

- The brother of the NJR CEO, employed as a manager not by NJNG but by wholly owned NJRCEV, received compensation within the range set for comparably qualified and responsible employees (salary of \$131,400 to \$203,800 plus short-term annual incentive compensation targeted between 15 and 50 percent of salary)
- A net-metered rooftop and ground solar project being developed by NJR subsidiary NJRCEV (investing \$18 million in the project) would serve a treatment plant owned and operated by American Water Works, whose then-CFO served on NJR's board of directors.

5. Board Focus on NJNG

The NJR board conducted six meetings in each of fiscal 2021, 2022, and 2023, with all members attending at least 75 percent of combined board and their individual committee meetings.³⁵

The CEO has since at least 2017 presented, generally by way of memoranda made available prior to meetings, operations reports addressing NJR corporate operations and non-utility business operations. The corporate portion addresses the functions assigned to NJR-level or service company organizations to perform on behalf of NJR businesses broadly, including NJNG. Examples include Corporate Communications, Customer and Community Relations, Environmental, Government Affairs, IT and Cyber Security, Financial and Treasury, Human Resources, and Security and Facilities. The non-utility affiliate portion of these NJR operations reports address financial and operational performance of the holding company's non-utility businesses; e.g., NJRCEV, NJRES, Midstream Investments, and NJR Retail. Materials made available to the directors prior to each meeting include a financial report.

These NJR-level materials provide some summary, high level NJNG information, but a separate report preceded each board meeting has for many years addressed utility operations. By 2020, the scope and coverage regularity of these NJNG operations reports had improved significantly from the 2017 examples we reviewed. They have since that time ranged between roughly 10 and 20 pages, generally reporting performance in core areas and periodically addressing emergent subjects or providing added detail on core subjects.

For example, January 2020's 18-page NJNG operations report addressed a broad range of areas, including Operations, Customer Service, Energy Delivery, Marketing and Energy efficiency, NJNG Gas Supply, Regulatory Affairs, and Safety. This report:

- Provided results under eight customer service metrics
 - Percent of calls answered
 - Average answer speed
 - Service level
 - First call resolution
 - CSR utilization
 - Customer Satisfaction
 - IVR containment
 - Self-service Completion
- Business Performance
- Revenue Cycle – delinquency rates, status of daily billing exception work
- Engineering and Construction
 - System Reliability Link work
 - Pipe replacement status
 - NJ Rise status;
 - North Seaside Reinforcement Project schedule status
 - Summary of Long Beach Island Reinforcement Project status
- Energy Delivery
 - Leak call response times measured against goal
 - Leak numbers measured against goal
 - LNG Plant volumes and production levels
 - Gas Control stations placed at winter settings
- System Enhancement
 - Transmission pipeline integrity plans
 - New standards approved
 - DIMP report submission to BPU
 - Pipeline Safety Management
 - Public Awareness and Safety conference attendance; excavator seminars attended
 - Damage Prevention: locate damages per mark-out request vs. goals
 - Corrosion Control reviews required/completed for year
 - Meters read versus goal
 - Status of move to Itron Mobile system
- Marketing and Energy Efficiency
 - New customer growth versus plan
 - New and conversion customer numbers

- Natural gas, propane, electricity cost comparisons
- SAVEGREEN audits, financing, repayment program, and thermostat OBRP numbers
- SAVEGREEN dollars paid and number of customers
- Clean Energy program changes
- Conservation Incentive Program funding available and spend
- BGSS Incentives margins earned versus plan
- NYMEX futures history driving the market reference for BGSS filing
- Winter Operations summary of pipeline circumstances
- Capacity Portfolio Update
- FERC update
- Regulatory Affairs matters summary.

A similar level of detail has continued since, with performance characteristics that change seasonally (*e.g.* the system's winter readiness) or are emergent (*e.g.*, customer performance issues associated with new customer information system development and rollout). For example, the information provided to the directors in advance of the January 2024 meeting provided:

- A summary of IIP progress noting spending on track to reach approved levels
- Schedule status of pre-1970s steel pipe replacement
- Performance relative to targets; *e.g.*, emergency response times, leak ratio, number of calls and percent answered, customer satisfaction levels
- Progress on fixing all leaks within one day of discovery
- Pending leaks
- Safety data such as DART, preventable vehicle accidents, OSHA recordables
- Mark-out requests and damage rates
- Plan for transmission line miles scheduled inspection
- Abbreviated Energy Assistance data
- JD Power performance relative to overall satisfaction, billing and payment, communications, corporate citizenship, customer care, safety & reliability
- Customer growth relative to plan
- SAVEGREEN data
- BGSS incentive target versus plan
- Forecast of BGSS over-recovery and charts showing NYMEX strip pricing
- Report on sustainability projects.

6. *Litigation*

Registrants such as NJR must file with the SEC under 17 C.F.R. § 229.103 (Item 103) legal proceedings brief descriptions of “any material pending legal proceedings, other than ordinary routine litigation incidental to the business.” Annual SEC 10-K filings since 2020 have reported only limited litigation, with nearly all of it related to MGP plants. The principal exception came in the 2021 10-K, which noted an impairment of its equity investment in the canceled PennEast natural gas pipeline project following “numerous regulatory and legal challenges.”

C. Conclusions

- 1. The charters and other governance documents of the boards and their committees are reasonably typical, excepting the treatment of compliance and ethics. (See the Recommendations from this report's Chapter addressing Compliance & Ethics)**

A broad set of governing documents guides and directs board and committee structure, composition, authorities, responsibilities, and accountabilities, and provides the ability to secure any required outside assistance and consultation. The N/GC committee ensures their regular updating. This report's *Compliance & Ethics* Chapter, however, addresses means for enhancing documentation addressing the board's role in overseeing compliance and ethics and in setting for the organization a sound tone at the top.

- 2. The structure of the NJR board of directors generally provides for effective governance and oversight of NJNG in the exercise of its utility responsibilities.**

The CEO's presence as the only non-independent member of both the NJR and NJNG boards complies with applicable state requirements and gives both boards as high a level of independence in membership as can be expected. Regular meetings of the boards of NJNG and NJR have occurred at a reasonable pace, with the two boards meeting generally five times per year. Some additional telephonic meetings or unanimous consents in lieu of meetings have occurred to address special issues warranting attention between board meetings. The NJR board has an executive committee empowered to act in lieu of the full board, but that committee has not met for, at least, many years. Particularly among smaller holding companies, such deference to the full board is not universal.

The committees of the board have met regularly as well, in conjunction with board meetings. The meetings of the board accommodate regular sessions of independent directors in the absence of management, and the governing documents give committees access to outside advice and consultation at their discretion and at NJR expense.

The last audit of this type recommended development of a policy addressing whether the positions of CEO and board chair should be separate. At the time, the CEO served as board chair. Following transition to a new CEO, NJR separated the two positions, an approach that remains today. We consider that approach preferable, but not necessary, and that it is sound to make the decision based on the totality of circumstances and conditions, as opposed to a firm requirement.

- 3. The use and structure of the separate NJNG board of directors reflects a strength of the governance process, but does not give sufficient access by the most senior officer responsible day-to-day for NJNG operations. (See Recommendation #1)**

The chair is an independent director, as are all the other members, except for the NJR CEO. All NJNG board members also serve as NJR directors. The last audit of this type expressed concern about the commonality of membership between the NJR and NJNG boards. We found care in ensuring separate attention by the NJNG board to matters that require its engagement, whether formally (e.g., through resolutions and other authorizations) or informally (e.g., regular focus on NJNG-specific performance measures in board materials). We did not find continuation at this

time of concern, raised in the prior audit of this type, about ensuring distinct and dedicated attention to NJNG-specific needs, resources, activities, and circumstances overall.

We did, however, make a number of observations about areas where more detailed board focus would enhance oversight of NJNG-specific needs, resources, activities, and circumstances, for example:

- Depth and timing of board review of major capital additions and expansions (addressed in a conclusion below and in the *Distribution and Operations Management* Chapter of this report)
- The relationship between NJNG gas supply planning and transacting (addressed in *Procurement and Purchasing* Chapter of this report)
- The need for regular attention to internal audit examination of matters more critical to ensuring arm's-length dealing and proper cost charging, assignment, and allocation (addressed in the *Cost Allocations* Chapter and the *Controls, SOX, Internal Audit, and NYSE Listing Requirements* Chapter of this report).

The NJNG board members include the NJR CEO, but not the most senior NJNG officer, its Sr. Vice President and COO. Engaging this officer more directly with NJNG board members would materially enhance their knowledge and insights about the utility's needs, resources, activities, and circumstances on matters such as these.

4. The Board exercises appropriate oversight over executive succession and compensation.

A review of board materials, interviews with directors, and the materials addressed in the *Compensation and Benefits* Chapter of this report demonstrate regular board review of executive succession and sound engagement in executive compensation decisions, including goal and target setting, verification of performance against established targets, and comprehensive review of total compensation and each of its major elements against peer groups.

5. The boards of NJR and NJNG possess a suitable range of skills and experience, and are without apparent, material conflicts of interest.

The boards of both NJR and NJNG as now comprised demonstrate a reasonably broad and strong mix of skills and backgrounds. Additions since the preceding audit of this type include tenures as the CEO at holding company with large natural gas delivery operations, a senior executive at a very large water utility holding company, a CEO with one of the largest U.S. holding companies of energy utilities, and partnership at one of the largest public accounting firms. Average age and tenure have remained fairly constant since that last audit and fall close to averages. The number of members has dropped by one, which moves moderately in the direction of smaller board size that we find sound. NJR has since that last audit separated the roles of chairman and CEO.

Measures exist to regularly examine continuing member qualification as independent, and to require reporting of relationships and transactions that may present potential conflicts of interest. Our review of board member backgrounds, interviews with many of them, and documentation regarding conflicts reporting showed no indication of any material conflicts.

6. The N/GC committee engages appropriately in board candidate identification and review.

The NJR board, supported by the N/CG Committee's activities compares board composition to a set of desired skills and experience and conducts formal candidate identification and review processes. The board additions since the last audit of this type demonstrate substantial success in bringing strong candidates onto the board. Identification and selection processes have advanced substantially and sufficiently since the last audit of this type. As addressed by the prior audit of this type, the board has engaged outside expertise in support of these efforts.

7. The board materials we examined and director interviews we conducted showed clear and distinct focus on NJNG needs, resources, activities, and circumstances.

The last audit of this type expressed concern about personnel sharing and a lack of board attention to potential conflicts of interest. That audit expressed concern about commonality of directors on subsidiary boards (including that of NJNG) and the parent board and about common meetings of the NJNG and NJR boards.

We found the directors clear in understanding the need for distinct focus on the needs of NJNG. The pre-meeting materials provide a comprehensive report on corporate matters common to all of NJR's businesses and on non-utility business operations. A separate report on NJNG operations, as noted, is made available to the directors prior to the meetings.

8. The NJR and NJNG boards regularly receive reasonably comprehensive information about the management and operations of NJNG and engage sufficiently with management on utility business drivers, needs, circumstances, and conditions.

We found agendas comprehensive, organized to reflect the distinct responsibilities of the NJR and NJNG boards, and issue-focused in a manner that ensured attention to recurring matters of board responsibility and interest, provided focused treatment of emergent issues of industry and Company concern, and served general board perspective growth and development. As noted in the next conclusion, however, more attention on trending performance information would make the information provided more useful for directors.

9. The lack of clear trending of performance data and too large a focus on positive accomplishment diminishes the ability of directors to focus on improvement opportunities and actions. (See Recommendation #2)

The NJR and NJNG boards receive regular reports of performance against targets and metrics in advance of meetings. The metrics addressed include a reasonably broad array of quantified measures for which the pre-meeting reports provide current status against targets. However, the information provided does not chart or graph performance over historical period (e.g., preceding year or quarters) or address areas where performance nominally in accord with targets is trending in a direction whose continuation would begin to raise concern. Moreover, pre-meeting reporting, particularly for the corporate functions, tends to highlight positive aspects of performance. On occasions where performance has not been strong relative to targets (e.g., during development and implementation of a new customer information system), the pre-meeting information has briefly

acknowledged the gaps, but generally without detailed reasons or corrective actions, or data showing the direction of performance as management was addressing those gaps.

Particularly for the regular corporations pre-meeting report that is separate from the NJNG operations report, the focus tends to fall more on positive accomplishments and less on matters that management has identified as subject to change or improvement or on plans to achieve change and their status. On some occasions, performance gaps (*e.g.*, in customer service performance during new customer information system development and rollout) have become large enough to warrant mention. Even there, however, clarity on the size of performance gaps and plans and schedules for addressing them have been indefinite.

We expect that discussion of such matters is more complete at actual meetings. However, it is important for directors to come to meetings already prepared to discuss areas where management has recognized and is striving to address performance gaps or issues. More detail in the pre-meeting materials would aid in that preparation.

D. Recommendations

1. Create a Utility Operations Committee of the NJR board of directors. (See Conclusion #3)

This committee should play the same role as the other NJR committees in preparing and reviewing agendas and should actively engage with management in identifying pre-meeting materials and presentations. It should meet in advance but not in lieu of the combined NJR/NJNG board meetings. These meetings need not displace the common agendas, discussions, and deliberations of the two boards. Less formal in nature, the goal is to allow the NJNG independent members access to top NJNG-only executives and managers to address issues and questions about NJNG needs, resources, activities, and circumstances, both generally and specifically as they relate to the agenda for the joint board meetings.

An independent director other than the NJR/NJNG board chair should chair the committee. The committee should meet at each of its sessions with the NJNG Sr. Vice President and COO without the presence of management or non-independent directors. This committee should provide at each combined NJR/NJNG meeting the results of committee sessions that precede those meetings.

2. With respect to information provided to directors prior to board meetings, trend the quantitative performance information provided and focus more on actions management is taking to enhance performance. (See Conclusion #9)

Each quantitative performance measure reported should, whether or not at or better than target, show trends for the year-to date and for the prior year (or longer if relevant). The drivers of performance trends should be explained.

Chapter IV: Controls, SOX, Internal Audit, and NYSE Listing Requirements
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Chapter IV: Controls, SOX, Internal Audit, and NYSE Listing Requirements

A. Background

This task addresses key aspects of the internal control environment. A complex array of regularly monitored and tested controls needs to exist and be regularly and fully executed to provide reasonable assurances of:

- Financial statement integrity
- Continuity of the operation of internal processes and operations as designed.
- Verification that results produced have come from appropriate operation of controls.

The utility regulatory process depends on the sufficiency of such assurances.

Key financial controls undergo routine testing through SOX processes, described below, with regular Internal Auditing department testing of controls as well. We examined the Committee of Sponsoring Organizations (“COSO”) control framework employed, and the process by which NJR fulfills its SOX obligations, including the identification and reporting of control deficiencies. Our review of the Internal Audit function included examination of the organization structure, cost, and governance and the risk-based creation of the annual audit plan, the audit processes, and audit finding and recommendation follow-up/mitigation processes. We also considered audit coverage of certain key subjects and examined the Institute of Internal Auditors’ peer review requirement. We examined outsourcing of the internal audit function, which has been performed by PwC since 2019. This section also reviews NJR’s compliance with NYSE listing requirements.

The COSO Framework provides a broadly accepted, widely used structure for designing, implementing, and evaluating internal control for U.S. enterprises. James Treadway led a commission for creating this framework, in conjunction with five private sector organizations - - the American Institute of Certified Public Accountants, the Institute of Management Accountants, the American Accounting Association, the Institute of Internal Auditors, and Financial Executives International.³⁶

Congress passed the SOX legislation in 2002, to protect shareholders. The U.S. Securities and Exchange Commission (“SEC”) sets compliance requirements for publicly held companies. Specific SOX sections most relevant to our examination here include sections 302 and 404. Section 302 focuses on disclosure controls and procedures and on the personal accountability of signing officers. It requires that the principal Executive and Financial Officers of a company, (typically the CEO and CFO) personally attest to the accuracy and reliability of financial information. These officers must make these attestations as part of quarterly (10-Q) and annual (10-K) reports filed with the SEC.

Section 404 requires that companies annually assess and report on the effectiveness of their internal control structure. These reports address management’s assessment and testing of the company’s internal controls and procedures for financial reporting. Evaluating and reporting on the design and operating effectiveness of controls comprise focus areas of this testing. Management must review testing results, with all control testing failures classified as a “control deficiency,” “significant deficiency,” or “material weakness.” The material weakness

classification indicates a significant deficiency or combination of them that creates a more than remote likelihood of failure to prevent or detect a material financial statement misstatement. A significant deficiency denotes lesser severity, constituting a deficiency unlikely to have material impact on financial statements but important enough to merit attention by those responsible for oversight of financial reporting. A company must report on significant deficiencies and material weaknesses to its board of directors and its audit committee, and 10-K reports annually filed with the SEC must disclose material weaknesses. In addition to the internal control assessment, SOX requirements mandate that an independent external auditor inspect public companies' internal control practices and include an audit report within the company's financial report.³⁷

Companies listed on the NYSE must comply with the corporate governance requirements set forth in Section 303A of the NYSE Listed Company Manual. A principal requirement concerns the board of directors, obligating companies to certify annually:

- Board membership comprised by a majority of independent directors
- Regularly scheduled meetings of independent board members
- Employment by the board of nomination/corporate governance, compensation, and audit committees
- Existence of an internal audit function, corporate governance guidelines and a code of business conduct.

The requirements include CEO certification of a lack of awareness of any violations of corporate governance listing standards. Companies must file interim certifications in the event of changes in the information provided in the annual certification.³⁸

B. Findings

1. Control Framework

Each year, management evaluates the effectiveness of internal control over financial reporting, using the criteria for effective internal control over financial reporting described in the Internal Control-Integrated Framework (2013) set forth by COSO. We examined a mapping of NJR's internal controls to the 17 COSO principles. For example, one COSO Principle states that the organization identifies risks to the achievement of its objectives across the entity and analyzes risks as a basis for determining how to manage them. This principle maps to a number of NJR controls, including EL4RA-1B (Enterprise-Wide Risk Assessment), EL 4RA-5F (Management Fraud Risk Assessment review process), and EL2M-1A (Annual Audit Plan).³⁹ We also examined the list of internal controls and a reconciliation from year-to-year, showing controls added or removed each year.⁴⁰ We reviewed documentation of the most recent evaluation of a sample of nine controls from the COSO mapping document.⁴¹

2. Sarbanes Oxley

a. SOX Management Responsibility

The Internal Auditing Department has primary responsibility for managing key SOX processes, working with key business and control owners.⁴² The SOX Compliance Team (two NJR Service Company employees within the Internal Audit department) has responsibility for daily management and enforcement of the SOX program, including conduct of quarterly internal control surveys, annual control certifications with management, and coordination of process narrative

reviews. The outsourced Internal Audit team has responsibility for conducting SOX walkthroughs and internal control testing.⁴³

b. SOX Process - Preparation

The main activities comprising the SOX process involve walkthroughs of the various processes, the testing of controls, the reporting of the results of testing to senior management, and senior management certification of the results, all discussed below. In addition to these core steps in the process, a number of other steps taken by the SOX compliance team in conjunction with the control process owners in the business are necessary for the main activities to be performed. These preparatory steps include:

- **Materiality Assessment:** Annually in February to March, the SOX Compliance team assesses materiality by reviewing income statement and balance sheet accounts to confirm that the appropriate controls and processes are in place.
- **Sub-Process Assessment:** Quarterly, the SOX Compliance team conducts an assessment with all sub-process owners to identify any potential significant control changes, vendor or data changes, segregation of duties concerns or fraud concerns during the past quarter.
- **Process Narrative Updates:** Annually between January and March the SOX Compliance team conducts with each sub-process owner an evaluation to ensure that their process documentation remain up to date. The process narratives are shared with both the Internal and External Auditors for use in the SOX walkthroughs and testing.
- **Critical Spreadsheet Reviews:** Annually in May to June the SOX Compliance team coordinates a review of Critical Spreadsheets with spreadsheet owners primarily in the Accounting/Finance teams to ensure that they are up to date and identify any spreadsheets for addition or removal.
- **SOC-1 Reviews:** Annually in the fourth quarter, the SOX Compliance team assesses the potential need for a System & Organization Controls report (“SOC-1”) from vendors, with such reports needed generally after determining that a vendor or service organization’s actions affect internal controls.
- **Segregation of Duties (“SOD”) Review:** Annually the SOX Compliance team conducts a review of the SOD framework to evaluate risks and compensating controls.
- **Fraud Risk Assessment:** Annually in May to June the SOX Compliance team conducts a fraud risk assessment with business unit leads and process owners.
- Annually in the fourth quarter the SOX Compliance team conducts a control review with all control owners to get an assessment of any changes to controls.⁴⁴

c. SOX Process – Walkthroughs

Annually in April to May the Internal Audit team conducts walkthroughs of all SOX controls and processes with the respective control owners to gain an understanding of the process and to determine if any changes occurred since the previous year. The Internal Audit team selects a sample transaction to walk through the process and to assess the design of each control. These walkthroughs take place in conjunction with the External Auditors.⁴⁵

d. SOX Process – Testing

Subsequent to the walkthrough process, from April to November, the Internal Audit team conducts the SOX control testing for all primary controls to assess their operating effectiveness throughout

the current fiscal year. Testing takes place in phases: Interim 1 controls in June, Interim 2 controls in August and September, and Year-End controls in October to November.⁴⁶ The testing frequency and sample size for each control depend on the frequency with which the control occurs throughout the year and the level of risk associated with the control.⁴⁷ The External Audit team also communicates to the internal auditors the Internal Auditing control tests on which they plan to rely. For all such reliance testing, Internal Audit shares test results with External Audit for review and feedback.⁴⁸ Responsibility for SOX testing as currently performed changed with the outsourcing of the Internal Audit function (discussed below in more detail). Prior to the outsourcing, management performed and tested controls, with Internal Audit performing spot-checks of management's testing. Now management focuses on ensuring the accuracy of their controls and narratives, with testing done by Internal Audit.⁴⁹

e. SOX Deficiencies

Control deficiencies may arise throughout the year, with their identification by Internal or External Audit, or by management. The SOX Compliance team walks through these deficiencies with the control/process owner involved, Internal Audit, and External Auditors in order to determine the severity of the deficiency (*i.e.*, Control Deficiency, Significant Deficiency, or Material Weakness) and to identify compensating controls.⁵⁰ A deficiency assessment records deficiencies, describing what failed, the root cause, and mitigating controls in place. The assessment undergoes review with the control owners, Internal Audit, and External Auditors. The Onspring system tracks progress and ultimate close out using established due dates. Automated reminders addressing observations go to process owners, with overdue responses flagged and reported to management. When ready, testing of support for the remediation occurs, with closeout if testing results prove satisfactory.⁵¹

Management reported no Material Weaknesses for the audit period and a total of seven significant deficiencies since 2014.⁵² We examined documentation surrounding deficiencies recorded for 2020, including all three significant deficiencies and a sample of two other deficiencies.⁵³

f. Internal Controls Committee (ICC)

NJR's Internal Controls Committee ("ICC"), a senior management committee, provides oversight of NJR's control environment, in addition to that provided by the Audit Committee. Meetings take place at least quarterly, but often more frequently, as emergent issues dictate. ICC attendees include the Controller, the Regulated Controller, the CIO, the Vice President, Corporate Risk Management, and, on occasion, the External Auditors.⁵⁴ The ICC monitors activities and ensures adequate resources for the effective management of the SOX compliance program and NJR's control environment.⁵⁵ We examined a sample of minutes from the ICC meetings and confirmed the nature of the content of their meetings.⁵⁶

g. Senior Management Certification of the Results

The NJR CEO and CFO must attest to the adequacy of internal controls as a requirement of SOX Section 302. In conjunction with this process, the NJR External Reporting team monitors the status of all certifications and cannot file the 10-Qs or 10-Ks until after receipt of all certifications.⁵⁷ We examined the 10-Ks for each year of the audit period, which included the required attestation.⁵⁸

3. Internal Auditing

a. Organization, Resources, and Cost

NJR outsourced the internal audit function to PwC, with a transition date of October 1, 2019. Prior to that time, the internal audit function for NJNG and all subsidiaries of NJR was conducted by the NJR Service Company.⁵⁹ The Vice President, Corporate Risk Management provides oversight to the Internal Audit function. That executive reports directly to the NJR CFO. The lead PwC partner reports to the Vice President, Corporate Risk Management administratively, and to the Audit Committee functionally. Both the Vice President, Corporate Risk Management and the PwC lead partner attend all meetings of the Audit Committee, and both meet independently with the Audit Committee during executive sessions at all live meetings.⁶⁰

The next table show shows the changes to headcount and audit hours through the audit period. Overall headcount has been fairly consistent throughout, both before and after outsourcing. The Company was unable to explain the spike in audit hours in 2017, nor were they able to provide audit hours for 2019.⁶¹

Internal Audit Headcount and Hours

Year	Audit	SOX	Total	Hours
2014	6.5	1	7.5	5,600
2015	7.5	1	8.5	5,600
2016	7.5	1	8.5	5,300
2017	7.5	1	8.5	6,700
2018	6.5	1	7.5	5,900
2019	6.5	2	8.5	N/A
2020	4.5	2	6.5	5,600
2021	5	2	7	5,600
2022	5	3.5	8.5	5,600

b. Governance

The PwC partner who serves as leader of the Internal Audit function reports functionally to the Audit Committee. The charters of Internal Audit and the Audit Committee detail their governance responsibilities and their respective activities. The July 13, 2021, revision to the Internal Audit Charter contains the expected content, organized into several sections:

- Mission Statement
- Professional Standards (IIA standards for Internal Auditing)
- Authority and Organization
- Independence and Objectivity
- Responsibility
- Scope of Work
- Reporting
- Quality Assurance and Improvement.

The Quality Assurance and Improvement section contains a statement that says,⁶² “The leader of internal audit will communicate to senior management and the Audit Committee on Internal

Audit's quality assurance and improvement program, including results of ongoing internal assessments and external assessments conducted at least every five years."ⁱ The following Peer Review subsection of this chapter addresses these assessments.

The April 20, 2021 Audit Committee Charter contains the expected requirements and duties regarding auditing, including:

- Requirements of members (at least one financial expert, independence requirements)
- Number of independent directors
- Number of meetings per year
- Executive sessions
- Leader of Internal Audit to report to the Audit Committee
- Oversight of Internal Audit
- Oversight of External Auditors including appointment, termination, and compensation
- Oversight of quarterly and annual financial reporting.⁶³

The Audit Committee charter also calls for an external quality assessment of Internal Auditing at least once every five years.⁶⁴ We reviewed the Audit Committee minutes for each meeting from 2014 through 2022, noting that the Committee conducts Executive sessions at all live meetings.⁶⁵

c. Audit Planning

We did not find it possible to develop substantial information about audit planning as conducted before the 2019 outsourcing. Multiple inquiries about plans, procedures and specific audits related to what has been termed the pre-2019, "legacy" internal audit organization produced no documents, but an explanation that documentation does not exist and that nobody from that organization remains with the Company.

Management describes the current process for developing the annual audit plan as "risk-based" and comprised several main elements: ⁶⁶

- Coordination with the Enterprise Risk Management team to discuss results of the enterprise risk assessment, including review notes, investor presentations, and earnings releases to identify highest priority risk areas
- Leveraging experience working with sector participants and knowledge of global trends to identify "top-of-mind" topics
- Determination of topics most aligned with the organization's strategic priorities
- Meetings with each executive owner to gain feedback
- Allowance for two discretionary audits in each year's plan, based on emergent risks or other important topics.⁶⁷

Management could not describe the legacy planning process prior to the 2019 outsourcing, describing the process as unknown because no one still employed took part in the process or risk analysis.⁶⁸ The previous audit of this type noted in a report some 10 years ago that annual internal audit planning made use of an extensive review and analysis of a "universe" of potential projects and used an automated risk ranking model to risk rank them quantitatively.⁶⁹ Management stated

ⁱ Management reported in commenting on a draft of this report that the five-year external assessment requirement does not apply in cases of outsourcing of the Internal Audit function.

that it had no information about this model either.⁷⁰ Presumably, the process and model remained in use in some form until 2019.

With regard to the prior audit's reference to an audit universe, management responded that it does not maintain one.⁷¹ Management did describe the use of a backlog of potential audits from the risk assessment process to identify audits each year. Management indicated that annual audit planning did account for and include mandated audits, but identified only Trade Data and TSA Security audits as among those to which plans have dedicated resources.⁷² The mandated cycle for Trade Data audits changed from one to two years in 2022 and was not performed in 2020 or 2021.⁷³ An adjustment to the 2022 plan added a Trade Data audit. Management reported that the failure of the former internal audit team to communicate to the new, outsourced team the requirement for such an audit caused the lag in planning for one until 2022, when the current outsourced team became aware of the requirement.⁷⁴

The numbers and subject matter of audits have changed significantly since the transition to outsourcing. Numbering 34 annually from 2014-2018; the average has dropped by more than half (to 14) after outsourcing.⁷⁵ Resource changes do not account for the difference; numbers of auditors and audit hours expended have not changed dramatically. Management reported that a significant portion of the pre-transition work of Internal Audit addressed SOX control testing, the hours for which are now accounted for under the SOX program. Management also reported that its reviews appeared to indicate a narrower scope for pre-outsourcing audits in comparison to those being performed since.⁷⁶

Post-outsourcing, there have been no audits of affiliate transactions or cost allocations.⁷⁷ Such audits will commonly not appear through the conduct of a risk assessment process that focuses on net financial impact to NJR should improper or inaccurate allocation occur. Nevertheless, sound allocation process and execution have significance, particularly for an enterprise with significant non-utility operations. We consider their regular performance critical in mitigating the risk of improper charges to utility customers. Addressing the question of their importance, a member of the NJR Audit Committee expressed the view that the 2024 audit plan did include examination of cost Allocations.⁷⁸ The plan we were provided for review did not include cost allocations.⁷⁹

We observed variance between planned and actually completed audits. The schedules we reviewed called for audits of officer expense accounts in 2015 and in 2017, with neither eventually completed. No documentation of the reasons exists. Four scheduled 2018 audits also appear not to have been completed, again without explanatory documentation.⁸⁰

d. Audit Reports

We examined a sample of audit reports from the pre- and post-outsourcing eras. We found the current era reports more thorough, and they are professionally done. A majority of the reports from the prior organization consisted of limited memorandums that provided much less detail than did the engagements that produced full audit reports.⁸¹

We reviewed the process for follow-up to significant findings. There is no information available about pre-outsourcing follow-up; therefore, our review addressed more recent audits. The current process requires that management immediately develop and implement a remediation plan for

significant findings classified as Top Priority to meet organizational objectives or obligations in an uncompromised manner.⁸² Tracking and follow-up for findings classified as Top Priority, Control Gap or Performance Improvement seek to ensure that management has addressed and remediated issues addressed, and by established due dates.⁸³ Examining twenty top priority audit findings and their related follow-up documentation discovered for each detailed observations, a clear remediation plan, date closed, and reference to evidence of closure documents.⁸⁴ The current process also calls for follow-up audits, as deemed necessary. Four such audits have been performed during 2020 and 2021.⁸⁵

e. Peer Review

Standard 1312 of the Standards for the Professional Practice of Internal Auditing call for “external assessments” at least every five years by an outside, qualified independent assessor not part of, or under the control of, the organization to which the internal audit activity belongs.”⁸⁶ In response to a request for an Institute of Internal Auditors (“IIA”) review of the NJR internal audit function cited in the prior audit of this type, NJR produced a review dated several years after the report of that audit. The review provided, dated July 2016, produced the highest rating (“generally conforms”) given by the IIA.⁸⁷ However, that review is now more than five years old. Management reported that no later external quality assessments have occurred, because “the five-year external assessment is not required if the Internal Audit function is outsourced to a third-party professional services firm which adheres to IIA standards.”⁸⁸ We find no explicit exemption in the IIA Standards that make clear the intent for external assessments to occur. Moreover, the Internal Audit and the NJR board of directors Audit Committee charters, updated since outsourcing of the Internal Audit function began, call for external review at least every five years.

f. Outsourcing

Three basic organizational models exist for structuring an internal audit function. Most holding companies locate a predominately employee-staffed Internal Audit department above the business unit (New Jersey Natural Gas, as relevant here) level. A service company that serves the parent and multiple if not all business units often houses such a group. NJR employed that model prior to the 2019 outsourcing. Financial and operational circumstances and issues have increased in risk and complexity in the industry. Some organizations brought outside resources to bear from public accounting firms or other specialized outside sources in addressing needs for particular forms of expertise. A totally outsourced organization (the model adopted by NJR) offers the second model for bringing such resources to bear. A third, hybrid co-sourcing model brings in outside resources to supplement the expertise of the internal organization. All three models have found acceptance and success when soundly structured and implemented. Informed opinion takes differing views on the relative pros and cons of the alternative approaches. The Institute of Internal Auditors offers a number of salient points concerning the choice of organizational structure:

- A fully internally resourced audit function is most effective and can be supplemented by external experts in specialty knowledge areas
- Most internal auditing practitioners agree it is appropriate to use a combination of external resources, in co-sourcing or outsourcing models
- Where total outsourcing is selected for obtaining internal audit services, oversight and responsibility for the internal audit activity cannot be outsourced

- The board of directors should receive a written evaluation of any recommendation to significantly change outsourcing or co-sourcing strategies for obtaining internal audit services, with documentation in the board's minutes of such evaluation and approval.⁸⁹

We sought to determine how three of the elements noted by the IIA played out in the move by NJR to an outsourced internal audit function:

- Documentation of the pros and cons of the alternatives as part of the decision to make the change
- Assurance that oversight and responsibility for the internal activity were not outsourced
- Audit Committee consideration of a written evaluation of organizational change and direct engagement in evaluating and approving it.

A request for explanation of the reasons for the outsourcing, reasons that drove the decision, and documentation of the decision making stated that the intent of the Vice President, Internal Auditing to retire in 2019 and the increasingly complex environment in which NJR operated drove the decision. The board Audit Committee, the CEO, and the CFO sought to review alternatives beyond simply replacing the retiring executive and, based on the discussions and analysis performed, determined outsourcing to be the most cost effective and value-added option.⁹⁰

⁹¹ This document was not among those provided in response to an earlier request seeking documentation related to Internal Audit outsourcing. This document discussed a request for PwC to review the 2019 audit plan, recommend changes, suggest a budget for remaining activities, and recommend where co-sourcing should be considered. The document presented benefits and concerns of the in-house, co-sourcing, and outsourcing models, but did not make a recommendation. It also presented a slide showing a proposed internal organization chart. It also recommended assignment of ownership, scope, objectives, and roles of third parties in supporting 2019 plan development, thus appearing to support the request for review by PwC and recommendations for areas where it could support Internal Audit through co-sourcing.

Audit Committee documentation from 2014 through 2023 does not disclose substantial analysis or evaluation of the outsourcing. Materials from a November 13, 2018, meeting, almost a year after the January 2018 "Recommended FY19 Plan Updates, Org Structure, Next Steps", note a private session at which a PwC representative described the status of a "reimagining of the Internal Audit function" initiative not mentioned in previous Audit Committee minutes and at which the PwC representative also addressed the desires of management.

Several informal discussions in November 2018 and January 2019 appear to have addressed the transfer, but without documentation or memory of their details by employees still with NJR. A request for documentation of meetings between PwC representatives and management prior to the November 13, 2018, presentation to the Audit Committee did not generate any, but management did cite a "significant deliberative process that took place leading up to the November 13, 2018, Audit Committee meeting regarding the decision to outsource the Internal Audit function to PwC. This process took place within normal channels of communication associated with ongoing

business activities of the Company.” However, no substantive description of that process has been provided. The executive chosen to oversee the outsourced organization at a management level could not add detail and indicated that he was not involved in the decision-making process.⁹² A request seeking alternatives considered and discussed by the Audit Committee did not generate documentation, but rather a simple statement that the process considered each of the “big four” public accounting firms, from whom PwC was chosen.⁹³

The Audit Committee minutes make no further mention of outsourcing until September 10, 2019. Meanwhile, Committee meeting materials provided indicate that May 7, 2019 and July 9, 2019 Internal Audit reports to the committee came from that same PwC person, indicating a substantial transfer of responsibility to an external source had already taken place. At a September 10, 2019, Audit Committee meeting the same PwC person reviewed the benefits, challenges and costs of outsourcing the program to PwC. With no further discussion noted, the Audit Committee unanimously approved the outsourcing of the Internal Audit function to PwC for the soon-to-commence 2020 fiscal year. Audit Committee minutes subsequent to the November 13, 2018, meeting provide no further insights into the reasons for the outsourcing or the Audit Committee involvement in the decision to do so.⁹⁴ Current Audit Committee members are unable from recollection to provide substantial detail either.⁹⁵

4. NYSE Requirements

We examined the annual affirmation documents regarding compliance with the New York Stock Exchange reporting requirements for 2014 through 2021 and five interim filings during the audit period, finding no reason to conclude that NJR failed to meet NYSE requirements.⁹⁶ In addition, the Company asserts that there have been no violations or penalties during the audit period related to this requirement.⁹⁷

C. Conclusions

1. NJR operates under an appropriate control framework.

NJR operates under the 2013 Updated COSO framework. The COSO framework represents a broadly accepted and widely used structure for designing, implementing and evaluating internal control for U.S. enterprises. We examined the mapping of internal controls to the 17 COSO principles of the framework and found that management appropriately used the COSO framework.

2. The Internal Auditing department plays an appropriate role in managing SOX processes.

NJR has placed appropriate SOX process responsibilities with Internal Auditing. Both the SOX process and the overall Internal Auditing process discussed below rely on investigation, testing and reporting of the effectiveness of the control environment. The SOX process focuses on financial controls affecting company financial statements; the broader responsibilities of Internal Auditing also address operations and procedures that may not implicate financial statements directly. The nature of the tasks, focus, and skill sets required to execute SOX activities effectively make Internal Auditing a sound place for locating the SOX responsibilities given to it.

3. A well-documented processes for meeting SOX obligations exists, and the information we reviewed evidenced their execution as designed.

The SOX compliance process at NJR is robust and well documented. The dedicated focus of the SOX Compliance team, the numerous ways in which that team interacts with the business process owners, the existence of the Internal Controls Committee as an additional senior management oversight organization, and a track record of no material weaknesses and only 7 significant deficiencies over 9 years all suggest that the SOX process effectively meets its fiduciary and reporting requirement

4. The functional reporting relationship of the Vice President, Corporate Risk Management and the lead partner from PwC to the Audit Committee of the Board of Directors is appropriate, but administrative reporting should change. (See Recommendation # 1)

As the IIA observes, oversight and responsibility for internal audit activity should remain in-house. Outsourcing the internal audit function to PwC and assigning the Vice President, Corporate Risk Management as the person to whom the PwC internal audit lead reports adds nuance to the question of where oversight and responsibility lie. The PwC lead has a functional reporting responsibility to the NJR Audit Committee. The Vice President, Corporate Risk Management reports to the NJR CFO, which places this vice president position two levels below the CEO. Adding further nuance to the question of administrative versus functional reporting lies with the assignment of responsibility for the SOX Compliance team to the Vice President, Corporate Risk Management, and not to the PwC internal audit lead. Given both the direct SOX role and the existence of an outside person as the Internal Audit lead both indicate the need for maintenance of functional reporting of the Vice President, Corporate Risk Management to the board Audit Committee, along with the protections generally appurtenant to that reporting (*e.g.*, selection, dismissal, and compensation, for example).

Even without consideration of the nuances created by use of an outside Internal Audit lead, we believe that best practice calls for administrative reporting of Internal Audit to the CEO. For administrative reporting purposes, the PwC Internal Audit lead operates at the fourth reporting level, not even the second. Both the Vice President, Corporate Risk Management and the CFO operate between the PwC Internal Audit lead and NJR's CEO.

5. Internal Audit and the Audit Committee operate under well documented charters that appropriately define their respective auditing roles and responsibilities.

Both charters contain the expected elements defining the respective auditing roles and requirements. Together, they constitute the appropriate governance guidance for the Internal Audit function and the Audit Committee requirements related to Internal Audit, External Audit and financial reporting.

6. While generally appropriate, the audit planning process does not assign enough weight to utility regulatory risks to make them a focus of recurring audits or make effective use of an audit universe as a planning and tracking tool. (See Recommendations # 2, 3 and 4)

Internal audit uses a four-step risk assessment process, which appears to effectively identify the most significant risk areas as identified by the enterprise risk assessment and the collective concerns of the senior management team. In addition, reserving time for discretionary audits anticipates needs for addressing emergent issues.

However, re-establishment of an audit universe, or some other effective way of identifying important audit subjects like cost allocation, control over affiliate transactions, and mandated audits and of tracking audits that may have been deferred or cancelled would enhance the process. Such a database would eliminate the issues encountered with respect matters such as the mandated Trade Data audit, and the officer expense account audit. It would also allow for creating a mechanism to highlight issues that may not rise to the top of the risk assessment in any year, but which should be examined periodically.

We also believe that an evaluation should be done about the scope of the current audits. While the existing process may capture the top tier of risk areas, it is important to ensure that the scope of audits not become so expansive as to exclude regular attention to issues central to ensuring that risks of assigning costs improperly or favoring affiliates in transactions do not cause utility customers to bear costs they should not. That risks of this type may often not result in net harm from an NJR perspective should not serve to diminish their priority. Affiliation of entities like NJNG with entities operating in common markets adds particularly to such risks.

7. Internal Audit reports are well-structured, complete, and improvement-driven and the process for tracking and closing audit recommendations is effective.

Audit reports produced by the outsourced organization are complete, well-written and an improvement over what was produced by the previous audit organization. The procedures employed to follow-up on significant audit findings to ensure effective remediation is complete, effective, and well-documented.

8. Failure to regularly assess the Internal Audit function independently does not comport with best practice or the goals of the IIA. (See Recommendations #5)

NJR has not had an external assessment of its Internal Audit function since 2016. The IIA considers them appropriate on a cycle not exceeding five years. The Internal Audit and Audit Committee charters require external assessments every five years. (See Recommendation # 5)

9. The transition to outsourced Internal Audit resources and leadership appears to have occurred through a too informal process. (See Recommendation # 6)

There is little indication of formal, analytically supported, and well-documented analysis of the use of a fully outsourced versus a co-sourced or in-house model. It is not clear that the change best serves the interests of NJNG, particularly given the absence since the transition in 2019 to attention to issues that pose challenges for all utility operating companies that operate in a holding company structure, not just NJNG particularly.

10. NJR is in compliance with NYSE listing requirements.

All required filings were made without timing issues or penalties assessed.

D. Recommendations

1. Change and clarify the reporting relationships of Vice President, Corporate Risk Management. (See Conclusion #4)

The Vice President, Corporate Risk Management should report administratively to the NJR CEO. It should also remain clearly understood and documented that the vice president has a functional reporting relationship, like the PwC Internal Audit lead, to the NJR board's Audit Committee.

2. Create a database of audit subjects that can be referenced as part of the establishment of the annual audit plan. (See Conclusion #6)

The current process of determining the audits to be included in the annual audit plan appears to effectively address the subjects identified by an annual assessment of risk. However, no documented process addresses tracking or identification of mandated audits, audits that should be addressed periodically, or audits that were cancelled in previous years without explanation. A database of potential audit subjects that would track history and could be used in conjunction with the risk assessment process, would eliminate these issues.

3. Examine the scope of audits conducted since outsourcing to determine if a narrower scope might allow for greater coverage of audit topics. (See Conclusion #6)

Given that the average annual number of audits reduced at outsourcing from 34 to 14, with a similar number of audit days dedicated to the conduct of those audits, combined with the need to consider additional audit subjects for periodic audit, an examination of the breadth of scope of the current audits might allow for more variation in the scope of the audits. Some, more complex or emerging issues might require a more expansive scope, while others, like cost allocation, may not need a significant dedication of resources, as long as the subject is examined periodically.

4. Provide a means for ensuring regular auditing of areas that pose risk arising from NJNG's affiliation with non-utility business operations. (See Conclusion #6)

NJNG operates in the same markets as some of its affiliates, which poses significant transactional risk of cross subsidization or opportunity transfer that can impose cost onsets or cause the loss of cost offsets for utility customers. Even if operation in common markets did not exist, a growing non-utility business sector underscores the risk of cross subsidization through unsoundly designed or executed cost allocation and assignment methods and practices. NJR operates a large central services organization that serves NJNG and others and at significant cost. That dollars misallocated may not affect net results at the NJR level should not cause a diminishment of risk weighting that makes regulatory subjects infrequently or perhaps never sources of audit attention. Such audits need not occur annually, but should be slated for conduct at intervals sufficient to ensure that controls against cross subsidization and opportunity transfer are visibly demonstrated as critical, and are frequently reviewed for effectiveness. Conducting cost allocation examinations and reviews of transactions and opportunity transfers on alternate years would suffice, absent recurring or major adverse findings or substantial recommendations.

5. Arrange for an external assessment of the Internal Audit function as soon as possible and schedule such assessments to take place at least every five years. (See Conclusion #8)

NJR should follow the IIA standard and cycle for such external assessments.

6. Conduct a detailed evaluation of the advantages and disadvantages of the alternative Internal Audit structures and present a recommendation to the Audit Committee for their decision to either retain the current structure or modify it. (See Conclusion #9)

The transition to outsourcing, while now a number of years in the past, does not appear to have taken place with sufficient rigor and documentation, either in the supporting analysis prepared or in engaging the board of directors as robustly as it could have done. In particular, it appears that one result of the change has been a focus on fewer examinations, on the one hand, but in greater detail or performed with more substantial expertise in the areas examined, on the other hand. One clear consequence has been eliminating, or at least greatly expanding the cycle for repeating, examinations of particular consequence for NJNG (see Recommendation #4).

Perhaps coincidentally, cost comparisons between continuation of the in-house versus the outsourced model when the change was under review showed similar total costs. That increasing complexity in the business and accompanying needs for greater expertise in the conduct of some or many examinations may increase costs, but those needs may and likely should mean enlarging the pool of resources available for internal auditing, as opposed to transferring resources away from other needs. It is time for a full reassessment of all internal audit needs, the types of resources best fitted for important but less challenging examinations, and a balance that combines internal and external resources accordingly. Moreover, the reassessment needs to consider SOX needs as well, and how they can and should be blended into the resource mix that results.

We would not prejudge whether the resulting, optimum resource mix is more inside or outside, but find it hard to imagine that it can be optimum without substantial contribution from both. Moreover, strong internal leadership of the audit function gives visibility and emphasis to the centrality of critical self-examination as a core corporate value. Unlike many other centrally provided functions, auditing is more than a simple “service.” Co-sourcing, unless economics and quality loss in providing it are clear and significant barriers, assist in providing that visibility and emphasis.

Chapter V: Compliance & Ethics
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Chapter V: Compliance & Ethics

A. Background

American industry has witnessed great change in committing to and programmatically addressing compliance and ethics (“C&E”) over the past two decades. Events like the Dot-com collapse that ran across the fall of 2002 and the subprime mortgage instrument collapse that produced a global financial crisis in 2007 and 2008 have spurred major changes across U.S. business operations, many of them responding to groundbreaking government initiatives. Early change instigators included statutory enactments such as 2002’s Sarbanes Oxley Act (“SOX”), 2008’s Troubled Asset Relief Program (“TARP”), and 2009’s American Recovery and Reinvestment Act (“ARRA”). The United States Sentencing Guidelines and the Principles of Federal Prosecution of Business Organizations have also provided important benchmarks in assessing corporate compliance programs. Used directly in assessing penalties for criminal violations, they nevertheless have become recognized as important expressions of the principles and measures critical in designing and operating effective C&E programs. As the first ever compliance consultant at the U.S. Department of Justice stated in a 2018 *Harvard Business Review*:⁹⁸

While many firms continue to see ensuring compliance as a legal exercise, it is really much more a behavioral science. That assertion may make attorneys uncomfortable, but for compliance programs to have real impact, managers need to test what works and what doesn’t.

Even more recent events in the crypto industry continue to underscore the importance of a strong compliance culture, supported by comprehensive and effective C&E leadership, organization, program structure, and dedicated execution, and, when necessary, enforcement.

NJR is one of five publicly held holding companies with substantial New Jersey operations. PSEG, FirstEnergy, Exelon, and ConEdison comprise the others. The Infrastructure Investments Fund (“IIF”), a non-publicly held investment vehicle, owns two of the state’s other large energy utilities, South Jersey Gas and Elizabethtown Gas. Those four other publicly held holding companies all operate fairly comprehensive C&E programs. They thus provide important benchmarks for comparing NJR’s program, governance, organization, policies, practices, and procedures.

Certainly, those other four holding companies operate considerably larger businesses, and, in some respects, face added compliance complexity (e.g., through multi-state and multi-operational, electric and gas environments). Reviewing C&E needs at NJR therefore must account for its lesser operational complexity and the practical limits that its smaller size places on the resource levels available. The core elements of effective C&E management apply, nevertheless. Those are the central elements we examined here, which include:

- The “***Tone at the Top***” set by the board of directors and senior executive leadership in promoting a culture of compliance, creating an organization and structure supporting it
- The existence of a sufficiently ***empowered compliance organization*** led by a chief compliance officer (“CCO”) accountable and responsible for day-to-day compliance program management
- Regularly ***communicating and reinforcing*** C&E commitments, requirements, and expectations

- Methods for *assessing C&E-related risks* and developing means for avoiding those that can be avoided, mitigating those that cannot, and remedying violations and areas where performance does not meet expectations
- Creating and consistently applying comprehensive, well-understood, and effective *procedures, practices, and controls*.

B. Findings

1. *Tone at the Top*

That leadership must establish and maintain a clear, committed, and supportive environment and climate across the full scope of business operations to make a C&E program effective has found essentially universal acceptance. Setting an appropriate “tone at the top” has gained an equal level of acceptance as a core element in creating and sustaining that environment and climate. More elusive is the listing of specific actions by top leadership, but often repeated statements of the major considerations in producing the right “tone” include:

- Demonstration of senior and executive personal commitment to compliance through their own adherence to policies and procedures
- Visible and strong support for those responsible for C&E program management and compliance measures
- Recurring board of director emphasis on compliant and ethical behaviors
- Regular formal and informal communication about compliance and ethical behavior
- Discussion about relevant events that have faced others and the lessons they teach for the company and its personnel
- Active executive and board endorsement of the program and the values it seeks to maintain
- Making clear that ethical thinking is an essential accompanier of strategic and tactical thinking
- Not confining communications about compliance and ethics largely to mission statements and codes of conduct.

The U.S. Department of Justice structure for evaluating corporate compliance programs offers a useful set of questions for assessing the C&E tone set at the top of an organization. Those questions do not address standards for determining whether behavior is criminal, but for assessing how effective a C&E program was when an offence occurred, making it a business, not a criminal liability, benchmark for the many industry participants who ask themselves questions like this in creating and assessing their C&E programs. Questions that the Department’s standards ask in assessing effectiveness offer one of the best statements of how leadership sets the tone, for example:

- *What concrete actions have they taken to demonstrate leadership in the company’s compliance and remediation efforts?*
- *How have they modelled proper behavior to subordinates?*
- *Have managers tolerated greater compliance risks in pursuit of new business or greater revenues?*
- *What actions have senior leaders and middle-management stakeholders (e.g., business and operational managers, finance, procurement, legal, human resources) taken to*

demonstrate their commitment to compliance or compliance personnel, including their remediation efforts?

- *Have they persisted in that commitment in the face of competing interests or business objectives?*

Introductory messages from top leadership that “introduce” codes of conduct to employees comprise one very common means of setting the “tone at the top.” Other publicly held holding companies with substantial New Jersey utility operations begin with a short, one-page message accompanied by the CEO’s photo and signature and setting forth a high-level expression in plain and compelling language of points such as:

- The importance of an engaged workforce in maintaining “highest standards”
- Becoming and remaining “best-in-class” and embracing the highest ethical standards
- The importance of a strong C&E culture and the connection between that culture and delivering strong operational performance and customer satisfaction
- Embracing and generating comfort in speaking up
- The Code’s connection to how the company every day does business, treats partners and colleagues, and relates to its communities
- The need for continuous improvement
- The CEO’s commitment to living up to the code and expectations that all will do the same.

Carefully reading NJR’s CoC leaves a reader with an understanding of these subjects, but without the underscoring and encapsulation of core points that CEO introductory messages typically offer in other CoCs. Moreover, while undoubtedly unintentional, a footnote in the very first paragraph of the NJR code invites attention to the code’s connection to legal requirements. A footnote ending the first paragraph of the NJR CoC ties it to compliance with Securities and Exchange Commission and New York Stock Exchange listing requirements. The first paragraph of NJR’s CoC concludes with a sentence stating:

Through the Code of Conduct, the Company asserts its firm commitment to conducting business in a professional manner that clearly satisfies all moral and legal business obligations.

The commendable point made by this paragraph is, however, footnoted with a reference whose juxtaposition detracts from the impact of that message, directing reader attention to legal compliance as opposed to business commitment as the code’s underpinning. The footnote states:

This Code of Conduct is intended to meet the standards for a code of ethics under the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder by the Securities and Exchange Commission, and for a code of business conduct and ethics under the listing standards of the New York Stock Exchange, Inc. (“NYSE”)

Clear board of director engagement, which here includes both the NJR and NJNG boards also comprises an important element in ensuring that the tone set at the top of the organization properly emphasizes and provides oversight of an effective C&E program and of the results it is producing. It is common for the Audit Committee to take the lead in C&E oversight activities, reporting to the full board. The Audit Committee charters of the other four publicly held holding companies

with substantial New Jersey utility operations contain explicit, comprehensive, and clear descriptions of responsibilities. For example, the charter of the Exelon's board's Audit and Risk Committee give it responsibility for assisting the full board in overseeing the C&E program. Specifically listed duties in program oversight include:

- Reviewing program and code of conduct operations, policies and procedures
- Periodically assess effectiveness
- Reviewing policies and procedures addressing illegal payments, conflicts of interest and other questionable practices
- Considering the results of monitoring of compliance with the code, particularly by officers and directors
- Overseeing compliance with applicable laws and regulations
- Overseeing compliance risk assessments
- Reviewing significant compliance incidents and reports addressing interactions with public officials
- Confirming the absence of unjustified restrictions or limitations on the compliance function.

FirstEnergy also makes the parent board's audit committee responsible for assisting the full board by overseeing adherence to legal, compliance, risk management, and regulatory requirements, which includes oversight of FirstEnergy's Ethics & Compliance Program. The committee's charter sets forth a particularly detailed list of responsibilities associated with oversight of the C&E program:⁹⁹

- Review effectiveness of the management of concerns raised, investigations, and corrective actions
- Review investigations compliance risk statistics
- Review processes for communicating the CoC to Company personnel and for monitoring code compliance
- Review the findings of C&E examinations by regulatory agencies or independent and internal auditor observations
- Receive at least annually (and more frequently as required) reports from the Chief Ethics & Compliance Officer (or Chief Legal Officer where appropriate) addressing program effectiveness in assuring compliance with laws and regulations, C&E policies and the CoC
- Review at least annually (and more frequently as required) the CoC and recommend revisions for full board consideration to promote design adequate to mitigate violations
- Review and approve at least annually (and more frequently as required) program charter
- Receive at least annually (and more frequently as required) reports from the Chief Ethics & Compliance Officer regarding adequacy of recordkeeping and reporting systems to ensure program adherence
- Periodically review code of conduct, conflict of interest, related party transactions, and insider trading policies designed to deter, prevent and detect compliance violations
- Periodically review methods for disseminating policy information and providing training
- Receive reports regarding any alleged program and material legal violations by members of the board of directors or senior executives

- Periodically review the effectiveness of procedures for the receipt, retention and treatment of complaints regarding anonymous employee submission of concerns regarding C&E matters
- Review with the Chief Ethics & Compliance Officer, program budget, resource plan, activities, and organizational structure
- Provide support to ensure program access to resources necessary in carrying out its responsibilities.

The other two of the four holding companies also address the C&E responsibilities of holding company boards substantially. The ConEdison board audit committee is charged with overseeing the compliance program for addressing legal, regulatory and ethical requirements and policies and procedures for monitoring compliance. The audit committee meets at least annually with the chief ethics and compliance officer committee to review implementation and effectiveness of the compliance program. This officer has authority to communicate directly with the committee about violations of the Standards of Business Conduct.¹⁰⁰ The charter of the PSEG board's Audit Committee gives it general responsibility for assisting the full board in overseeing legal and regulatory requirements compliance. More specifically, it charges the Audit Committee with responsibility for overseeing the Business Conduct Compliance Program and as circumstances require, and not less than annually, reviewing and discussing with the officer program implementation, status, and effectiveness.¹⁰¹

The charter of the NJR board's audit committee lists as among its primary purposes assisting the full board in overseeing "the Company's compliance with applicable legal and regulatory requirements." It also calls for committee review with management of regulatory or compliance matters that may materially affect compliance policies, including actions by or correspondence with regulators of governmental agencies.¹⁰² The audit committee's charter goes into some detail about how it specifically carries out functions with respect to other responsibilities assigned to it, but limits itself to these two broadly stated descriptions about its role with respect to C&E. Moreover, while it requires the audit committee to establish procedures for receiving and handling complaints addressing accounting, accounting controls, and auditing matters and concerns about questionable accounting or auditing, the charter does not similarly assign the same express authority for C&E matters.

2. Compliance Organization and Approach

Separation of the CCO from the general counsel or chief legal officer position is now common practice generally for utility holding companies and universal among the other four publicly traded holding companies with substantial New Jersey operations. Exelon's senior executive leadership team includes an Executive Vice President, Compliance, Audit & Risk charged with ensuring company and employee compliance with laws, regulations, and internal and external policies. This senior executive reports to the Exelon CEO, not the company's chief legal officer.

FirstEnergy has also placed responsibility for its C&E function under a dedicated executive, its Vice President and Chief Ethics and Compliance Officer. This officer reports administratively to the chief legal officer; however, the position reports functionally to the board's audit committee. Appointment or removal of the officer requires prior consultation with the audit committee, which

also provides input on the officer's performance evaluations and compensation and must receive briefings on final performance evaluation results and compensation.

PSEG places authority for C&E under a Senior Vice President, Audit, Enterprise Risk and Compliance, a combination similar to one that Exelon recently employed.¹⁰³ The charter of the board's Audit Committee makes it the source to whom this Audit, Enterprise Risk and Compliance officer reports functionally, gives the officer "unfettered access to the Audit Committee, regardless of other reporting lines," and calls for committee review on the officer's selection and removal.

At ConEdison, the chief ethics officer has resided in the legal organization, but the C&E program is headed by a separate, vice-presidential level Chief Ethics & Compliance Officer. This officer has authority to report separately to the board Audit Committee. This officer makes regular reports to the Audit Committee and provides a formal annual report to that committee.¹⁰⁴

NJR's Senior Vice President and General Counsel has for some time served as well as the "Chief Compliance Officer" ("GC&CCO").¹⁰⁵ Upon replacing the departing holder of that position, the current incumbent began as GC&CCO on an interim basis in May of 2021, followed in September of that year with permanent naming to the position. NJR has dedicated no other resources fully to C&E matters, but a number of other positions include designated part time responsibilities in that area. These resources include two other legal department attorneys, one of them assigned to regulatory legal matters and the other serving as the corporate secretary. The former serves as a primary resource for determining legal requirements of a regulatory nature that impose substantial compliance responsibilities. The latter focuses more on matters that have ethics implications. These roles complement their functional responsibilities for carrying out general legal responsibilities in the regulatory and corporate governance areas.¹⁰⁶

Apart from these three legal department resources, who have operated on a "centralized" basis (*i.e.*, under the direct supervision of the GC&CCO), NJR had organized C&E around what it calls a "decentralized" model. That approach has placed specific responsibilities for C&E at the business unit level, with assigned subject matter experts in those units operating under more general liaison relationships with the GC&CCO. For example, NJNG has assigned subject matter experts for natural gas regulatory matters, LNG facilities, and Pipeline and Hazardous Materials Safety Administration (PHMSA) pipeline safety compliance. Personnel within the HR function have had responsibility for investigating matters falling generally within the areas that HR generally addresses (*e.g.*, workplace relationships and labor relations). As for the three legal personnel, their compliance and ethics roles also tend to follow the general areas for which their organizations have functional responsibility.¹⁰⁷

Following consultation from a law firm with substantial experience in the field and from leading international consulting firm PwC, NJR has begun a process of moving in the direction of what it terms a "federated" approach. This approach differs from a consolidated approach under which a larger body of personnel are placed directly under the chief compliance officer. Under this federated approach (as NJR is in the process of developing it) resources will remain in the business unit, apart from the three legal personnel. However, they will, as the move to the federated approach continues to roll out, operate under increased coordination, structural support, reporting, and methods and practices directed by the GC&CCO.

Some coordination, support, reporting, and methods and practices have begun operation or are planned to do so imminently, but overall appear to remain in fairly early stages of development but subject to active refinement and expansion.

3. *Communication and Reinforcement*

a. Key Program Documents

Our request for documents addressing C&E governance, policy, procedure, and guidance produced a single document; *i.e.*, a Code of Conduct (“CoC”) dated May 2020,”¹⁰⁸ which NJR revised in 2022.¹⁰⁹ CoCs are critical in making clear C&E values, goals, requirements and expectations for employees, but it is unusual to find them described as the primary overall governance document. The GC&CCO later noted the existence of a “compliance roles and responsibilities” document.¹¹⁰

Both the 2020 and 2022 CoC versions begin with a value statement for NJR, its affiliates, directors, and officers that “...fair, lawful and ethical business practices are a fundamental part of business conduct...” and cover a particularly broad range of topics.¹¹¹ Code provisions explicitly apply to all directors, officers, and employees. These provisions also call for applying the highest integrity and fairness standards, strictly complying with applicable laws and regulations, honoring their spirit as well in all decisions, and conducting business honestly and ethically, while applying technical and business skills and judgments needed to benefit customers and shareholders.

Following the description of this procedure, both versions address at length a wide variety of topics, some specialized, some technical, in addition to many that describe clear ethical and inclusive behavioral aspects:

• <i>Accurate Books & Records</i>	• <i>Affiliate Standards</i>	• <i>Antitrust</i>
• <i>Bribery & Corruption</i>	• <i>Company Accounts</i>	• <i>Co. Assets/Opportunities</i>
• <i>Charitable Activities</i>	• <i>Confidential Information</i>	• <i>Conflicts of Interest</i>
• <i>Contributions & Lobbying</i>	• <i>Environmental Policy</i>	• <i>Equal Employment</i>
• <i>External Communications</i>	• <i>Fair Dealings</i>	• <i>Financial Disclosure</i>
• <i>Gambling</i>	• <i>Gifts, Meals, Entertainment</i>	• <i>Government Transactions</i>
• <i>Insider Trading</i>	• <i>Intellectual Property</i>	• <i>Litigation & Investigations</i>
• <i>Memberships</i>	• <i>Money Laundering</i>	• <i>NJ Whistleblower Act Notice</i>
• <i>Political Activity</i>	• <i>Recording Devices</i>	• <i>Safety</i>
• <i>Securities Fraud</i>	• <i>Substance Abuse</i>	• <i>Technology Policy</i>
• <i>Trade Controls</i>	• <i>Unfair Business Practices</i>	• <i>Workplace Violence</i>

The Equal Employment category listed above includes sections specifically addressing several subjects: prohibition of discrimination or harassment (the latter explicitly addressing sexual and protected group harassment and non-employee conduct separately), reasonable accommodation, making complaints, non-retaliation, sanctions for EEO policy violations, and a contact list for equal employment complaints. Another section identifies specific C&E leadership responsibilities for officers, directors, and managers, which include:

- Acting as role models
- Championing a culture of integrity

- Recognizing and rewarding commendable Code behaviors
- Assisting in Code enforcement
- Reporting violations promptly.

A section on securing Code waivers notes the obligation under NYSE Listing Standards to limit granting them to the board of directors or one of its committees. A concluding statement notes the impossibility of identifying all conceivable forms of inappropriate or unacceptable behavior, emphasizing that “illegal conduct, dishonesty, fraud, unethical behavior and false statements” can all bring discipline. The statement also expresses an expectation that specialists are expected to act not only in conformity with the Code but with accepted standards that apply to their fields. The concluding statement encourages questions about any Code provision causing uncertainty.¹¹²

b. Engaging Contractors, Vendors, and Suppliers

Codes of conduct designed specifically for managing relationships with suppliers, vendors, and contractors have become increasingly common, finding, for example, use at other holding companies with significant New Jersey operations (e.g., Exelon,¹¹³ PG&E,¹¹⁴ FirstEnergy,¹¹⁵ South Jersey Industries¹¹⁶). For example, the introduction to a FirstEnergy supplier code describes the basis for its application, stating that its Supplier Code of Conduct enlists its contractors, suppliers, consultants, and vendors in the process of upholding the same values as those of First Energy. The introduction states that, “We believe a shared commitment to integrity and ethical business practices is the foundation for strong, trust-based business relationships that creates shared value.” The codes of the cited companies contain many provisions paralleling those of CoCs for employees, but tailored specifically to the opportunities and risks that contract versus employment relationships engender. An Exelon Supplier Code of Conduct opens with this statement underlying the reason for employing a specific supplier code:

Because our Suppliers and their employees and subcontractors are integral to our work, we expect them to share our values and hold our Suppliers accountable for adherence to this Exelon Supplier Code of Conduct.

NJR’s CoC states that it “expects” contractors, vendors, and others to follow the code in work for the company,” but does not direct them to do so or provide for them a separate code. However, NJR has reported that it seeks to include compliance with its CoC as a requirement of contracts with them. Management reports general success in securing agreement, with the exception of some very large third parties that generally have, as most enterprises do, their own codes.¹¹⁷

c. Other Training and Reinforcement Measures

The GC&CCO was not aware of specific inclusion of C&E behaviors and expectations in the performance management system used to measure individual performance and set compensation in the past. NJR also does not appear to include discussion of C&E matters, at least in a form formal or repeated enough to produce feedback to the GC&CCO.¹¹⁸

Including a modest number of C&E-related questions in employee engagement surveys also assists in measuring the effectiveness of program messaging. Incorporating a C&E component into the

exit interview process where appropriate can also assist in assessing employee views on C&E matters

4. Formal Assessment of C&E Risks

The highly regulated, safety-affecting, and publicly visible nature of NJNG's operations makes those operations a large driver of the C&E risks that NJR operations produce overall. Correspondingly, the operations of NJNG's affiliates create risk for the utility as well, given, for example, requirements and expectations seeking to limit cross-subsidization, protect customer information, and ensure no undue disadvantage to market competitors, for example. Factors like these have made energy and utility industry participants leaders in advancing the use of formal and recurring processes for identifying and addressing C&E risks. They have become increasingly used, often on a regular (*e.g.*, annual) basis, employing a structured template and engaging a reasonably wide group of personnel knowledgeable about activities and processes that create C&E risks and have accountabilities and responsibilities for identifying, avoiding, mitigating, and responding to those risks.

The GC&CCO solicits feedback on compliance and ethics risks and means of addressing them. Moreover, management reports that it has conducted comprehensive compliance risk assessments annually. It has become common for incorporating formal structures, methods, broad participation, and identification of methods and controls enhancements specifically addressing ethics.

5. Reporting, Investigation, and Resolution of C&E Allegations and Concerns Raised

The CoC cites disciplinary action, including termination as consequences of failure to adhere to the code's "letter and spirit." The CoC sets forth a process for reporting activity violating laws or regulations and assures no retaliation for doing so for reporting in good faith and in conformity with that process. The procedure requires prompt reporting of known or suspected conduct that is unlawful, unethical, dishonest or otherwise in violation of the CoC, "generally" to an immediate supervisor. If not "practical" to so report, the Code identifies additional reporting sources in the order listed here: Manager, Employee Relations, Chief Human Resources Officer, GC&CCO, any Legal Department attorney, or the EthicsPoint phone and web contact options provided by Navex, an industry leading third-party provider. This capability offers phone and email contact options on either a confidential or non-confidential basis for NJR and its entities. The CoC describes them, lists contact information and addresses the availability of confidential treatment if requested by the contacting person.

Shareowners and others wishing to communicate with the board Chair, a non-management director, a board committee, or any individual director may do so anonymously through the third-party-operated hotline or website. The third-party operator forwards such communications by the next day to a group listed in the following order: the GC&CCO, the NJR Audit Committee Chair, and the NJR Board Chair.¹¹⁹

We would anticipate few instances where NJR would face occasions that call into question its ability to continue to preserve requested anonymity or confidentiality. However, such occasions may well have significant consequence. The Code does not address the possibility that circumstances that may require exceptions to the commitment to preserve the anonymity of those

who have requested it making contact regarding C&E matters. Occasional circumstances warrant such exceptions (*e.g.*, requests for information in connection with investigations by criminal authorities). NJR has acknowledged that those circumstances may, as is understandable, exist.

A number of other aspects of report logging and recording have also not been subjected to documented procedures. The number of persons having access to the C&E matter management system and the sensitivity of the information potentially involved make written procedures important in ensuring the knowledge of requirements that provides a necessary element of generating accountability for meeting them.

A company's C&E matter management system should also be managed in a manner that ensures a comprehensive basis for reporting to boards of directors. The Navex foundation for NJR's system provides sufficient capabilities for recording data that will ensure a sound record of investigations and results and for generating regular reports to the boards. Elements important to record timely and completely include date of initiating report or contact, days to acknowledge initially that report or contact, presence of an anonymity request, category of issues raised (*e.g.*, misuse of customer information, theft of company property, workplace harassment), brief summary of each assigned matter's issues initially and as changed during investigation, open or closed status, days to close, reasons for indefinite open durations (*e.g.*, reporter non-responsiveness to requests for information), log entry of all evidence and investigator reports, final report approval by CCO or alternate if necessary, result upon closure (*e.g.*, substantiated, partially substantiated, unsubstantiated, question answered), brief summary of actions taken (*e.g.*, termination, discipline, coaching).

Company portals and the public-facing company web site should conspicuously list and describe contact options, their use, and protections. For example, "Contact Us" a primary link on Exelon's web page contains a conspicuous statement linking to its Ethics Help Line, providing a phone contact number, explaining its ethics commitment and codes of conduct and providing links for securing more information about them.¹²⁰ PSEG's "About PSEG" home page link takes one to a further "Standards of Conduct" link, which includes a section ("Resources for Questions & Concerns") that provides contact information, including anonymous avenues.¹²¹ There is not an equally short and transparent path to such information through the NJR website, but one can eventually find a way to the CoC, which provides that information for employees.

The EthicsPoint platform provides the repository for managing data and assessing status of incident examination and where necessary investigation and eventually resolution. The GC&CCO and two attorneys have access to the system. Those assigned to examination and where necessary investigation of other matters involving C&E do not generally have access to the Navex system. However, the GC&CCO and a single other in-house attorney can grant access to them. Therefore, those who undertake examination and where necessary investigation of matters provide direct evidence collected, such as interview reports or documents photographs, and summaries and other reports of their findings, for entry by one or two support or administrative personnel in the legal department. The chairs of the NJR board of directors and its audit committee chair also have access.

NJR has not subjected procedures regarding access to and use of the Navex system to written procedures. Navex, a leading provider in the industry, offers substantial ability to prevent unauthorized access. NJR has not made a practice of testing whether its use of those controls has remained fully effective.¹²²

Through August 2022, NJR operated under a two-page CoC Investigation Procedure.¹²³ It provided only 28 lines of substantive guidance. A substantial enhancement to the procedure occurred at that time, in the form of “Legal Department Policy And Procedure 1: Code of Conduct Investigation Policy and Procedure.” It expanded the scope of the subjects addressed and provided significantly more detail, producing a document extending to nine pages. The new procedure brought investigation guidance much closer to industry practice.

The GC&CCO reported that most concerns and allegations logged require some form of investigative measures, albeit at different levels depending upon the complexity and severity involved. Most of those logged matters require investigation to pursue and close. HR has multiple personnel trained to investigate matters assigned to it for examination and where necessary investigation. The head of Security has responsibility for investigations in that department’s areas of responsibility. Occasionally, the GC&CCO retains outside counsel, typically in cases where a large number of interviews would impose resource requirements difficult to accommodate internally. Training of the HR personnel has come from outside counsel, refreshed through conference attendance. The head of Security formerly served as a police chief. One of the attorneys in the legal department is a former New Jersey assistant attorney general and another a former white collar criminal defense and internal investigations lawyer.¹²⁴

6. Other Procedures, Practices, and Controls

a. Political Contributions

An NJR Government Affairs Policy on Political Contribution Pre-Clearance (originated on June 24, 2021) seeks to prevent violations of laws addressing political activity with public officials by controlling political contributions. The policy requires prior approval by the Senior Vice President and Chief Operating Officer of Non-Utility Businesses, Strategy and External Affairs and the General Counsel. No approval is required of NJNG-only officers or by the board of NJR or NJNG or by any committees of those boards.¹²⁵

Contribution approval requirements apply to political contributions, defined as anything of value, whether in monetary or in-kind form, provided directly or through another person or entity for the benefit of a “Candidate Campaign, Political Party, Political Committee, any other 527 Political Organization, or a Ballot Measure Committee.” The policy defines 527 Political Organizations as those “not registered or regulated under federal, state, or local election laws but are otherwise exempt from federal income taxes as a political organization under Section 527 of the Internal Revenue Code”. Enforcement of the provisions of this policy occur through the standard measures of the CoC. Management reports no contributions and thus no violations as well since 2000.¹²⁶

The policy approval requirements do not apply to Section 504(c)(4) entities who:¹²⁷

- Engage in substantial lobbying activities but were not established solely for the purpose of promoting or opposing ballot measures
- Plan to or do engage in lobbying activities.

The policy also would not apply to future NJR creation of a Section 504(c)(4) entity to engage in lobbying activities.

Section 501(c)(4) of the Internal Revenue Code exempts two different organizational types:¹²⁸

- Social welfare organizations: Civic leagues or organizations not organized for profit and operated exclusively to promote social welfare, and which may engage in substantial lobbying activities
- Local associations limited to employees of a designated person(s) in a particular municipality, with earnings devoted solely exclusively to charitable, educational or recreational purposes.

Neither type should be considered inherently suspect; however, use of exempt social welfare organizations provided a principal vehicle for making contributions for which FirstEnergy eventually entered into a Deferred Prosecution Agreement with federal criminal authorities.

An NJR policy and procedure in effect at the time of this report's preparation prohibited directors, corporate officers, and employees from causing an NJR entity to make political contributions to covered persons or entities, without the prior approval from NJR's Senior Vice President and Chief Operating Officer of Non-Utility Businesses, Strategy and External Affairs and the General Counsel. Time and use of corporate personnel and facilities used in connection with NJR's Continuing Political Committee ("CPC") did not require such consent but do require reporting to that NJR Senior Vice President. An NJR CPC, funded primarily by voluntary contributions from NJR-entity personnel has made contributions to state and local candidates. Those contributions also required, at the time of this report's preparation, prior approval from the same non-utility business executive and from the General Counsel. In addition, creation of any other political committee or 527 political organization on behalf of NJR required at the time of this report's preparation approval by the same two executives.¹²⁹

The policy encourages voluntary political process participation by NJR personnel, but requires prior Senior Vice President and General Counsel approval before: (a) soliciting contributions from other NJR personnel or third-party goods or services providers except for the NJR CPC, (b) causing corporate funds, facilities, or assets to be used, (c) conducting volunteer campaign activity during working hours, (d) acting or creating the impression that one is acting as a representative of NJR as opposed to in a personal capacity, (e) bundling contributions of others for forwarding, (f) soliciting NJR personnel or third-party goods or services providers, or (g) causing NJR or the NJR CPC to provide reimbursement for one's voluntary political activity. Management has reported no NJR or NJNG board of directors or board of directors committee review of political contributions and contributions to federal-income-tax-advantaged entities that engage in political activities since at least 2018.¹³⁰

Management has reported only to government-initiative investigation, probe, or other reviews of decisions or actions by NJR, NJNG, affiliates, and personnel since 2018. The New Jersey

Department of Environmental Protection (“NJDEP”) performed a Compliance Evaluation and Assistance Inspection during NJNG’s construction of the Southern Reliability Link pipeline (SRL). Management agreed to a settlement of the resulting notices of violation, which involved 2021 penalty payments of \$70,625 and \$108,125. A July 12, 2022 NJDEP compliance inspection of NJNG headquarters found a failure to fulfill certain SRL permit conditions, resulting in agreement on the imposition of a penalty of \$960.¹³¹ Management stated that no investigations by criminal authorities had existed since 2018.¹³²

b. Related Party Transactions

The U.S. Securities and Exchange Commission requires reporting of registrant (NJR or subsidiaries in this case) transactions with related persons to the extent that the amount involved exceeds \$120,000 in value. Members of boards of directors and immediate family members of executives fall among those defined as related persons.¹³³ Over the past several years, management has reported two such transactions:

- Continuing employment of the brother of the NJR CEO as a Senior Project Manager-Construction and Engineering of non-utility subsidiary Clean Energy Ventures (“NJRCEV”)
- Two New Jersey solar projects under which a subsidiary of American Waterworks (for whom an NJR director served as Chief Financial Officer) would under a purchase power contract take all of the electrical output of facilities installed at its premises and in which NJRCEV planned to make substantial investments:¹³⁴
 - A net-metered, floating solar photovoltaic project in which NJRCEV planned to invest \$22 million
 - A net-metered rooftop, carport, and ground-mounted solar project in which NJRCEV planned to invest \$18 million.

c. CEPA Notices

The New Jersey Conscientious Employee Protection Act (“CEPA”), N.J.S.A. 34:19-1, et seq, prohibits retaliation by employers for certain employee actions regarding matters an employee reasonably believes to constitute a violation of law or regulation. Employers may not retaliate for employee disclosures to a supervisor or public body, provision of information to or testimony before a public body investigating or inquiring into a violation and refusing to participate in matters reasonably believed to involve a legal violation, fraud, or criminal activity.

CEPA requires both annual distribution to all employees and conspicuous display of notice and explanation of the Act’s employee protections, obligations, rights and procedures. Employers must also employ “other appropriate means to keep its employees” informed about those matters.

C. Conclusions

1. Tone at the Top

- 1. As compared with NJR, others in similar circumstances have found more robust communication of the importance of the values, principles, measures, and**

accountabilities critical in establishing and maintaining a fully effective C&E environment and climate. (See Recommendation #1)

NJR has adopted a standard that calls for the highest level of compliant and ethical behavior. We did not conclude that a lack of commitment to the necessary environment or climate exists. The issue here is the comparative degree to which NJR has supported its commitment and the elements that comprise its C&E approach and program with a comprehensive and diligently executed communications plan designed to reinforce top leadership and board championing at a level that ensures a fully robust “tone at the top.”

We did not find a plan for regular and reasonably frequent use of all channels of communication with employees to ensure such communication and reinforcement. Engagement of the CEO and the directors on C&E matters, while not absent, does not occur through measures as formal or extensive as we see elsewhere. There does not appear to be a formal process by which senior leadership ensures that business leaders reinforce through structured means with their personnel C&E values, commitments, and accountabilities.

It is not uncommon at other companies to see several dozen communications touch points made through the full range of available communications channels across a typical year. Such messaging can cover a wide range of topics. Some examples of those topics chosen for periodic explanation or reinforcement, not all of them addressed every year, include the nature and importance of annual C&E training, cyber and physical security, interactions with public officials, expenditures and vouchers, conflicts of interest, misuse of company property, insider trading, vendor relationships and interactions, interpersonal workplace conduct, and privacy protection providing just some examples of the range of subjects. Certainly, communications about such matters occur with some frequency at NJR, but not according to a plan designed to ensure that content and cycles are designed to reflect areas of particular importance, sensitivity, complexity, or having other characteristics that distinguish them in terms of nature or frequency of refreshers or notice of changing circumstances.

Moreover, the absence of the extremely common CEO introduction to the CoC and its early reference to the code’s design to meet legal and listing requirements offer other examples of “missed” messaging opportunities.

2. NJR and NJNG board governing documents provide less definition and clarity on board responsibilities for overseeing C&E matters. (See Recommendation #2)

The boards of both should have clearly assigned and scoped responsibilities for oversight of the C&E program, its leadership, knowledge of current issues and circumstances, recurring actions, and responses to major issues or concerns. We commonly find such specification at other utilities or their holding companies. Such specification exists at the other publicly held holding companies with substantial New Jersey operations. The NJR audit committee charter goes on at some length to address specific responsibilities and actions in other areas assigned to the committee, making the generality in addressing its roles with respect to C&E less clear and less impactful in providing a tone-setting opportunity to demonstrate board engagement and robust CCO access to the board.

2. Compliance Organization and Approach

3. NJR's lack of separation between the chief legal and the chief compliance officer positions does not reflect best practice generally or New Jersey utility experience specifically. (See Recommendation #3)

Over what is now a long period of time, separation of chief legal officer and chief compliance officer positions has become very common. Placing the chief compliance officer outside the legal organization has grown substantially as well. None of the other four publicly traded holding companies with substantial New Jersey energy utility operations combines the chief legal officer and chief compliance officer roles into the same position. Two of those four completely separate the chief legal officer and chief compliance officer roles and reporting lines entirely.

The two that place the chief compliance officer under the chief legal officer both separate the responsibilities between two persons and provide substantial independence for the compliance position. One of those two places the chief compliance officer only under the chief legal officer for administrative purposes, making the board of directors' audit committee functionally responsible for the position. Another does not directly provide for separate functional reporting to the board, but still provides the chief compliance officer with independent access and reporting to the board of directors' audit committee. Moreover, governing documents make clear that the board plays a direct and substantial role in reviewing the implementation and effectiveness of the compliance program. By contrast, the charter for NJR's audit committee describes its compliance role only generally:

The Committee shall report to the Board any issues that arise with respect to the quality or integrity of the Company's financial statements, the Company's compliance with legal or regulatory requirements, the performance and independence of the Company's independent auditors, and the performance of the internal audit function. [emphasis added]

3. Communication and Reinforcement

4. NJR's CoC is comprehensive and clear, with the subjects addressed and the level of detail reasonably typical and appropriate for the compliance risks faced in operations conducted by and for utility operations.

A company's code of conduct generally provides the primary description of a range of personnel actions and behaviors that a C&E program typically addresses. Our review of NJR's CoC evidenced reasonably clear treatment of such matters in language typical of codes at other enterprises with substantial utility operations. The matters directly so addressed include:

- Values that the C&E program seeks to instill, maintain, and reinforce
- Program goals and expectations for compliance, specific conduct, and other circumstances that are directly violative or are non-supportive of those goals and expectations
- Obligations and encouragement to report possible violations or concerns
- Means and methods of making concerns known
- Welcoming the raising of questions or concerns about the CoC or conduct that it may cover
- Assurances of confidentiality preservation
- Dedication to providing complete, objective, and timely examination and treatment of concerns and questions and principal measures to undertake examination and treatment

- Processes for investigating and resolving allegations made or responding to questions and concerns raised
- Consequences for violations substantiated.

5. The absence of a comprehensive overall C&E program description document leaves NJR's C&E a less complete and robust description of program scope, processes, accountabilities, and responsibilities than is common elsewhere. (See Recommendation #4)

NJR does not operate its C&E program under comprehensive program purpose and scope documentation. Documentation of other programs we have reviewed, including of holding companies with significant New Jersey operations, address in reasonable detail program purpose, scope, accountabilities, responsibilities, procedures, methods, activities, and work products. NJR does employ a reasonably comprehensive CoC document, which contains elements of the more complete and holistic documentation that we consider to reflect best practice.

CoCs, even those as comprehensive as NJR's program, however, cannot capture the full scope of a C&E program's dimensions, responsibilities, authorities, accountabilities, communication, and other reinforcement provisions, methods, activities, and controls. Doing so would make them so lengthy as to diminish needed focus on expected behaviors, clear understanding of required and expected conduct, and means for raising concerns and questions.

Best practice calls for more extensive documentation that will address C&E at NJR from a programmatic perspective, describing matters such as accountabilities and responsibilities for program governance and execution, practices and procedures, systems and methods, controls, and reports it takes to make a C&E program work effectively. Comprehensive documentation of this type guides program execution in a manner that inspires confidence in program completeness and objectivity. More importantly, it increases accountability for those charged with management of particularly sensitive matters with (as recent events involving other holding companies with substantial New Jersey utility operations) potentially very damaging consequences. Their connection with the meeting of public service responsibilities in a manner that comports with public expectations is clear.

6. NJR's decision not to translate its expectations of suppliers, vendors, and contractors into a structured, documented code of conduct for such resources departs from common industry practice and that in New Jersey. (See Recommendation #5)

The supplier codes of other holding companies with New Jersey utility operations provide examples of the commitment and emphasis on ensuring that the ethical conduct of outside resources matches the highest levels expected of employees. A contract provision's preservation of some level of legal rights for breach is not inconsequential but does not send the same message that a well-developed supplier code delivered to outside providers, particularly smaller ones, does.

7. Modest inclusion of C&E measures in performance management and compensation and in exit interviewing would strengthen program effectiveness. (See Recommendation #6 and #7)

Including clear performance expectations in the performance management program and tying compensation decisions to them, as is done for other job expectations, will reinforce the

importance placed on producing the highest levels of compliant and ethical actions and behaviors. The contribution can remain modest, given the many other factors that comprise effective overall performance. The key is that the contribution and its measurement be made explicit.

Engaging departing employees on C&E matters and experience where circumstances suggest and permit can provide useful information in:

- Assessing the degree to which program requirements, expectations, and commitment have “gotten through”
- Potentially in identifying individual instances where program execution has not produced desired actions and behaviors.

4. Formal Assessment of C&E Risks

8. An insufficiently documented compliance and ethics risk process that deals robustly with the processes, procedures, methods, responsibilities, participation, and results and their use for ethics matters departs from what has increasingly become a key element of good practice in the industry. (See Recommendation #8)

The GC&CCO has recently made advances in processes for securing from those across the operations of NJR and its businesses current information about risks and means for addressing them. However, NJR has yet to document a broadly participative and structured process that periodically brings together all those responsible for material aspects of assessing ethics risks. Others use a structured agenda and a participative process to ensure comprehensive risk identification, examination, trending, emergence, and planning to address them. Formal consideration of factors such as recent industry events, recent company history regarding events and circumstance, changes in laws and regulations, changes in business operations inform well-constructed C&E risk assessment processes. While how the enterprise risk management (“ERM”) process assesses risks can provide some guidance in assessing C&E risks, it is not a substitute, given its broader scope and focus on a number of greater threats. Some C&E risks have “enterprise”-level significance, but many are narrow and better described as operational level risks.

5. Reporting, Investigation, and Resolution of C&E Allegations and Concerns Raised

9. The NJR CoC provides a suitable range of sources to contact when reporting C&E concerns, issues, or allegations, and management communicates generally sufficient measures for reporting and managing C&E matters.

NJR makes use of reasonably typical means for reporting C&E matters. They include the availability of e-mail and hotline reporting hosted by a leading national provider. The avenues available provide for anonymous reporting. The Code generally explains their use sufficiently, except as noted below. The CoC makes clear the obligation to report concerns and the availability through a range of contact sources and methods of confidential reporting and assurances that retaliation will not result.

10. However, a lack of clarity exists in several specific areas, which include ensuring that reporting anonymity is maintained, use of the case management system, and reporting of C&E matters through the web site is simple and direct. (See Recommendation #9)

The sincerity of NJR's commitment to preserve requested reporter anonymity to the best of its ability is not in question. However, because preservation cannot be guaranteed, notice of that to reporters and controls on Company decisions not to preserve it become critical to meeting that commitment fully. The primary concern is clear disclosure to potential reporters of circumstances that jeopardize the ability to preserve anonymity, the company's commitment to best efforts to protect it, and that well-controlled processes requiring senior review and approval apply to exceptions to preserving anonymity.

NJR also lacks a number of other administrative procedures that would better enhance case management and documentation completeness and support more comprehensive, regular reporting on C&E matters, especially to members of the boards of directors. The NJR website also provides a more indirect route than typical of holding companies including those with New Jersey operations to information about raising C&E questions, concerns, or allegations.

The NJR CoC states a preference for reporting through a supervisor, while making explicit that other reporting, including anonymously, outside the normal chain of supervision is permitted. However, the CoC does not explain the reasons for (and thus the limitations on) that preference and does not reinforce that the decision is that of the reporter.

The procedure for reporting C&E matters directly to the board should not call for immediate inclusion of the general counsel. The board chair should determine whether the nature of the matters reported require exclusion of legal department personnel and assignment to another source for examination and any necessary investigation at the board's discretion.

11. An effective system for logging information, recording status, and reporting of C&E matters set for review and investigation exists.

Navex, a leading provider of systems that support reporting and management of C&E issues, has provided the platform through which NJNG logs information about C&E concerns and complaints logged for examination and investigation. The GC&CCO uses information from the system to remain informed and to periodically update the NJR board of directors' audit committee on major C&E matters with potentially significant consequence.

12. Investigation procedures are sufficient to guide investigative activities sufficiently.

Recent changes to the investigation procedures have provided useful clarity and comprehensiveness.

13. The controls that exist with respect to use of the logging system exist at a basic level but warrant improvement. (See Recommendation #11)

No written procedures exist to document requirements that limit who can grant access to the Navex system. The practices employed limit system access to persons outside Legal department personnel with designated C&E responsibilities. Legal department personnel with access rights include the GC&CCO, and two attorneys with responsibility for managing C&E matters. They also include paraprofessional or administrative personnel assigned only to the entry into the logging system of information prepared by investigators who collect it. The sensitivity of certain matters that can arise should circumscribe entry rights more closely. In addition, while Navex offers a suitable suite of

measures to limit access, it nevertheless remains important periodically to test the success of their operation, which management has not made a habit of doing periodically.

6. Other Procedures, Practices, and Controls

14. The required CEPA communications have occurred.

A review of the forms used and of the means of dissemination and posting in recent years found no concerns.

15. NJR has adopted limitations and controls addressing political contributions, but best practice extends the scope of their provisions further than NJR has. (See Recommendation #12)

NJR has adopted policies and practices that bar a broad range of gifts and other consideration offered to public officials. NJR also requires senior level approval before certain types of political contributions or support may be given. Management has reported no violations of those procedures, policies, and practices.

The applicable procedures establish sound baselines for avoiding circumstances that have caused great trouble for the holding companies of two other holding companies whose utilities operate in New Jersey. They do not, however, extend as far as measures others have adopted and that we consider elements of best practice. First, it is not clear that approval requirements for making contributions to IRS exempt organizations extend beyond those created to address ballot measures, as opposed to, for example, those seeking to influence legislation or other government action. Second, it is not clear that existing policies, practices, and procedures require the reporting of requests made by public officials for NJR entity actions that may provide them direct or indirect benefit; *e.g.*, placement of individuals in company employment, contributions to social or charitable organizations, or establishing or expanding relationships with vendors, suppliers, or contractors. Third, it does not appear that the NJR or NJNG board has required regular reporting by the GC&CCO or any other executive regarding political contributions, contacts, and requests.

D. Recommendations

1. Tone at the Top

1. Develop and execute annual communications plans designed to ensure continuation of an effective C&E environment and climate and to provide periodic refreshers and reinforcers about C&E expectations, requirements, and changing circumstances. (See Conclusion #1)

As a first and very specific matter, the CoC should begin with a personalized, high level CEO message similar to those in common use generally in the industry and more specifically at the other publicly held holding companies with significant New Jersey utility operations.

Second, NJR, under the direction of the CCO, should create and execute each year a formal plan for C&E communications. The plan should focus on additional opportunities, means, and measures by which senior leadership and board of directors members can make visible their personal

commitment to and direct engagement in promoting and inducing the highest level of conduct that NJR seeks. It should incorporate communications addressing overall “tone.” Degree of risk and consequence, complexity in complying, and changes in requirements and risks should form significant criteria in determining how and how frequently to address topics associated with C&E risks. The plan should employ a full range of communications channels. The plan should also seek input from the intended audiences on receipt, understanding, and acceptance of the messages.

The plan should seek means to engage the CEO and directors directly with employees on C&E matters both as part of their interaction and supplemented by periodic occasions focusing particularly on compliance and ethics. Occasional participation in workshops held as part of formal C&E risk assessments or in special forums that provide an opportunity to discuss and show leadership engagement on compliance issues that have proved complex for NJR or troublesome for industry peers, provide examples of such supplemental communication and reinforcement opportunities. Others have found significant value in engaging top leadership with their direct reports in reinforcing expectations and expected actions in situations with significant C&E risk (particularly in high, emerging, or quickly evolving risk areas), and asking that those direct reports in turn engage similarly with a range of levels reporting to them to drive messaging through the entire organization in a way that demonstrates the importance placed on compliant and ethical attitudes and behaviors.

2. Clarify and expand the description of the NJR and NJNG board of directors roles in C&E program oversight. (See Conclusion #2)

The detail that the NJR audit committee charter provides for its responsibilities other than C&E matters serves as a partial model. The corresponding governing documents of the other four publicly held holding companies with substantial New Jersey operations provide a more robust model. Their documents make clearer the scope, depth, and regularity of oversight at the top level. Those aspects of the other companies’ documentation better reflect the stature that helps to optimize C&E program effectiveness directly. Those aspects also assist materially in demonstrating that the tone being provided from the top reinforces board engagement in and commitment to C&E as an integral part of business operations and performance.

In addition to detailing further the two boards’ roles in C&E program oversight, governance documentation should also make clear:

- The degree of independent access the CCO has to the board
- Regular reporting cycles and content
- The material elements of CCO hiring, retention, performance measurement and compensation that reside with the boards.

2. Compliance Organization and Approach

3. Create a separate CCO position and place it directly under the NJR CEO. (See Conclusion #3)

Common industry practice and the approach of each public utility holding company with significant New Jersey operations demonstrate that good practice calls for a dedicated CCO, not common service as both CCO and chief legal officer. Moreover, even where a separate CCO

reports to the chief legal officer, good practice, again as confirmed by those other New Jersey operations just listed, calls for establishment of substantial limits on chief legal officer direction of the CCO.

Those limits must include access to regular, and, where necessitated by emergent or exigent circumstances, special access directly and, if requested, solely to independent board of director members. Here those independent directors should include those of the NJNG board with respect to matters involving or implicating NJNG operations or resources. The limits to be expressed also include giving board directors substantial authority over CCO retention, performance measurement, compensation, and removal.

In addition to those limits, the CCO position should be placed at a senior executive level and explicit provision for regular reporting to boards of directors and separate sessions with the independent directors of both the NJR and NJNG boards. In the case of the NJR board, it would not be unusual or inappropriate for the audit committee to be named as the body responsible for acting for the full board with respect to taking, reviewing, and advising the whole board with respect to matters arising from such reporting.

Creating a senior executive level CCO position under administrative-only reporting to the chief legal officer would conform to good practice if limited and accompanied by the reporting provisions described above. Nevertheless, best practice would place the CCO directly under the NJR CEO. We recognize that the larger overall operations of the other New Jersey holding companies gives them greater “leverage” in creating dedicated positions without materially affecting costs to their operating utilities. That factor does provide some support for a separate CCO but under administrative reporting to the chief legal officer.

Nevertheless, an option exists to mitigate costs while moving toward best practice. NJR has already combined in a single executive responsibility for internal audit and enterprise risk management. Adding to that executive’s responsibility the duties of CCO would eliminate the need for creation of another executive position. It would also combine functions not dissimilar with respect to focus on risk identification and management and on controls and sharing the same need for reasonably independent operation. This was the option recently in place at Exelon, for example. Combining the three areas of responsibility is from our perspective a better course for NJR and one consistent with best practice. Such a change would add compliance and ethics to the executive already responsible for auditing and enterprise risk management.

3. Communication and Reinforcement

4. Develop and operate under a comprehensive, consolidated description of the C&E program. (See Conclusion #5)

Development should occur under a process that includes broad management participation and proceeds under the direct supervision of the CCO, with oversight responsibility residing with the NJNG and NJR boards of directors. A typical approach for the latter would be to place this oversight responsibility in the audit committee. Other holding companies with New Jersey utility operations provide models for structure and content.

Deferred Prosecution Agreements between federal criminal authorities and those two holding companies proved significant drivers of those reviews and restructurings. However, our reviews of the circumstances, examinations, and changes made by both demonstrate clearly that simple and powerful preventive considerations justify the overall actions taken even were there a total absence of punitive or rehabilitative circumstances.

This overall program descriptive document should place reliance upon a broad range of sources, both generally applicable to C&E and specific to unique requirements. The existing NJR CoC states that it:

...is intended to meet the standards for a code of ethics under the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder by the Securities and Exchange Commission, and for a code of business conduct and ethics under the listing standards of the New York Stock Exchange, Inc. ("NYSE").

Such reliance is fine as far as it goes, but a broader range of source documents should guide creation. The United States Sentencing Commission sentencing guidelines manual (at Chapter Eight – Sentencing of Organizations) provides a comprehensive and generally applicable set of guidelines, objectives, and measures C&E program document. Its development for use in considering sentencing in federal criminal proceedings does not detract from its effectiveness as a comprehensive and well-expressed guide for many elements of effective developments of C&E programs. Others certainly have relied upon it to develop and test the scope of their programs. NJR should ensure that it has considered the full range of broad and specific sources of compliance requirements and expectations, developing them through a collaborative and widely participative internal identification process.

The following list provides guidance in the matters that NJR should consider for inclusion in an overall C&E program document.

- Emphasizing program values, objectives, and expectations
- Listing and describing key compliance program elements
- Defining the full range of compliance risk areas identified as warranting detective or preventative controls
- Scheduling, setting the scope of, and describing the processes, participants, and methods to be used in performing recurring, robust, and broadly participative assessments of C&E risks, separate from, but coordinated as required, with risk assessments undertaken as part of broader, enterprise risk management
- Identifying the responsibilities and means for using those assessments to design, execute, and monitor the results of programs and activities to avoid or mitigate identified risks and to respond effectively to those that come to fruition
- Defining accountabilities for all major compliance areas and activities
- Documenting principal methods and practices
- Identifying training requirements specific to particular positions with material engagement in C&E activities
- Adopting structured and comprehensive annual program awareness communications programs that communicate to employees the right “tone at the top” and that keep

personnel informed about current issues or initiatives (e.g., emerging cyber threats), and that employ group sessions that use real world examples to highlight realistic situations and responses

- Establishing objective measures and metrics for monitoring compliance at the management, executive, and board levels
- Ensuring full, accurate, and current collecting, analyzing, and reporting compliance metrics
- Detailing investigation methods, controls, systems, and confidentiality, and ensuring documentation of results (e.g., coaching, discipline, termination)
- Providing a clear means for continuously monitoring and providing regular reporting on external events that bear on company compliance risks and means for mitigating them
- Establishing regular review and updating cycles for policies, the Code and other C&E documents
- Defining and ensuring the maintenance of required compliance records
- Describing a practice to communicate C&E lessons learned through clear, current, and meaningful methods and avenues
- Clearly establishing the process for escalating issues to senior leadership or the boards of directors
- Clearly delineating the distinct and shared accountabilities and responsibilities of the C&E organization, internal audit, and enterprise risk management.

5. Develop and regularly issue to new outside providers and reissue to existing ones a supplier code of conduct. (See Conclusion #6)

As the supplier codes of others operating New Jersey utility operations show, revising a code to address the particulars of a contract versus employment relationship can be accomplished in a straightforward manner. Doing so presents an opportunity to reinforce the same messaging that employee codes seek to deliver. Management should provide the supplier code as part of the onboarding process for new providers and any portal that gives them access to company information should highlight the supplier code's existence. E-mail reminders about code obligations should go to providers on yearly or two-year cycles, with links to the supplier code.

6. Include among the measures that supervisors and those who report to them use to plan individual performance annually a clear, concise compliance and ethics component and make it clear that performance under that component affects compensation decisions. (See Conclusion #7)

Including a brief but clearly dimensioned compliance and ethics component in performance management activities has become more common and serves as a useful means of making clear to employees that it has enough importance to list among the matters worthy of planning, discussion, and measurement between supervisors and those with whom they regularly negotiate performance responsibilities and measures. Making it clear that how well performance against those expectations proceeds will have some bearing on changes in base compensation or incentive award determinations annually will further emphasize the importance of compliance at the highest levels NJR seeks to achieve.

7. Include in the exit interview process a small but clear set of compliance and ethics discussion areas. (See Conclusion #7)

Exit interviews understandably cover a wide range of subjects from which NJR can learn valuable lessons about job condition, human resources issues, and other matters. Compliance and ethics discussions should not command a relatively sizeable portion of the interview process. However, there is value in at least brief review of: (a) whether such issues specifically affected a departing employee's evaluation of the employment relationship, and (b) more generally how well the company commitment to and expectations about expected attitudes and behaviors have been received.

4. Formal Assessment of C&E Risks

8. Create and regularly employ a structured, reasonably detailed, and broadly participative process for ensuring robust consideration of ethics matters in a combined C&E risk assessment process. (See Conclusion #8)

The NJR GC&CCO is expanding the use of measures to identify and manage C&E risks, but the evolution underway should move NJR as efficiently and timely as possible to use of comprehensive, formal, and recurring levels consistent with good practice. The expansion underway needs to be broadened to seek the structure that others have found appropriate to ensure full identification of both compliance and ethics risks, accounting for recurring and emerging risks, changing likelihoods of occurrence, magnitude of harm if they do, and identification of formal plans for avoiding and mitigating them and for responding when untoward incidents or circumstances arise.¹³⁵

Key elements of the process should include:

- Identification of key compliance risk experts across the full scope of business operations to identify continuity of knowledge (and how to train and develop successors) needed to monitor compliance risks effectively
- Broad participation across the NJR business, corporate, and support functions to include those experts
- Identification, listing, and summarization of relevant laws, rules and standards that require compliance organized by subject area
- Focus on how changes in business operations scope, methods, practices, and environment affect compliance risks
- A formal structure for classifying risks by category, identifying business operations or functions that create or are affected by C&E risks, and assessing likelihood and significance of occurrence
- Evaluation of the significance and likelihood of compliance failures
- Analysis of existing policies, procedures, and practices to reduce and respond to compliance gaps
- Identification of further, cost-effective mitigation measures
- Adoption of reasonably detailed plans, schedules, and accountability assignments for instituting those measures
- Provision of regular status reporting on completion of such measures
- Application of special attention to identification of emerging risks or those with material changes in likelihood or consequence

- Continued tracking of industry incidents, developments, and consequences for consideration in the assessment process
- Identifying process improvements to ensure compliance and remediating control gaps
- Specific reporting scopes and schedules for keeping the utility and parent boards of directors sufficiently informed about gaps, violations, and particularly emergent risks, and knowledgeable about the quality and completeness of avoidance, response, and mitigation measures.

For an organization of NJR's size and scope, a long-term cadence of once every two years should prove sufficient. However, depending on the degree to which the functional work groups are already engaging in compliance risk assessment of their own design, a full-scale risk assessment in year one may prove overly challenging. Segmenting the process to permit completion over two years, following a triage process that prioritizes compliance risks by area may prove more effective. In addition, a long-term cadence of two years should be supplemented by a focused effort to assess emergent risks in the "off-years."

5. Reporting, Investigation, and Resolution of C&E Allegations and Concerns Raised

9. Document additional and clarify existing C&E procedures and practices. (See Conclusion #10)

The list of practices that NJR should formalize and document should address the following:

- Detailing methods, practices, and limitations on providing, honoring, and choosing not to honor anonymity requests in limited cases where strictly necessary
- Establishing criteria, processes, controls, and senior review for deciding when necessity requires disclosure of anonymity
- Informing those who have requested anonymity of the limits on preserving it and on the nature of the processes, controls, and review levels on which those requestors can rely when decisions about not preserving it arise
- Ensuring regular review on required cycles for all C&E policies and procedures
- Detailing the required contents of C&E matter logging system to ensure effective and well documented information gathered and results, and to provide a basis for more regular reporting of case natures, progress, status, and closure
- Ensuring prompt and accurate description of the nature, scope, and actors and potential fact providers involved and prompt updating, particularly as scope and number and level of potential parties of interest expand or change, including:
 - Necessity for inclusion of all material factual/evidentiary matters and interim findings, summaries, and other reports, particularly for complex matters whose closure requires an extended period for time
 - Requirement for a report endorsed by the lead investigator addressing the full scope of issues and the involvement of all persons engaged in the conduct or circumstances examined or the providing material information
 - Endorsement by the CCO (or designate if matters investigated involve the CCO or other departments for which the CCO is responsible) of the completeness, objectivity, and factual supportability of report conclusions

- Recognition of the criteria for identifying and of the means for providing any notice to government agencies or regulators that should be provided on an immediate basis
- A clear process for capturing and identifying the earliest feasible time (given the needs of the examination or investigation) of broader potential gaps in compliance, financial or other controls and matters with potential financial reporting implications to other NJR groups (*e.g.*, internal audit, finance, senior utility executives) responsible for risks related to such matters
- Documenting controls on how access is granted to system users and how their access must be controlled
- Periodic testing of adequacy of those access controls (using the same basis and criteria used for other systems remotely accessible).
- Creating and regularly using a data retrieval structure that will support periodic reporting to boards of directors on:
 - Date of initiating report or contact
 - Days to first acknowledgement of report or contact
 - Presence of an anonymity request
 - Category of issues raised
 - Brief summary of each matter's issues initially and as changed during investigation
 - Status (*e.g.*, open, closed, inactive due to lack of follow-up contact from source of initial report)
 - Days to close
 - Dates of interim and final investigator reports
 - Acknowledgement of CCO report approval
 - Result upon closure (*e.g.*, substantiated, partially substantiated, unsubstantiated, question answered)
 - Categorical summary of actions taken (*e.g.*, termination, discipline, coaching).

Company portals and the public-facing web site should conspicuously list and describe contact options, their use, and protections, reachable through a short and transparent path of button “clicks.” The CoC should also include a brief explanation clarifying that the preference for reporting C&E matters through one's supervisor does not require doing so where a reporter is not comfortable with that option. Establishing reporting through one's supervisor as a preference is common and appropriate. However, the CoC should briefly describe why supervisor reporting is preferred but should make clear that the reporter's comfort should prevail in choosing the source through which to make contact. That this is the Company's intent can reasonably be inferred from the whole context of this portion of the code, but it is important to be extremely clear in informing reporters who may in many cases be expected to be acting under significant personal concern and uncertainty. Addressing that uncertainty will make the CoC more likely to succeed in promoting the reporting that it seeks and that is essential to an effective C&E program.

10. Clearly communicate the possibility that circumstances will lead to disclosure of reporter identity, and develop and implement procedures clearly addressing the criteria, processes, and prior reviews that should precede such disclosure. (See Conclusion #10)

The CoC sufficiently explains the Company's base commitment to preserving anonymity but should also provide both notice that continuing anonymity cannot be assured in limited

circumstances, and that the most careful review and approval available under the circumstances will precede decisions to make reporter identity known. Reporters should also understand that a structured process will precede decisions to release identities where possible.

Not every situation that may lead to disclosure of reporter identity can be provided, but decisions to disclose identity should be very rare. Recognizing the uncertainty involved, it remains the case that simple fairness to potential reporters requires giving them a robust understanding of limits on anonymity preservation. The CoC should explicitly make clear the kinds of circumstances that may lead to an inability to continue preserving anonymity, and the Company should reinforce that description through periodic special messaging. Base and continuing messaging should:

- Make clear that the circumstances that may lead to identity disclosure are limited
- Provide enough description and examples to show the kinds of circumstances that pose threats to identity disclosure
- Reinforce assurances that the Company will do the best it can to limit disclosure under all circumstances
- Explain the procedures and controls that will ensure careful and senior review of decisions to disclose identity in all cases, except where time restrictions are extreme (*e.g.*; physical emergency or urgent demands from law enforcement).

Documented procedures should require immediate notice to the CCO of the existence of each internal or external request for identification of a reporter or of any information regarding the existence, nature, substance, and status of any matter that has been reported. Legal review of the circumstances will typically be required, given that requests from government agencies or demands in litigation are likely to form a large number of relevant occasions. The procedure should require that all requests for such disclosure engender a detailed written description of the circumstances and identities surrounding the request for disclosure and the reasons for granting or denying it, with such reports made immediately available to the members of the NJNG and NJR boards of directors (the latter through its Audit Committee if preferred).

11. Establish more substantial controls governing access to and use of the C&E law Navex logging system and test the effectiveness of access limitations periodically. (*See Conclusion #13*)

Documenting controls on access to and use of the logging system will serve to provide more clarity about specific practices and requirements and, more significantly, will better promote accountability should gaps in access or use occur. Access rights at NJR extend to a significant portion of Legal department personnel. We have found more effective in preserving confidentiality the use of case-specific access for those responsible for examining or investigating logged matters. This approach better limits access to potentially very sensitive information only to those with substantive examination or investigation responsibilities. Best practice also assigns responsibility for regular and routine review of instances where access has been gained, in order to provide current information about case status and to identify any access instances that raise questions. We have observed as frequent as daily review where a large number of active matters under examination or review exist. The more moderate numbers at NJR do not require so frequent a review process, except when particularly sensitive matters are present.

Navex provides substantial protections against unwarranted intrusions, but so do many other systems for which good practice requires periodic review by an outside source; *e.g.*, audit or security personnel. Management should provide for at least annual tests of access limitations methods and protections, in order to verify their sufficiency.

6. Other Procedures, Practices, and Controls

12. Enhance controls that address political contributions, requests, and contacts, and provide for regular reporting to the NJR and NJNG boards regarding these matters. (See Conclusion #15)

NJR should make clear that current requirements for prior approval on contributions to IRS exempt organizations extend beyond those established for the purpose of addressing ballot initiatives. NJR should also adopt policies:

- Providing for regularly recurring due diligence efforts to secure information from and to require internal assessment of outside lobbyists and their performance on behalf of NJR and its businesses
- Comprehensive logging, reporting, and assessment of interactions with public officials
- Comprehensive logging, reporting, and assessment of responses made to requests from, recommendations for company actions by, or referrals made (*e.g.*, for employment with or a goods and services agreement with NJR entities)
- The CCO should make at least quarterly presentations or submissions to the boards of NJNG and NJR (for the latter through its audit committee, if preferred).

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Chapter VI: Planning and Budgeting

A. Background

This chapter describes the formulation of strategic plans and their use in formulating long-term enterprise plans, accompanied by resource and financial projections. We also address capital planning at and for NJNG, budgeting and results analysis, and income taxes and their allocation at NJR, focusing on how they affect NJNG. Principal focuses of this chapter include:

- Purpose and High-Level Strategy
- Short- and Long-Term Goals and Objectives
- Long-Term Plans
- Capital Allocation
- Responsibility for NJNG-Specific Planning
- Capital Planning
- Budgeting and Results
- Taxes and Allocations.

The definition of a purpose, vision and high-level strategy for the overall organization and its operating entities should comprehensively address how the enterprise seeks and plans to nurture and grow its utility operations within the context of overall holding company circumstances and expectations. A utility and its parent should regularly examine the content and implementation of their strategies, in order to properly identify external and internal driving forces affecting their ability to meet public service requirements fully, effectively, and efficiently. The strategic planning process addressing the operations of NJNG needs to consider its individual needs and circumstances, those of the parent, and those of other non-regulated businesses operating within the overall structure. Plans should robustly consider and reflect NJNG needs and responsibilities, meeting its customer's needs and market demands, and capabilities and resources that warrant development, all with due consideration for the risks involved.

Our examination of strategic and long-term planning considered the role of NJR top leadership, common organizational resources, and the planning, structuring, execution, and performance-measurement of their roles. We considered how well NJR top leadership and management conducted strategic planning that focuses appropriately on the interests of NJNG and its customers. We looked at how the NJNG organization has gone about its own strategic plan formulation, in order to ensure that its resources play a central role in planning. We examined how planning processes and activities obtain, assess and incorporate external market, regulatory, economic, and technology factors, how strategic plans secure support with management and financial resources, and how plans employ contingency planning and risk assessment and management.

We examined long-range goals and objectives and the long-term planning that they drive for the parent and NJNG. Long-term financial plans should build around short and long-term goals and objectives and express comprehensively the highest-level strategy elements and financial targets of the parent and its subsidiaries. NJNG should operate under plans that demonstrate consistency with market circumstances and their variability, comprehensively address infrastructure development, respond to operating and reliability issues, express and reflect risk appetite, and address responses to contingencies robustly. Goals and objectives need to form central elements

of strategy formation and of plans to pursue those strategies in manners cogently and consistently outlined and sequenced, again reflecting risks and responses to them. The various resources available to NJR and NJNG require realistic assessment and expression, with dimensions that include capital resources and allocation, funds flow, investment strategies, investor preferences and enterprise competencies.

Capital allocation by the holding company should not impinge on and should support the capital requirements of NJNG, especially with its growing need for utility infrastructure. The process for the development of strategic plans and their integration should consider how NJR and NJNG view the future of the energy utilities industries and its regulated and unregulated participation, incorporating their views into strategy expressions and supporting them with sound long-term plans.

Capital allocation among a parent's business operations and entities has strong bearing on the ability of companies like NJNG to maintain access to sufficient capital. Our examination focused significantly on the nature and share of NJR capital investments and capital plans and resources actually made available to NJNG. These matters should form critical components of utility plans and performance. NJNG, or any other subsidiary operating in a family with limits on access to capital may compete with its affiliates for financial resources.

We also sought to determine whether operation as part of NJR has caused or threatens to cause any undue constraints on meeting NJNG's needs for resources to meet utility capital and operating needs. Substantial capital resources are needed to sustain a level of service that meets public requirements and prevailing stakeholder expectations. Relevant in normal circumstances, our evaluation considered how particular sources of stress (for example, large NJR debt service requirements or non-utility threats) affected capital allocation in ways that could constrain the availability of resources needed at NJNG.

Developing capital portfolios robustly and with clear recognition of operating utility needs and responsibilities have special importance in the capital-intensive utility business where NJNG operates. Capital investments for utility infrastructure and the maintenance of effective utility operations, system reliability and resiliency require careful attention through thorough and unique processes.

Building capital plans and budgets should begin from the bottom-up by the utility company to introduce their views about local needs for investments in reliability, regulatory, new customer, and financial requirements for inclusion into the planning processes. How NJR and NJNG select from among competing capital projects to meet strategic objectives specific to local New Jersey requirements formed a focus of our examination. The capital selection and allocation processes should reflect participative iteration and negotiation to optimize rationalization of top-down capital targets and bottom-up approaches, and to integrate strategic, capital budgeting and annual budgeting considerations.

Budgeting for NJNG, the analysis of results against the budgets that result, and prompt identification and response to address variances form key elements in effective plan execution (and revision where necessary). Capital and operating expense budgets offer key vehicles for

implementing a utility company's strategic objectives and business strategy, making their relationship with high-level strategies and specific strategic initiatives important. Numbers of employees at the affiliates generally have a strong influence on operating budgets. The NJNG operating budget processes should include analyzing them from the development of objectives to the measurement of results.

Utility holding companies often file one, consolidated income tax return for the parent company and its taxable subsidiaries, including its utility entity. Specific processes should be in place to organize, analyze and file such consolidated tax returns, as well as to clearly allocate the responsibilities of each subsidiary to either make payments to or receive payments from the holding company in accordance with its net income or losses. Tax allocations must treat the utility entity fairly and in accordance with its own stand-alone results. Tax consolidation policies must also not negatively affect capital allocation to the NJNG utility, which must be allowed to continually invest in its utility operating business to meet service requirements.

NJNG's gas usage billing determinants utilized in base rate cases are based on actual weather-normalized usage for a historical test year. NJNG's billing determinants for gas usage and the associated rate design are agreed upon by the parties to rate cases, including the company, BPU Staff and rate counsel. Gas usage included in NJNG's base rates for 2018 through 2023 were based on the usage of test years in 2015, 2019 and 2021, as agreed to in rate case stipulations.

Liberty organized this study area into five tasks:

- Strategic Planning and Capital Allocation
- NJNG Five-Year Financial Plan
- NJNG Capital Planning
- Budgeting and Performance
- NJNG Income Taxes and Capital Allocation Effects.
- Gas Usage analysis.

B. Findings

1. Strategic Planning and Capital Allocation

a. NJR Corporate Profiles

NJNG operates as a wholly-owned utility subsidiary of NJR, a holding company that also owns subsidiaries providing energy transportation, storage, asset management and home services. NJR includes a number of primary businesses under its holding company umbrella. *New Jersey Natural Gas*, the principal subsidiary of NJR, serves as a utility local distribution company that operates and maintains over 7,700 miles of natural gas transportation and distribution infrastructure, which brings natural gas to more than 569,000 customers in New Jersey's Monmouth, Ocean, Morris, Middlesex and Burlington counties.

NJR Clean Energy Ventures, a solar energy subsidiary operating in New Jersey, invests in, owns and operates solar projects with a total capacity of more than 380 MW (in 2022), providing residential and commercial customers with low carbon energy. *NJR Energy Services* manages a

diversified portfolio of natural gas storage and transportation assets, providing physical natural gas services and customized energy services across North America. NJR's *Storage and Transportation* unit provides storage and transportation natural gas services to local distribution companies, electric generators and wholesale marketers through the ownership of Leaf River Energy Center, the Adelphia Gateway pipeline, and a 50 percent ownership in the Steckman Ridge natural gas storage facility. *NJR Home Services* provides service contracts, heating, central air conditioning, water heaters, standby generators, solar and other energy products to residential homes in New Jersey.¹³⁶

b. Planning Responsibilities

The NJR planning group works under the supervision of a Director, Financial Planning & Analysis, who reports directly to the NJR and NJNG Chief Financial Officer. Three planning managers report to the Director:

- Manager, Financial Planning & Business Analysis that performs NJNG planning
- Manager, Financial Planning & Analysis that performs NJR consolidated forecasting, shared services center forecasting, and allocation and employee expense forecasting
- Financial Projects Manager.

The NJNG-focused Manager, Financial Planning & Business Analysis has responsibility for NJNG five-year forecasts and budgeting, and coordinates support for NJNG planning. This manager performs NJNG forecasts and prepares the budgets for NJNG annually, from top to bottom. The NJNG planning group also monitors the NJNG budget throughout the year and performs monthly reports on departmental performance to budget. The NJNG planning group updates long-term forecasts (Financial Plans) monthly. One Senior Budgeting and Forecast Analyst, reporting to the NJNG-focused manager, performs utility planning functions.

The NJR-focused Manager, Financial Planning & Analysis has responsibility for consolidated NJR forecasts and corporate allocations. This manager has the same general responsibilities as the utility counterpart position, but the scope of those responsibilities includes the holding company, shared services companies, and employee expense forecasting. A Senior Financial Planning analyst and a second financial analyst report to this manager.

A third planning manager has responsibility for systems implementation projects. NJR's major enterprise financial system, Oracle, was implemented in July 2020. The project manager is currently performing a broad redesign of NJR's IT systems. A part-time manager reporting to the Director, Financial Planning & Analysis, performs budgeting and forecasting for NJR entities other than NJNG. Six managers and analysts perform planning for NJR, in addition to the Director and a part-time manager.¹³⁷

c. NJR High-level Strategy

Preparation of strategic planning and an annual five-year Financial Plan occur under one integrated planning process at NJR and NJNG. The end product of the planning processes include a Financial Plan for five years for all of the consolidated NJR companies, with an NJNG Financial Plan as a primary component of the consolidated Plan presented in a single document. The Financial Plan includes a high-level strategy and goals and objectives narrative and also includes projected financial statements performed and approved in parallel.

Mission statements, high-level strategies and goals and objectives first undergo review with NJR senior management as a kickoff of the annual planning processes. An NJR “Overview” of the Financial Plan summarizes NJR’s high-level strategy. For the five-year planning period of 2023 through 2027, the following strategy Overview was presented:

At our core, NJR is an energy infrastructure company. Our portfolio includes complementary businesses that leverage our core utility experience. We have successfully built, acquired, and operated energy assets to meet market needs and policy demands.

Our long-term strategy focuses on achieving climate and emission reduction goals in the most affordable and reliable way for customers by leveraging our existing, already paid-for energy infrastructure to deliver decarbonized fuels like Renewable Natural Gas (RNG) and hydrogen; furthering our energy efficiency efforts; and aligning with the state renewable growth objectives through additional investments in solar. Our world-class infrastructure assets position us to not only participate but play a significant role in New Jersey’s clean energy transition.

Our strategic objectives include effective and disciplined deployment of our capital, focusing on New Jersey Natural Gas (NJNG) and to a lesser extent on NJR Clean Energy Ventures (CEV); organic growth of our existing businesses; strong management of business risks and external factors; and ongoing support for NJNG’s mandate to provide safe and reliable service. We expect this strategy to produce consistent earnings growth and superior returns for our shareholders.

NJR’s consolidated Financial Plan includes a publicly disclosed goal for Net Financial Earnings Per Share (“NFEPS”) to grow at a rate of 7 to 9 percent annually. The targeted consolidated NFEPS compound growth rate, along with capital expenditures projected for each of NJR’s businesses and a variety of financial assumptions forms the foundation for building the five-year Financial Plan. For the 2023 through 2027 Financial Plan, NJR had planned capital expenditures totaling about \$3.5 billion (\$3.75 billion dollars including SAVEGREEN investments), including about \$415 million for NJNG in 2023.

NJR has also publicly disclosed a financial goal to increase its dividend between 7 and 9 percent annually. This dividend strategy results in a consolidated dividend payout ratio of 64 to 66 percent during the five-year planning period. NJR has targeted a financial goal to maintain a consolidated adjusted Funds from Operations/Debt ratio of about 17 percent throughout the planning period, required to support current credit rating levels and access to capital markets. See the *Finance and Cash Management* Chapter of this report, which addresses this goal from a financing perspective.

The NJR Financial Plan also includes strategies, goals, and objectives and key initiatives for NJNG and for NJR Clean Energy Ventures, Storage and Transportation, NJR Energy Services and NJR Retail. That plan also presents projected financial statements for each subsidiary.¹³⁸

d. NJNG High-level Strategy

NJNG’s own five-year Financial Plan serves as a primary component of NJR’s Financial Plan. The strategy “Overview” of the NJNG plan states that:

Under N.J.S.A. Title 48, New Jersey Natural Gas (NJNG) is required to provide safe, reliable service to its customers. NJNG's consistent investment in our infrastructure has resulted in the most environmentally sound system (as measured by leaks per mile) in the state. Our long-term infrastructure investment plan will continue to ensure safety, reliability, resiliency, and ongoing environmental stewardship.

Our financial goals are to optimize resources to achieve our allowed return on equity (ROE) and to grow NFE. NFE will grow over the five-year planning period through a combination of customer growth, efficient deployment of capital and personnel, and regulatory initiatives. This includes long-term infrastructure investments to enhance the safety, reliability, and resiliency of the system, such as the replacement of pre-1970's vintage pipeline and projects under the already-approved Infrastructure Investment Plan (IIP), as well as our energy efficiency programs. Additionally, towards the end of our financial planning period, we will invest in [REDACTED] our efforts to [REDACTED].

e. NJR Capital Allocation

NJR's strategic plan addresses the allocation of capital for NJNG and for the holding company and its non-utility subsidiaries. NJR's financial plan for 2023 through 2027 assumes [REDACTED] percent allocated to NJNG. The holding company plan notes an expectation that NJR will maintain [REDACTED] capital expenditure commitment. The following company slide shows NJR's capital allocation for 2023-2027; that allocation also [REDACTED].

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2023-2027 NJR Capital Allocation
(confidential depiction)



2. NJNG Five-Year Financial Plan

a. NJR Planning Processes

NJNG Financial Plan development takes place in conjunction with its annual budget, and serves as the primary component of the NJR consolidated plan. The budget is built, refined and approved as the first three years of the five-year Financial Plan eventually presented by senior management to the board of directors. The planning process formally kicks off in late April, when department heads meet to discuss the upcoming plan. Important planning inputs for NJNG include departmental headcounts and O&M spending, categories that fall under the responsibility of each department head. The Planning group also relies on business unit heads for margin projections for individual units. Planners request pension and OPEB (“Other Post Employment Benefits”) projections from Aon, the contracted actuarial provider. NJR’s Human Resources department provides benefits information on a preliminary basis. The process calls for completion of a labor budget for financial plan use by early June using these informational inputs.

From mid- to late-April, department managers concurrently estimate O&M expenses for input into the system that drives financial plan calculations. Preliminary insurance cost data enters the system in April. Budget meetings to review O&M expenses take place in early to mid-May, with those meetings serving as a deadline for proposed O&M expenses from department managers.¹⁴⁰

Other key elements of the planning process include marketing and margin plans that form foundational components of NJNG’s gas costs, margins and earnings. The planning process contemplates a preliminary sales forecast compiled by Marketing by the end of April and preliminary marketing and SAVEGREEN plans by mid-May. Compilation and submittal of a preliminary gas cost file occurs during the same time period, with preliminary incentive margins for BGSS and an estimate of off-system sales submitted by mid-May. A preliminary margin plan for NJNG comes in early June, with a final margin plan completed by early July. The following chart shows the Financial Plan “milestones” for the 2023-2027 planning process that occurred in 2022.¹⁴¹

NJR Fiscal 2023 Plan Milestones

Milestone	Due Date
Labor/Fringe	
Pension/OPEB plan requested from Aon	5/27/2022
Headcount Meetings with BUs	Late April - Mid May
Preliminary Fringe Benefit information from HR	5/4/2022
Labor Budget Complete	6/3/2022
Marketing/NJNG Margin	
Preliminary Sales Forecast	4/29/2022
Preliminary Marketing Plan Due	5/13/2022
Preliminary SAVEGREEN Plan Due	5/13/2022
Preliminary Gas Cost File Submitted	5/13/2022
Preliminary Incentive Margin and Off-System Sales Submitted	5/13/2022
Preliminary Margin Plan Complete--NJNG	6/3/2022
Final Margin Plan Complete--NJNG	7/8/2022
Other O&M	
Optional IBM TM1 Training	April 12 & 18 th
TM1 open for budget input	4/18/22 - 4/29/22
Preliminary Insurance Information	4/22/2022
Budget Meetings - O&M review	Early May - Mid May
Preliminary Budget Submissions	
MGP Budget Complete	6/24/2022
Preliminary NJRCEV Budget Submissions	5/27/2022
Preliminary Storage & Transportation Budget Submissions	5/27/2022
Preliminary NJR Energy Services Budget Submissions	5/27/2022
Preliminary NJR Home Services Budget Submissions	5/27/2022
Preliminary Net Income Budget	6/10/2022
Preliminary Consolidated Plan	6/17/2022
Preliminary Capital Budget	6/24/2022
Final Presentation and Narratives	
Three Year Plan Complete	8/19/2022
Board of Directors Mailing	8/30/2022
NJR Board Meeting	9/13 - 9/14/2022

Following the initial planning meetings and submissions, an “analysis phase” produces back-and-forth discussions with Business Units and business owners regarding the margins and O&M expenses for each unit. A preliminary capital budget from the NJNG engineers comes in late June.

With capital expenditures, gas costs, margins, labor and all of the departmental budgets submitted by June, the planning group prepares preliminary projected financial statements and net income budgets. Next comes a review of the budgets and forecasts with senior management, providing the

first of several planning iterations. Forecast and budget iterations continue through the summer, with a final forecast and budget expected by late August.

NJR planning also performs a variety of financial risk analyses before completion of the Financial Plan. [REDACTED] at the NJR level have comprised a major [REDACTED]. Specifically, NJR reviews and analyzes the resulting [REDACTED]. For instance, NJR modeled the [REDACTED], as well as the [REDACTED].

[REDACTED] in NJR's storage and transportation business comprised a second NJR key risk area identified. NJR has modeled this risk, finding it not a major concern for NJR from an earnings and credit metric perspective. However, NJR has identified [REDACTED] as a debt covenant and liquidity risk issue that the holding company must manage.¹⁴²

Board of director members receive a final Financial Plan by the end of August, for discussion and approval in mid-September for planning years beginning October 1.¹⁴³

e. NJNG Planning Drivers and Assumptions

The NJNG five-year Financial Plan sets forth key initiatives, growth assumptions, rate treatments and assumptions regarding operating expenses that drive the Plan. For the 2023-2027 NJNG Financial Plan, the stated planning drivers included: the New Customer Growth Plan, Energy Efficiency, Project NEXT, Base Rate Cases, Basic Gas Supply Service ("BGSS") Margin-Sharing Incentives, and corporate operating expense assumptions.

New Customer Growth: NJNG targeted a customer growth rate of approximately [REDACTED] percent per year in the 2023-2027 Financial Plan. New construction and conversions comprise the primary drivers of this growth. NJNG expects that projected customer additions of 8,500 in fiscal year 2023 would gradually ramp to [REDACTED] a year starting with fiscal year 2025, totaling [REDACTED] new customers over the five-year period. New construction represents [REDACTED] percent of NJNG residential customer additions, gradually decreasing to [REDACTED] percent by 2027. The company estimates [REDACTED] percent of new customer additions and [REDACTED] percent of utility gross margin will come from its commercial customers.

NJNG further expects that annual capital expenditures related to customer growth will average [REDACTED] million over the five-year planning period. Management expects that the cost to add new customers will escalate due to general inflationary cost increases and an increased focus on NJNG's northern division, which carries a higher cost profile.

Energy Efficiency/SAVEGREEN: The BPU approved NJNG's \$258 million SAVEGREEN program in March 2021. On July 1, 2021, NJNG launched a three-year program that brought many of the programs previously run by the BPU Office of Clean Energy under NJNG administration. NJNG believes that it can enhance customer satisfaction by enabling energy efficiency investments through proactive marketing and financing. NJNG is also enhancing the ability of low to moderate income customers to participate in the SAVEGREEN programs. NJNG's marketing department prepares the impact of the SAVEGREEN plan on the company's capital and revenue and expenses for the Financial Plan. Yearly budgets of [REDACTED] million in SAVEGREEN capital extend from 2023 through 2027.

Project NEXT: NJR began to transition away from its legacy enterprise platform JD Edwards in 2019. NJNG expects an additional [REDACTED] million of related capital expenditures between fiscal 2023 and 2025 to complete the remaining phases of Project NEXT. The phases awaiting completion include work and asset management, customer experience and the customer information system. The utility has forecast that Project NEXT will require capital expenditures of [REDACTED] million in [REDACTED], [REDACTED] million in [REDACTED] and [REDACTED] million in [REDACTED].

Total Capital Expenditure Growth: NJNG has projected total capital spending of [REDACTED] million, [REDACTED] million, [REDACTED] million, [REDACTED] million, and [REDACTED] million in total for 2023 through 2027, respectively. The total capital expenditures include [REDACTED] million for SAVEGREEN and [REDACTED] million for MGP expenditures in each of the five years of the Financial Plan.

Base Rate Cases: Base rate case assumptions form [REDACTED]. The utility expects to [REDACTED]. The base rate cases [REDACTED].

BGSS Margin Sharing: NJNG's off system sales, capacity release and storage incentive programs generate BGSS incentive margins. The utility's margin sharing plan includes [REDACTED] million for 2023, and [REDACTED] million in each of the following four years. The high volatility in gas markets during fiscal 2022 resulted in BGSS incentive margins of more than [REDACTED] million for that year.

Cash Flows and Financing: NJNG's plan for financing its utility business offer an important assumption factored into the Financial Plans. The utility's significant capital expenditures for the five-year period produce an expectation that [REDACTED], with NJNG not anticipated to fund any [REDACTED]. Rather, NJNG expects to issue [REDACTED] million of long-term debt in each fiscal [REDACTED] and fiscal [REDACTED] to supplement its retention of earnings to finance its capital expenditures. (The *Finance and Cash Management* Chapter of this report addresses dividends from and capital infusions to NJNG in detail.)

Operating Expenses: Several key assumptions underlie NJNG's operating expense projections for the 2023-2027 Financial Plan. For fiscal year 2023, the utility expected wage increases of [REDACTED] percent, and [REDACTED] percent for each of the four years thereafter. NJNG has new health insurance providers for policies effective January 1, 2023, [REDACTED]. Pension and [REDACTED].

OPEB cost forecasts used a July 2022 valuation from the company's actuary, Aon. The company does not anticipate any required contributions to the pension plan [REDACTED]. Bad debt expenses are anticipated to be [REDACTED] million annually over the planning period. Project NEXT's O&M expenses average approximately [REDACTED] million for the fiscal years 2023 through [REDACTED], when the project will be completed.¹⁴⁴

f. NJNG Operating Risks

NJNG identifies and characterizes risks from its operations and includes their impacts in long-term planning and budgeting processes. Division managers contribute at the start of each budgeting season their input on variables and risks that may affect O&M expenses over the coming three years. The previous and the upcoming year's workload inform early risk discussions, along with factors such as potential retirements, special projects, changes to contracts or vendor pricing and expected wage increases. Other considerations reviewed include changes to fuel costs and other expenses and changes to locating volumes from the previous year. The review process addresses overtime and straight time hours from previous years in relation to the coming year's forecast for hours based on variables such as those described in this paragraph.

NJNG has continued to focus on reinforcing with third party contractors locating practices that mitigate third-party damage costs. NJNG also uses a risk management tool that considers pipe vintage and material, leak history, and other variables (e.g., local and state projects and third-party damage) in prioritizing future long-range capital replacement and upgrade projects.¹⁴⁵

Management addresses such variables in compiling a roster of annual capital programs and departmental expenses for the five-year Financial Plan period. The planning process also addresses more strategic risks as well, conducting analyses of the financial impact of some of the more prominent risks. NJNG identified the following as key risks accounted for in the Financial Plan; i.e., those that affect the ability to successfully execute plans:¹⁴⁶

- Legislation or rulemakings de-emphasizing natural gas's role and risking customer growth targets
- Macro-economic considerations, such a recession following interest-rate increases and volatility affecting natural gas growth projections
- Market risk from short-term and long-term fluctuations in natural gas prices
- Supply chain issues and inaccurate forecasting of supply needs; unplanned upstream interruptions increasing gas supply costs, system unavailability, or deteriorated margins from incentives
- Reliance on third-parties who experience operational or reputational reverses
- Natural and man-made disasters or events and cyber-security issues
- Deterioration of customer satisfaction or gas service quality and reliability
- Disruptive technology innovation or customer consumption changes
- Development, retention, and performance of NJNG personnel
- Disruption in access to capital or a significant credit rating decline
- Failure to invest in IT infrastructure resulting in operational efficiency impairment
- Asset misappropriation, fraud, corruption, theft, and system hacking
- Changes in the regulatory or political environment
- Failure to comply with regulations.

3. NJNG Capital Planning

a. Capital Planning Responsibilities

NJNG engineers operating under an NJNG Vice President-Energy Delivery undertake bottom-up planning of capital programs, projects, and initiatives to meet gas system needs, including reliability and system improvements. NJNG engineering resources target these bottom-up capital plans to meet reliability metrics and state-level benchmarks, standards, and requirements. Resulting five-year Capital Plans developed by the utility's engineering group become part of NJNG Financial Plans and budgets. The Vice President emphasizes that safety and reliability are the key drivers of NJNG capital expenditures, that NJNG does not have a targeted spending level, and that NJR has not imposed any formal spending limits that constrain bottom-up identification of capital needs by the engineering group.

The engineering group reporting to the Vice President includes about 50 employees. In total, the groups under the NJNG Vice President-Energy Delivery number 700 employees, whose responsibilities include most field operations, engineering, and system enhancement (pipeline integrity). The Vice President has responsibility for the safe and reliable operation of NJNG's delivery system and the continued expansion and maintenance of the company's distribution and transmission operations and infrastructure, as well as the utility's LNG plants. NJNG's Vice President – Energy Delivery has executive responsibility for engineering and field operations and some operations support groups, but not for distribution operations. The Vice President's capital expenditure responsibilities include the Capital Plan, comprised of Categories 1 through 15, as explained later in this chapter. The scope of this Vice President includes about two-thirds of NJNG's capital budget categories, which include system improvement, transmission, land and structures, regulators and meters, and vehicles, for example. Some support groups; *e.g.*, IT and facilities fall under separate executive responsibility.

b. Capital Planning Process

Overall, the engineering group evaluates potential capital investments using standard gas-industry methods and criteria, relying primarily on the widely used Stoner Synergy model. As capital plans mature, the Vice President examines overall fit with NJNG financial objectives and overall capital spending parameters. The plans the engineering group develops address routine, recurring blanket categories of capital expenditure and individual capital projects and programs, using consistent expenditure categories and project prioritization methods. The widely used PowerPlan capital budgeting module provides the structure for organizing and compiling the elements that make up the five-year Capital Plan. PowerPlan provides a suite of tools that support collection, collation, retrieval, analysis, and reporting of planning process steps and results. Apart from forming an important driver of the forecasts provided in the five-year Financial Plan, the Capital Plan also provides the foundation for managing the projects that bring investments into productive use.¹⁴⁷

A prelude to the formal planning process takes place in March of each year, when system planning engineers undertake a comprehensive analysis of NJNG's operations, including modeling the peak day of the previous winter. Two NJNG system planning engineers perform the system simulation using the Stoner model, identifying weaknesses and issues that require system reinforcement. The processes that identify the capital projects and programs designed to meet identified needs continue through summer's end.

A master System Reinforcement Memo prepared by the system planning engineers includes all large reinforcement projects identified as required, with NJNG executive management citing safety and reliability as the factors driving plan inclusion. While claiming no preset limits for infrastructure projects, management does acknowledge that balancing financial needs may move the timing of projects or spending from year-to-year.

Capital budget categories include Budget 1 through Budget 16, as noted below:

- Budget 1: System Improvement
- Budget 2: Transmission infrastructure projects
- Budget 3: Structures
- Budget 4: Land structure requirements
- Budget 5: New Business investments, generated by Marketing
- Budget 6: Cathodic Protection investments
- Budget 7: Production: LNG and H2 plants
- Budget 8: Improvement Projects, including smaller replacements, main emergencies and government relocations
- Budget 9: Regulating Stations
- Budget 10: Meters
- Budget 11: Services blanket: New business and conversions
- Budget 12: Tools
- Budget 13: Vehicles
- Budget 14: Office furniture
- Budget 15: Computer equipment
- Budget 16: Retirements.¹⁴⁸

Prioritization of construction projects incorporates multiple factors, such as long-range plans, facility vintage, external influences (*e.g.*, government work in the public ways that imposes relocation needs or offers coordinated work opportunities), and input from field management. Software tools such as DNVGL and MRP, NJNG's risk management tool, support analysis of new customer forecasts, leak history and other factors to help prioritize capital projects.

NJNG utilizes PowerPlan's capital budgeting module to assist with compilation of the annual 5-year Capital Plan. NJNG budgets and tracks actual capital spend by customized budget types (*e.g.*, facilities, land, tools, vehicles, furniture, technology, transmission, distribution). Loading into NJNG's Work and Asset Management system allows the tagging of work orders as they reach completion. Work order tagging also provides the ability to analyze actual versus budgeted spend. Initiation of work orders in the Work and Asset Management system permits interfacing with the system that controls approvals.¹⁴⁹

Adding new business, government relocation, support, and other projects to those identified by the engineering group's annual planning process produces by June of each year a comprehensive roster of proposed capital projects. A June hand-off of the Capital Plan permits Financial Planning and Analysis to add overheads. This hand-off generally completes the direct contribution of the engineering group, as planning moves into the upper-level approval stage. The engineering group

makes no formal proposal of the capital plan it has built on a bottom-up basis. Instead, it meets as many as 10 times through August with other functions (*e.g.*, from Finance) to discuss capital projects, their justifications, and alternatives. The final results of those sessions form a Capital Plan proposal that undergoes senior management review. After executive leadership becomes comfortable with the plan, it goes before the NJR board of directors for final approval.¹⁵⁰

c. Capital Project Management

The Financial Planning & Analysis group (see the following report section) undertakes regular, monthly reviews of capital spending. These reviews do not typically reach the project level, but examine expenditures at higher (*e.g.*, categorical) levels. However, NJNG engineering group capital meetings do address progress and performance at the project level and do include reviews of actual spending against budgets and the Capital Plan at that level as project execution progresses. These reviews employ no regular schedule, but occur as needed. Oracle provides the foundation for engineering group reports on projects and their performance. We found the following project report on NJNG projects that were active as of July 2023 a typical example of these reports.¹⁵¹

NJNG Status Report Example
(confidential depiction)



This report addresses an IIP main project scheduled for 2023 completion. It shows the project at 86 percent complete, with 87 percent of the budgeted capital dollars spent as of the report date, in this case. It contains a reasonably detailed item-by-item summary of some twenty individually

budgeted categories, identifies the impact of any change orders (in this case none), and provides quantitative measures and a narrative summary of physical performance (in this case footage).

Individual project managers specifically and the Director of Engineering more broadly have responsibility for identifying and mitigating budget variances through project completion. Executive leadership applies as a general performance measure an expectation that a project will experience no more than a 10 percent budget overrun. The Vice President responsible for the engineering group indicates that intra-year tracking has succeeded in avoiding “surprises” at year-end, because monitoring and addressing variances throughout the year keeps all fairly well informed about how performance and costs have progressed relative to expectations. Above the project (*i.e.*, at the total) level, top leadership expects capital budget performance to turn out “on Plan” as of the end of the budget year, with explanations from the responsible Vice President when that expectation is not met. NJNG has not turned the “expectations” to which it manages into a specific and quantifiable performance measure regarding acceptable variance tolerances on the total capital budget amounts at the end of the budget year.¹⁵²

4. Budgeting and Performance

a. Budgeting Reports and Responsibilities

A member of the NJR-level finance team, the Manager, Financial Planning & Business Analysis (“FP&BA”) has responsibility for the NJNG financial model, as well as the utility’s five-year forecasts and budgets. The Manager does not perform any work for other NJR business operations. The Manager supervises a senior analyst who assists with NJNG monthly budgeting responsibilities and results analysis. MS Excel provides the platform for generating NJNG five-year income statements, balance sheets and cash flow forecasts and a variety of monthly reports and monthly re-forecasts.

Individual department managers “own” departmental budgets. These managers take the lead in building annual budgets overall and with respect to the specific drivers for their budgets. They manage the expenses of their departments. NJR’s FP&BA organization asks the department managers to forecast labor, materials, and other cost changes that will affect O&M expenses. Labor and materials escalation has proven an important budgeting factor recently, following a long period of general stability in inflation in the U.S. economy. FP&BA personnel also meet with department managers during the budgeting process to provide advice and to discuss variables that may affect O&M expenses. FP&BA does not make changes to departmental O&M estimates, instead providing advisory assistance to department managers in building their budgets.

FP&BA performs analysis of actual variances to budgets, asking department managers specific questions about variances by email, as needed. There are no regularly scheduled variance reports or meetings with department managers, but reports and meetings occur on an as-needed basis, generally driven by a focus on observation of specific variances warranting reporting or discussion.¹⁵³

FP&BA prepares monthly results reports that document actual results, approved budgets and variances that undergo review at monthly senior management meetings. The monthly senior management meetings focus primarily on first plan-year budget and accounting results and reasons

for specific variances. FP&BA performs monthly re-forecasts except for the 1+11 (first month actual and remaining 11 months forecasted). For example, a reforecast after two months might present actual results from the two months plus 10 months of currently forecasted data.

Reviews of capital expenditure results, budgets, and variances take place separately from the departmental reporting and meetings discussed immediately above. However, they too occur on a regularly scheduled (*e.g.*, monthly or quarterly) basis. Accounting, however, does regularly produce a monthly capital results and variance report. The following depiction shows the September 2023 version.¹⁵⁴ Accounting, Finance, and the engineering team engage in capital management meetings held.¹⁵⁵

Monthly Variance Report
(*confidential depiction*)



b. NJNG Capital Spending and Growth

The next tables provide NJNG’s summarization of its annual capital spending and related budgets and historical performance against budgets approved by the boards of directors for 2014 through 2023. The first table shows NJNG’s capital performance against approved budgets for 2014 through 2018. The second table shows similar data for the 2019 through 2023 period.^{156,157}

NJNG Capital Budgets and Results 2014-2018

(confidential table)



NJNG Capital Budgets and Results 2019-2023

(confidential table)



NJNG’s annual total capital spending more than doubled from 2014’s \$156.9 million to 2023’s \$394.4 million, producing a compound annual growth rate (“CAGR”) of 10.8 percent. Budgeted capital expenditures grew at a CAGR of ■ percent during the same period. The utility’s capital

spending peaked in 2021 at \$468.2 million. Following the peak in capital spending of \$468.2 million in 2021, capital spending declined sharply by \$186.0 million, or 39.7 percent, from 2021 to 2022.

The greatest growth in the utility's actual capital spending was recorded between the following years (as indicated in the yellow-shaded annual percentage changes in total capital spending):

- \$63.6 million: a 35.8 percent increase from 2017 to 2018
- \$106.3 million: a 44.1 percent increase from 2018 to 2019
- \$129.6 million: 38.3 percent increase from 2020 to 2021.

Exceptionally large increases occurred in NJNG's budgeted capital spending in 2016 and 2018 (as shown in the orange shading in the preceding tables). NJNG's total capital budget increased by [REDACTED] million or [REDACTED] percent in 2016 - the special project "SRL" proved the principal driver of that increase, from [REDACTED] million in 2015 to [REDACTED] million in 2016. The total capital budget again increased markedly in 2018, by [REDACTED] million or [REDACTED] percent, again due to increasing the budget in the special project "SRL" from [REDACTED] million in 2017 to [REDACTED] million in 2018. NJNG significantly increased its annual capital expenditure budget in the three years from 2015 to 2018, from [REDACTED] million to [REDACTED] million, producing a three-year CAGR of [REDACTED] percent.

c. NJNG Historical Performance to Capital Budgets

While NJNG's actual capital spending has increased greatly from 2014 to 2023, the utility significantly [REDACTED] in several of these annual periods. NJNG's performance against its total capital budgets showed [REDACTED], as shown in the previous table. However, the utility had [REDACTED] percent, in 2016 (as indicated by the blue shading in the previous two tables). The large under-spending result was primarily due to budgeted capital spending in the special project "SRL" of [REDACTED] million, and subsequently spending of only [REDACTED] million of the budgeted project amounts.

NJNG also had continuing [REDACTED], respectively, with the large variances again largely due to [REDACTED]. The utility budgeted [REDACTED] for the [REDACTED] in 2017 and 2018, [REDACTED] in these two years, respectively. The [REDACTED] on this project explained much of the [REDACTED] for NJNG in 2017 and 2018.

The blue-shaded results in the two previous tables also show [REDACTED] as compared to its approved capital budgets of [REDACTED], respectively. The utility [REDACTED] its capital budget by [REDACTED] percent in 2021 and [REDACTED] percent in 2023, more reasonable results for performance to capital budgets.

d. NJNG Performance Against O&M Budgets

NJNG provided historical annual budget versus actual results performance and income statement components in three separate formats for 2014-2023. The first format was for the years 2014 through 2017 and is shown in the first table below. The company's format for the budget versus actual annual performance analysis changed for the 2018 through 2021 and changed to a third format for fiscal years 2022 and 2023.

NJNG's performance to approved budgets for 2014 through 2017 is depicted in the following table.¹⁵⁸

NJNG 2014-2017 Performance vs. Budgets
(confidential table)



NJNG's performance to its approved budget was [REDACTED] from 2014 through 2017. The company's actual results for net financial earnings (NJNG's preferred income statement measures used for SEC and investor disclosures) was [REDACTED] below the budgeted amounts for each of these four years. The components of gross margin, operating expenses, interest expense and income taxes were each [REDACTED] of budgeted amounts, [REDACTED].

One exception in NJNG'S budget performance came in the form of operation and maintenance expenses [REDACTED] in 2014 and 2015 by [REDACTED], respectively. These variances represented the [REDACTED] during these two years. In 2016, the largest dollar variances from budget were [REDACTED] the budget. These negative variances in 2016 were somewhat offset by [REDACTED]. No significant component variances were recognized in 2017.

The following table shows changes in the income statement budget versus actuals format that the company provided for 2018 through 2021. This format provided some additional information regarding revenues and cost of gas, as well as a new Allocations category.¹⁵⁹

NJNG 2018-2021 Performance vs. Budgets
(confidential table)



The previous table shows net NJNG financial earnings [REDACTED] budgets, respectively.

The 2019 results showed [REDACTED] in that fiscal year. Income taxes [REDACTED] budget, and depreciation and interest expense each [REDACTED] budget, resulting in [REDACTED].

In 2020, operations and maintenance expenses [REDACTED], and depreciation expense was [REDACTED] the budget. These major variances resulted in [REDACTED] the budget for the fiscal year.

NJNG's 2023 fiscal year performance against budgets differed in that it: ¹⁶⁰

- Employed a net income basis equal to its net financial earnings basis
- Removed gross margin and added three operating expense categories
- Expanded the income tax categories.

The 2023 results depicted actual operating revenue [REDACTED] budgeted amounts. Two [REDACTED], however, produced operating income [REDACTED] budget. Gas purchases [REDACTED] budget, and regulatory rider operating expenses were [REDACTED] budget. Other income of [REDACTED] budget produced a [REDACTED], which [REDACTED] the 2023 budget.

5. NJNG Income Taxes and Capital Allocation Effect

a. NJNG Taxes and Allocations

NJR files a single tax return on a consolidated basis for federal and for state tax purposes. NJR includes NJNG in this single return. The state of New Jersey requires a single tax filing for consolidated holding companies. Internally, however, stand-alone tax calculations for each

individual subsidiary, including NJNG, produce income tax amounts entered into individual financial statements.

NJR's allocation of responsibility among its subsidiaries for the tax amounts produced through consolidation takes an industry-common approach. That approach treats each taxable subsidiary as if it were a stand-alone entity. A specific NJR "separate return method" employs a defined process and supporting documents to guide preparation of stand-alone subsidiary tax calculations. This method assumes separate NJNG returns with federal or state tax authorities that report the utility entity's taxable income or loss. NJNG pays to NJR any income tax liability so calculated. Conversely, if NJNG's calculations produce a tax loss, it receives from NJR a payment equal to that calculated loss.

Calculation of NJNG's individual federal and state income taxes uses the asset and liability method. That method's determination of deferred income taxes generally relies on the difference between the financial statement and tax basis of assets and liabilities using tax rates in effect in the years in which the differences are expected to reverse. The process also evaluates NJNG tax positions to determine the appropriate accounting and recognition of future obligations associated with unrecognized tax benefits. Income tax credits deferred are amortized as a reduction to the tax provision over the average lives of the related equipment in accordance with regulatory treatment.

The process also calculates NJNG deferred taxes on temporary tax/book differences and any carryforwards that could be claimed on the hypothetical return. The process assesses the need for a valuation allowance on the basis of the projected separate return results. Intercompany payments settle any difference between the tax provision or benefit computed by NJNG under the separate return method and payments to or from NJR for income tax expenses.¹⁶¹

Our experience has shown consistent use by utility holding companies that file consolidated tax returns underlying agreements executed by the holding company and each taxable subsidiary. These "Tax Consolidation Agreements" typically specify the processes and responsibilities of each party, describe the tax liability calculations for each participating subsidiary, and specify the tax consolidation process and calculations of income taxes payable from or payments due to each subsidiary. NJNG is not a party to a formal tax consolidation or tax allocation agreement with NJR.¹⁶²

b. NJNG Income Taxes 2014-2022

Liberty reviewed NJNG's historical federal and state income taxes for the years 2014 through 2022. The following table summarizes NJNG's income before taxes, actual federal and state income taxes, and the effective tax rate for each year.¹⁶³

NJNG Income Taxes and Effective Rates

	2014	2015	2016	2017	2018	2019	2020	2021	2022
NJNG Income Before Taxes	\$110,746	\$111,378	\$106,304	\$125,822	\$191,411	\$67,689	\$153,924	\$126,429	\$180,264
NJNG Income Tax Expense	\$39,373	\$39,821	\$34,952	\$43,485	\$24,788	-\$13,509	\$27,021	\$19,054	\$40,141
Effective Tax Rate	35.6%	35.8%	32.9%	34.6%	13.0%	-20.0%	17.6%	15.1%	22.3%

NJNG's Income Before Taxes (taxable income) ranged from \$106 million to \$126 million for the years 2014-2017 and returned to this range in 2022 following variability in the intervening years. Taxable income spiked to \$191 million in 2018, was \$154 million in 2020, and reached a low of about \$68 million in 2019.

NJNG's effective federal and state tax rate remained steady, falling between 32.9 percent and 35.8 percent in 2014-2017. The effective tax rate, with one exception, decreased significantly from 2018-2022, ranging between 13.0 and 22.3 percent. The exception occurred in 2019, with NJNG's rate of negative 20 percent in 2019. The decrease in effective tax rates coincided with the effective date of the 2017 Tax Act and its effect in lowering corporate income taxes.

6. Gas Usage Findings

NJNG provided the gas usage billing determinants in therms by customer class in the approved stipulations for the 2015, 2019, and 2021 rate cases. Management also provided actual gas usage therms for each year for fiscal years from 2018 through 2023, with comparisons to the rate case billing determinants in effect for each year. The following table depicts gas usage included in base rates (labeled Billing Determinants), actual usage, and variances in usage by rate class and annual totals.¹⁶⁴

NJNG Gas Usage vs. Base Rates: FY 2018-2023

Customer Class	2018			2019			2020		
	Billing Determinants	Actual Therms	Variance	Billing Determinants	Actual Therms	Variance	Billing Determinants	Actual Therms	Variance
Residential	466,826,341	487,115,118	4.3%	466,826,341	484,420,398	3.8%	484,722,343	466,981,525	-3.7%
GSS	33,777,118	37,961,006	12.4%	33,777,118	38,364,136	13.6%	38,215,567	34,992,220	-8.4%
GSL	138,802,649	140,617,347	1.3%	138,802,649	139,108,562	0.2%	138,496,010	125,796,261	-9.2%
FT	21,992,702	24,507,922	11.4%	21,992,702	24,805,363	12.8%	23,814,352	25,245,589	6.0%
DGC	4,007,764	5,342,607	33.3%	4,007,764	5,353,428	33.6%	4,947,615	5,949,522	20.3%
NGV/CNG	567,272	1,252,037	120.7%	567,272	1,339,955	136.2%	1,232,489	1,419,156	15.1%
Total	665,973,848	696,796,036	4.6%	665,973,848	693,391,841	4.1%	691,428,377	660,384,274	-4.5%
Customer Class	2021			2022			2023		
	Billing Determinants	Actual Therms	Variance	Billing Determinants	Actual Therms	Variance	Billing Determinants	Actual Therms	Variance
Residential	486,292,604	482,999,883	-0.7%	502,062,872	471,522,215	-6.1%	506,946,688	447,187,256	-11.8%
GSS	38,556,298	38,057,360	-1.3%	39,543,678	38,783,359	-1.9%	39,641,041	35,581,005	-10.2%
GSL	139,106,217	131,159,852	-5.7%	136,177,266	130,698,976	-4.0%	135,930,255	125,773,646	-7.5%
FT	24,691,308	24,432,110	-1.0%	25,077,886	24,591,955	-1.9%	24,653,234	24,375,972	-1.1%
DGC	5,242,331	6,724,349	28.3%	6,671,740	5,303,609	-20.5%	6,772,537	4,892,236	-27.8%
NGV/CNG	1,332,706	1,535,700	15.2%	1,483,054	1,683,551	13.5%	1,498,101	1,589,351	6.1%
Total	695,221,464	684,909,253	-1.5%	711,016,497	672,583,664	-5.4%	715,441,856	639,399,466	-10.6%

NJNG notes that actual therms can vary significantly from billing determinants used to set rates due to weather variances from normal, customer growth since the test year, and other factors such as conservation. The Company's Conservation Incentive Program ("CIP") trues up actual therms for Residential Non-Heat, Residential Heat, General Service Small and General Service Large service classifications to an approved baseline use per customer. The baseline use per customer is established in rate cases based upon the rate case billing determinants.¹⁶⁵

a. 2015 Base Rate Case Gas Usage and Results

2018 Gas Usage: During fiscal year 2018 the gas usage in base rates was based on billing determinants from a 2015 rate case. The 2015 rate case billing determinants were gas usage for the test year of July 2015 through June 2016, in effect for October 2017 through November 14,

2019. NJNG recorded actual total gas usage of 4.6 percent above the billing determinants included in rates during fiscal year 2018. The greatest volume variance came in residential, the largest customer class, with a variance of 4.3 percent above the billing determinants. Other large gas usage variances of 12.4 percent and 11.4 percent were recorded in the GSS and FT customer classes, respectively.

2019 Gas Usage: During fiscal year 2019 the gas usage in base rates was also based on billing determinants from the 2015 rate case. NJNG recorded actual total gas usage of 4.1 percent above the billing determinants included in rates during 2019. The greatest volume variance was in Residential, the largest customer class, with a variance of 3.8 percent above the billing determinants. Gas usage variances of 13.6 percent and 12.8 percent were also recorded in the GSS and FT customer classes, respectively.

b. 2019 Base Rate Case Gas Usage and Results

2020 Gas Usage: During fiscal year 2020 the gas usage in base rates was based on billing determinants from a 2019 rate case. The 2019 rate case billing determinants included gas usage for the test year of September 2018 through August 2019, in effect for November 15, 2019 through November 30, 2021. NJNG recorded declining actual total gas usage of 4.5 percent below the billing determinants included in rates during fiscal year 2020. The greatest volume decline was in residential, the largest customer class, with a variance of 3.7 percent below the billing determinants. The second largest volume gas usage decline of 9.2 percent was experienced by the GSL rate class, and the third largest was due to an 8.4 percent decline in GSS volumes.

2021 Gas Usage: During the fiscal year 2021, the gas usage in base rates was also based on billing determinants from the 2019 rate case. NJNG recorded actual total gas usage of 1.5 percent below the billing determinants included in rates during 2021. Residential recorded a small volume decline that was 0.7 percent below the billing determinants; GSL, the second largest customer class, had a variance of 5.7 percent below the billing determinants.

c. 2021 Base Rate Case Gas Usage and Results

2022 Gas Usage: During fiscal year 2022, gas usage in base rates was based on billing determinants from a 2021 rate case. The 2021 rate case billing determinants were gas usage for the test year of September 2020 through August 2021, in effect for December 1, 2021 through September 30, 2023. NJNG recorded declining actual total gas usage that was 5.4 percent below the billing determinants included in rates during fiscal year 2022. The greatest volume decline was again in Residential, the largest customer class, with a variance of 6.1 percent below the billing determinants. The second largest volume gas usage decline was experienced by the GSL rate class at 4.0 percent.

2023 Gas Usage: For fiscal year 2023, the gas usage in base rates was also based on billing determinants from the 2021 rate case. NJNG recorded actual total gas usage of 10.6 percent below the billing determinants included in rates during 2023. The greatest volume decline was in Residential, the largest customer class, with a variance of 11.8 percent below the billing determinants. GSL and GSS also recorded large volume declines of 7.5 and 10.2 percent, respectively, in 2023.

C. Conclusions

1. NJNG planning has employed effective high-level strategies, initiatives and processes supporting the provision of resources necessary for sound utility operations.

NJR strategic planning has employed through processes and personnel operating centrally and under direction of the holding company planning that has given primary attention to the needs and service obligations of NJNG. Strategic planning and annual five-year Financial Plan preparation result from one integrated planning process at NJR and NJNG. The process has produced annual Financial Plans covering five years for all of the consolidated NJR companies, with an NJNG Financial Plan as a primary component of the consolidated Plan presented in a single document. The NJNG Financial Plan includes a high-level strategy and goals and objectives narrative and also includes projected financial statements performed and approved in parallel.

NJNG's strategic planning and financial and infrastructure goals are appropriately focused on making investments in its utility system that consider safety, reliability and resiliency, energy efficiency and replacement of vintage pipeline facilities.

2. Capital allocation to NJNG within the NJR holding company has historically been strong, and its forward planning appropriately prioritizes utility circumstances and needs.

Allocation of capital for NJNG and for the holding company and its non-regulated subsidiaries comprises an important component of NJR's strategic plan. NJNG's capital allocation and capital expenditure budgets have shown [REDACTED] over the 2014 through 2023 period. The NJNG approved capital budget [REDACTED] in 2014 to [REDACTED] in 2023, a CAGR of [REDACTED] percent, with [REDACTED] in 2019.

NJR's five-year Financial Plan for 2023 through 2027 assumes [REDACTED] billion of capital investment over five years. Plans allocate to NJNG [REDACTED] percent of that total, or about [REDACTED] billion, as compared to [REDACTED] billion in its previous plan. Management has found the investor community as interested in the percentages of capital at NJR for each business segment, and as seeking a "stable business mix", which management believes is around [REDACTED] percent of capital allocation for the utility.¹⁶⁶ NJR's capital allocation for 2023-2027 also includes an allocation of [REDACTED] percent of capital for the CEV solar subsidiary, and [REDACTED] percent for its other non-regulated subsidiaries.

NJNG has been receiving [REDACTED] allocations of capital from NJR, [REDACTED] percent annually since 2014. Its forward five-year plan for 2023-2027 depicts [REDACTED], with the utility receiving [REDACTED] percent of total allocations. NJR's investment decisions in NJNG have been strong and based on safety and reliability rather than tax considerations.

3. NJNG has effectively identified and planned for risks in its planning and budgeting processes.

NJNG has appropriately identified and characterized risks from its operations and included their impacts in long-term planning and budgeting processes. The risk variables noted affect the annual compilation of capital programs and departmental expenses for the utility's five-year Financial Plan. During the planning process, other key strategic risks are identified and considered, including

analysis of the financial impact of some of the more prominent risks. NJNG also identifies the key risks that could affect the company's ability to successfully execute their plans.

Division managers are appropriately engaged in identifying variables and risks affecting coming O&M expenses. NJNG also employs a risk management tool that takes into consideration factors such as pipe vintage and material, leak history, and other variables to help prioritize future long-range capital replacement and upgrade projects.

4. NJNG's planning staff is assigned to and dedicated to planning for the utility entity.

The NJR planning group operates under the supervision of a Director, Financial Planning & Analysis and employs a sound and modestly-sized organization structure. The NJNG-focused manager has responsibility for NJNG's five-year forecasts, budgeting, and coordinates all planning and support for the utility's planning. The manager and a senior analyst work only for NJNG on planning, and do not perform any work for the other NJR companies.¹⁶⁷ A separate NJR-focused manager has responsibility for consolidated NJR forecasts and corporate allocations, shared services forecasting, and labor forecasting.

5. Capital planning performed primarily by NJNG engineering is appropriately organized and effectively plans for the utility's extensive capital needs.

Planning of capital programs, projects, and initiatives to meet gas system needs, including reliability and system improvements, falls under engineering personnel operating under the NJNG's Vice President – Energy Delivery. The Vice President's planning and operational responsibilities are well aligned. Plan and budget development is well supported by the bottom-up efforts of this group. Their work includes consideration of reliability metrics and state-level benchmarks, standards, and requirements. Effectively, the NJNG engineers appropriately have ownership of and responsibility for the Capital Plan. Safety and reliability are the key drivers of NJNG capital expenditures. Senior management has not imposed limits that constrain the performance of the bottom-up work in the utility's capital planning.

6. NJNG's capital budgets [REDACTED] from 2014 to 2018, primarily due to [REDACTED] categories. (See Recommendation #1)

NJNG's Board-approved capital budgets increased from [REDACTED] million in 2014 to [REDACTED] million in 2018, a very high CAGR of [REDACTED] percent. While increases in NJNG's new projects and ongoing capital categories [REDACTED] expenditures, the peak of actual capital spending did not occur until [REDACTED]. Most of the capital budget [REDACTED] during the 2014-2018 five-year period were due to four budget categories: the special project SRL, System Integrity, NJ RISE and Meter Exchange, as shown in the following table.¹⁶⁸

also experienced consistent under-spending variances between [REDACTED] percent and [REDACTED] percent in each year from 2016 through 2020. The NJ RISE special project also had consistent under-spending variances between [REDACTED] and [REDACTED] percent in each year from 2016 through 2020.

The new Meter Exchange project also experienced very large budget under-runs above [REDACTED] percent upon its inception in 2018. The new special project of the Project NEXT financial system had an approved budget of [REDACTED] million for the planned and Board-approved first year of the project in 2019, [REDACTED] percent of the approved budgeted amount was spent in that year.

NJNG has thus shown a tendency to not execute its Board-approved capital budgets on a consistent basis, especially from 2016 through 2020. The lack of performance to its capital budgets on special projects such as SRL, Project NEXT, and Meter Exchange showed an inability to effectively start and show sufficient progress on approved and important projects as planned. Consistent [REDACTED] in important gas distribution capital categories such as system integrity and technology also show a lack of performance in executing approved capital plans.

NJNG's capital budget execution performance showed some improvement in 2021, with variances to the total capital budgets showing an [REDACTED] percent in 2021. Performance reverted to under-spending, although at reduced levels, of [REDACTED] percent and [REDACTED] percent in fiscal 2022 and 2023, respectively.

8. NJNG's capital budgeting does not effectively incorporate execution risks, resulting in overly optimistic Board-approved capital spending. (See Recommendation #1)

Large total capital expenditure budget under-spending in 2016 through 2020 was largely due to special projects, especially the SRL project, according to company management. The SRL project was expected to begin construction in 2016, and was budgeted for [REDACTED] million in that year. However, the company had problems with purchasing the required pipe and had extensive local opposition and issues with permitting, actually spending only [REDACTED] million in 2016. The start of construction was delayed for 3 full years; during the 2016, 2017 and 2018 the company worked on project non-construction issues, not starting actual construction until 2019.

The special project NJ RISE, a reinforcement project in response to hurricane Sandy, also had [REDACTED] from 2016 through 2021. NJ RISE also experienced permitting delays and other extensive local issues. This project was eventually removed from the 2022 and 2023 capital budgets, and is being re-designed for future execution. The System Integrity major budget category also had significant underspending in eight of the 10 years from 2014 through 2023. Company management says that the capital budget assumes smooth project completions, but also notes that significant execution risks are involved, as proven by significant capital budget under-spending. The Technology capital category also had extensive under-spending of the approved capital budgets from [REDACTED] percent in every year from 2015 through 2021. Management explained that it often has constraints on procurement and supply chain for technology projects, which have often had a high approved budget, but lower actual spending levels.

Another special project that experienced delayed execution was the Project NEXT financial systems project. [REDACTED] million of capital spending was budgeted for the project in 2019, [REDACTED] was spent in that year. Project NEXT was extensively delayed by Covid – 19 issues

in 2020 and 2021, while the largest part of project progress and spending did not occur until 2022 and 2023.¹⁷⁰

The reason for significant and repeated capital budget under-spending is that major projects and capital categories often involve significant execution risks. NJNG has not appropriately considered these execution risks in its capital planning, causing capital budgets to be overly optimistic and overstated relative to realistic expectations.

9. NJNG has more effectively budgeted and executed its income statement components, including gross margins, operating expenses, interest expense, income taxes and other income, with a few exceptions.

NJNG's ability to plan for and execute its income statement components was significantly better than its capital budget performance. For example, NJNG's performance to its approved budget was good in the four years of 2014 through 2017 as the company's actual results for net financial earnings (NJR's preferred income statement measures used for SEC and investor disclosures) ran [REDACTED] below the budgeted amounts for each of these four years.

Net financial earnings for NJNG fell [REDACTED] amounts in 2018 and 2021, but ran [REDACTED] the budget in 2019 and 2020, respectively. Income taxes that were [REDACTED] the budget [REDACTED] drove 2019 results, which showed [REDACTED] net financial earnings. In 2020, operations and maintenance expenses [REDACTED] budget, resulting in net financial earnings [REDACTED] the budget for fiscal 2020.

Results for 2023 results included actual operating revenue [REDACTED] percent, [REDACTED] gas purchases [REDACTED] percent [REDACTED] budget. Other income was about [REDACTED] and was a [REDACTED] the budget.

10. NJR and NJNG's tax processes treat the utility fairly on a stand-alone basis, but NJNG is not party to an industry-standard tax consolidation or allocation agreement. (See Recommendation #2)

NJR subsidiaries with positive taxable income pay to NJR amounts reflecting their calculated stand-alone income taxes, while those with calculated negative taxable income receive income tax payments in accordance with their losses. NJR has employed standard tax calculations and practices used by utility holding companies nationwide, but lacks the commonly used tax allocation agreement to legally enforce fair tax treatments.

Our review of NJNG's actual income tax payments, effective tax rates and the receipt of tax payments by all of the NJR companies over the 2014-2022 period showed positive taxable income and federal and state tax liabilities for NJNG. Tax payments were made to NJR in 8 of the 9 years, with the receipt of a \$13.9 tax payment related to the utility's much lower taxable income in one sole fiscal year.

NJR's unregulated subsidiaries generated positive income taxes and made payments to NJR in 2014-2017. Negative income taxes began being generated by NJRCEV projects 1, 2 and 3 in 2018,

and was the largest receiver of NJR tax payments in 2021 and 2022 as well. On the other hand, the NJRCEV projects were positive taxpayers in 2019 and 2020. NJR Energy Services was consistently a large positive taxpayer during 2014-2022, with the exception of a large loss and payment from NJR in 2019.

11. The NJNG capital investment allocations are driven by safety, reliability and operating considerations, and not by tax considerations.

NJNG develops bottom-up capital plans targeted to meet reliability metrics and state-level benchmarks, standards, and requirements. Its engineering group prepares capital plans that include proposed capital projects and programs, routine capital blanket categories and prioritizations and classifications under consistent, established categories. Safety and reliability are the key drivers of NJNG capital expenditures.

12. The gas usage calculations agreed to in NJNG's 2015 and 2019 base rate cases produced relatively reasonable results for actual usage in 2018 through 2021.

NJNG gas usage actual results for 2018 and 2019 were 4.6 and 4.1 percent above the billing determinants agreed to in the 2015 rate case. The 2020 and 2021 usage results were 4.5 percent and 1.5 percent below the billing determinants agreed to in the 2019 rate case. These total usage results variances were less than five percent.

13. NJNG's 2021 base rate case gas usage did not accurately predict lower actual gas usages in 2022 and 2023. (See Recommendation #3)

NJNG's actual gas usage results in fiscal years 2022 and 2023 were 5.4 percent and 10.6 percent, respectively, below the total usage stipulated in NJNG's 2021 base rate case. In 2023, the three largest usage classes of Residential, GSL and GSS experienced large variances of 11.8 percent, 7.5 percent and 10.2 percent, respectively, below the rate case usage levels. Liberty concludes that the gas usage embedded in NJNG's 2021 base rate case stipulation were too optimistic, resulting in wide variances in the actual results, especially in 2023.

D. Recommendations

1. Improve the capital planning and capital execution processes and their coordination to mitigate oft-recurring and large under-spending of Board-approved budgets. (See Conclusions #6, #7 and #8)

Large total capital expenditure budget under-spending in 2016 through 2022 was largely due to special projects, according to company management. The reasons for significant and repeated capital budget under-spending is that major projects and capital categories often involve significant execution risks, but NJNG has not effectively considered execution risks in its capital planning. This has caused NJNG's capital budgets to be overly optimistic and overstated relative to realistic expectations.

NJNG should improve its capital planning processes to include the factor of execution risk in estimating capital projects for approval by senior management and the Board of Directors.

2. Create a legally binding and enforceable tax allocation agreement similar to those at other utility holding companies that treats NJNG as a stand-alone entity for tax purposes.
(See Conclusion #9)

NJNG is not a party to a tax consolidation or tax allocation agreement with NJR, according to data request responses and the NJR Chief Financial Officer.¹⁷¹ Best practice for utility holding companies is a formal, legally binding tax agreement, usually called a “Tax Consolidation (or Allocation) Agreement” that includes the operating utility subsidiary, the holding company and all of its subsidiaries.

Such an agreement specifies the tax processes and responsibilities of each party, describes the tax liability calculations for each subsidiary, and specifies the tax consolidation processes and calculations of income taxes payable from or payments due to each subsidiary. The agreement is a binding legal agreement that is signed by the holding company and each taxable subsidiary, including the utility company. NJNG should be a party to a newly drawn, legally binding tax consolidation agreement that governs NJR tax consolidation and allocation that is fair and equitable to NJNG and all of the subsidiary companies.

3. Analyze and formulate recommendations to improve base rate case gas usage calculations to more accurately predict actual gas usage. *(See Conclusion #13)*

NJNG’s actual gas usage results have shown significant variances. NJNG should determine the reasons and formulate recommendations to improve base rate case gas usage calculations to more accurately predict its actual gas usage.

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Chapter VII: Finance and Cash Management

A. Background - - Dividend Policy and Capital Structure

Sound and well-defined financial policies and strategies comprise a primary contributor to utility financial health. NJNG's dividend, credit rating and capital structure policies should envision, and offer consistency with the evolution to changing marketplaces and NJR participation without compromising the utility's core financial strengths. The Company should manage dividend policy to maintain NJNG equity at optimum levels consistent with BPU-approved capital structures. NJR financings and debt levels should not cause any negative effects on the NJNG financial status or credit ratings. NJNG dividend and capital structure policies should provide the proper foundation for new directions for the utility, yet strive for a low-cost rate structure.

B. Findings - - Dividend Policy and Capital Structure

1. NJNG Dividend Policy

NJNG reports that it does not maintain formal, written financial policy documents, including a dividend policy. Rather, dividend policy results from "management discretion," balancing access to low cost equity capital with retaining earnings to support continued investment needed.¹⁷²

The holding company manages NJNG's dividends in a manner that seeks to maintain credit metrics that support target credit ratings in the long term and that manages equity levels at BPU-authorized utility regulatory levels. NJNG's current target capital structure calls for 54 percent equity capital. NJR now seeks to maintain credit metrics indicated by rating agencies as appropriate for securing rating-level targets in the "A Range" for NJNG.¹⁷³ Funds Flow from Operations/Debt offers a key credit metric for the rating agencies. The NJNG Treasurer manages financial operations to that metric, which sets a primary criterion in determining utility dividends up to the parent.¹⁷⁴

2. NJNG Dividends and Equity Injections

The next table shows the total of \$239.95 million in NJNG dividends to NJR from 2014 through the second quarter of 2023. The table also presents equity capital injections into NJNG from NJR.¹⁷⁵ Those injections, which totaled \$300 million in equity injections from NJR during this approximately 10-year period, served to maintain equity levels near those authorized conforming to rate case results. NJNG did not pay dividends from the first quarter of 2018 until the first quarter of 2021, a period of three years. Two-thirds of the \$300 million in equity injections from NJR occurred during this time.

NJNG Dividends Paid & Equity Injections Received¹⁷⁶

Quarter	Dividends	Equity	Quarter	Dividends	Equity
Q1 2014			Q4 2018		\$45,000,000
Q2 2014	\$17,649,000		Q1 2019		\$60,000,000
Q3 2014	\$17,666,000		Q2 2019		
Q4 2014	\$17,709,000		Q3 2019		
Q1 2015			Q4 2019		\$45,000,000
Q2 2015	\$19,023,000		Q1 2020		\$50,000,000
Q3 2015			Q2 2020		
Q4 2015			Q3 2020		
Q1 2016			Q4 2020		
Q2 2016			Q1 2021	\$50,000,000	
Q3 2016			Q2 2021		
Q4 2016			Q3 2021		
Q1 2017			Q4 2021		
Q2 2017	\$22,023,000		Q1 2022		
Q3 2017	\$22,048,000		Q2 2022	\$50,000,000	\$50,000,000
Q4 2017			Q3 2022		
Q1 2018	\$23,831,000		Q4 2022		\$50,000,000
Q2 2018			Q1 2023		\$0
Q3 2018			Q2 2023		
Total Dividends		\$ 239,949,000	Total Equity Injections		\$ 300,000,000

3. NJNG Capital Structures

NJNG targets a capital structure that supports target credit ratings intended to promote utility access to ample liquidity at a low cost in maintaining equity levels. Management has lately employed a 54.0 percent equity ratio that conforms to an equity ratio consistent with the results of its most recent rate case.¹⁷⁷ Tables presented in Appendix I to this chapter present actual NJNG capital structures from 2014 through the second quarter of 2023. The tables also show the BPU-authorized equity percentage that was in effect during each of the historical quarters.¹⁷⁸

NJNG equity levels have generally remained near or somewhat above levels corresponding to rate case results in most of the historical quarters, with some exceptions in more recent years. Actual equity levels of 51.6 percent at December 31, 2022 and 51.4 percent at December 31, 2021 fell notably below the 54.0 percent target. NJNG does not employ a formal process to monitor and adjust equity levels at quarter ends.¹⁷⁹

4. NJR Dividends and Capital Structure

The NJR Board of Director resolutions that direct dividend payments by parent NJR also do not result from documented policies or guidelines. NJR has raised its dividends yearly over the recent past, while communicating to the investment communities a targeted seven to nine percent compound growth rate in dividends. NJR has, as described above, injected more equity into NJNG than it has received from the utility in dividends over time. Therefore, NJNG has not, in contrast

to what we have seen often among diversified utility holding companies, proven a material source of funding for parent dividend payments to its shareholders.

NJR's Treasury group performs quarterly assessments to determine potential dividend payments by each NJR subsidiary to NJR. These assessments focus on the state of each individual subsidiary's balance sheet. The subsidiaries other than NJNG have not paid dividends on a regular basis, but rather as cash flow becomes available to them individually.

Subsidiaries other than NJNG produce very significant cash flows. NJR Clean Energy Ventures ("NJRCEV") makes solar energy investments that generate cash flow from subsidies. NJRCEV cash flow may move to NJR in the form of dividends or as an inter-company loan. Another subsidiary NJR Energy Services ("NJRES") holds capacity in specific physical assets and performs trades around those assets. NJRES energy trading activities generate significant amounts of cash. At the end of 2020, NJRES signed an Asset Management Agreement (AMA) with a major utility. The AMA will produce \$500 million over 10 years, which has solidified and leveled cash flow for this subsidiary.¹⁸⁰ NJR Midstream, referred to by NJR as Storage and Transportation (NJRS&T) has produced steady earnings from pipeline assets by leasing capacity and employing long-term take-or-pay contracts.

Thus, both NJNG and the non-utility enterprises provide potential sources of funding for dividends by NJR to its shareholders. NJR manages those sources jointly in determining these dividend payments to the parent's shareholders.¹⁸¹ NJR paid \$949.1 million in dividends to its shareholders from January 1, 2014 through the second quarter of 2023. NJR provided the following sources of dividends and other funding that the holding company utilized to fund its dividends.¹⁸²

NJR Dividends and Funding Sources

Dividend Payments		
FY	Funding Company	Amount, \$
Q1 2014	NJNG	\$ 17,617,000
Q2 2014	NJNG	17,647,000
Q3 2014	NJNG	17,658,000
Q4 2014	NJR Energy Services	17,742,000
Q1 2015	NJNG	18,993,000
Q2 2015	NJR Parent	19,017,000
Q3 2015	NJR Parent	19,216,000
Q4 2015	NJR Energy Services	19,306,000
Q1 2016	NJR Energy Services	20,524,000
Q2 2016	NJR Energy Services	20,591,000
Q3 2016	NJR Energy Services	20,660,000
Q4 2016	NJR Energy Services	20,670,000
Q1 2017	NJR Energy Services	21,931,000
Q2 2017	NJNG	21,967,000
Q3 2017	NJNG	22,011,000
Q4 2017	NJR Energy Services	22,079,000
Q1 2018	NJR Energy Services	23,607,000
Q2 2018	NJR Energy Services	23,852,000
Q3 2018	NJR Energy Services	23,875,000
Q4 2018	NJR Energy Services	24,501,000
Q1 2019	NJNR Pipeline	25,812,000
Q2 2019	NJR Home Services	25,938,000
Q3 2019	Steckman Ridge	25,980,000
Q4 2019	NJNR Pipeline	26,329,000
Q1 2020	Steckman Ridge	26,974,000
Q2 2020	Steckman Ridge	29,847,000
Q3 2020	Steckman Ridge	29,888,000
Q4 2020	Steckman Ridge	31,095,000
Q1 2021	Steckman Ridge	31,902,000
Q2 2021	NJR Energy Services	28,992,000
Q3 2021	NJR Energy Services	29,483,000
Q4 2021	NJR Energy Services	26,583,000
Q1 2022	NJR Energy Services	31,841,000
Q2 2022	NJR Energy Services	31,884,000
Q3 2022	NJR Energy Services	31,966,000
Q4 2022	NJR Energy Services	32,013,000
Q1 2023	NJR Energy Services	34,508,000
Q2 2023	NJR Energy Services	34,619,000
Total		\$ 949,118,000

Utility holding companies generally seek to manage their consolidated capital structure in a manner that supports their target credit ratings and credit metrics in compliance with debt covenants. NJR's practice in this regard is to [REDACTED]. The holding company has targeted a maximum debt to total capitalization of [REDACTED].¹⁸³ The following table shows NJR's consolidated capital structure for December 31 of each calendar year since 2013. The debt portion of NJR's consolidated capital structure has grown to exceed 60 percent by the end of 2022. Management reports a focus on [REDACTED] as sufficient support for its growing debt levels. NJR targets an [REDACTED] that can support the debt levels projected in its forecasts, and it targets cash flow consistent with a [REDACTED] credit rating. NJR's CFO remains comfortable with [REDACTED] debt, provided that its non-utility subsidiaries can [REDACTED].¹⁸⁴

NJR Consolidated Capital Structure

2013	\$ in Millions	Percent	2019	\$ in Millions	Percent
Debt	1,111.7	55.8%	Debt	1,955.5	51.7%
Equity	881.9	44.2%	Equity	1,827.8	48.3%
Total Book Capitalization	1,993.6	100.0%	Total Book Capitalization	3,783.3	100.0%
2014	\$ in Millions	Percent	2020	\$ in Millions	Percent
Debt	1,010.8	47.8%	Debt	2,437.2	58.9%
Equity	1,103.6	52.2%	Equity	1,698.2	41.1%
Total Book Capitalization	2,114.4	100.0%	Total Book Capitalization	4,135.4	100.0%
2015	\$ in Millions	Percent	2021	\$ in Millions	Percent
Debt	1,093.8	48.9%	Debt	2,856.9	59.9%
Equity	1,143.9	51.1%	Equity	1,914.6	40.1%
Total Book Capitalization	2,237.7	100.0%	Total Book Capitalization	4,771.5	100.0%
2016	\$ in Millions	Percent	2022	\$ in Millions	Percent
Debt	1,423.2	54.6%	Debt	3,255.8	60.6%
Equity	1,185.4	45.4%	Equity	2,115.7	39.4%
Total Book Capitalization	2,608.6	100.0%	Total Book Capitalization	5,371.5	100.0%
2017	\$ in Millions	Percent	March 2023	\$ in Millions	Percent
Debt	1,552.3	53.5%	Debt	2,987.9	57.7%
Equity	1,347.8	46.5%	Equity	2,192.0	42.3%
Total Book Capitalization	2,900.1	100.0%	Total Book Capitalization	5,179.9	100.0%
2018	\$ in Millions	Percent			
Debt	1,687.2	53.0%			
Equity	1,497.0	47.0%			
Total Book Capitalization	3,184.2	100.0%			

C. Conclusions - - Dividends and Capital Structure

1. NJNG's capital management has generally resulted in balanced capital structures since 2014, with certain recent exceptions.

NJNG's equity capital position has been managed by paying dividends to and receiving equity injections from the parent. From January 1, 2014 through the second quarter of 2023, NJNG paid dividends to NJR totaling \$239.95 million, while receiving equity capital injections from the parent

of a somewhat greater \$300 million. NJR intends to maintain NJNG's equity levels consistent with rate results, using since 2019 a 54.0 percent target.

NJNG equity levels have generally been near or somewhat above the BPU-authorized levels in most quarters since 2014, falling below them at times more recently. For instance, the actual equity levels were 51.6 percent on December 31, 2022 and 51.4 percent on December 31, 2021, each below the 54.0 percent BPU authorized levels. The equity shortfall during these periods did not have recognized financial impact on the utility, but nevertheless should not occur. According to the NJNG Treasurer, the utility does not have a formal process in place to monitor and adjust equity levels at quarter-ends, as is the practice at many utilities in recent years.¹⁸⁵

2. The lack of formal, written dividend and capital management policies for NJNG produces an insufficient framework for guiding dividend actions. (See Recommendation #1)

NJNG should have in place dividend and capital management policies and processes specific to the needs of the utility and approved and monitored by its board of directors. Capital management processes should be performed quarterly to ensure that NJNG consistently meets its capital structure targets and maintains equity capital at BPU-authorized levels set in rate proceedings.

3. NJR's consolidated debt levels and debt capital structure percentages have increased significantly in recent years, driven by high levels of debt financing at the parent company.

The increased debt leverage of NJR has increased financial risks to NJNG, as recognized in the Credit Ratings and Utility Insulation text and Conclusions below. NJR has increased the debt component in its capital structures to high levels in the last 8 to 10 years. The NJR consolidated capital structure, including that of NJNG, included 52.2 percent equity and 47.8 debt on December 31, 2014. By December 31, 2022, the consolidated capital structure had become increasingly leveraged, with NJR reporting 39.4 percent equity and 60.6 percent debt. The following table presents an analysis of the components of NJR's capital structure between 2014 and 2022 to determine the sources of its increased debt levels and consolidated debt percentages.¹⁸⁶

Analysis of NJR Capital Structure

	NJNG		NJR and Non-Regulated			NJNG		NJR and Non-Regulated	
	\$ in Millions	%	\$ in Millions	%		\$ in Millions	%	\$ in Millions	%
2014					2019				
Debt	682.0	48.3%	328.8	46.7%	Debt	971.3	43.2%	984.2	64.2%
Equity	728.7	51.7%	374.9	53.3%	Equity	1,277.9	56.8%	549.9	35.8%
Total	1,410.7	100.0%	703.7	100.0%	Total	2,249.2	100.0%	1,534.1	100.0%
2015					2020				
Debt	725.8	47.3%	368.0	52.2%	Debt	1,167.9	46.2%	1,269.3	79.0%
Equity	807.4	52.7%	336.5	47.8%	Equity	1,360.4	53.8%	337.8	21.0%
Total	1,533.2	100.0%	704.5	100.0%	Total	2,528.3	100.0%	1,607.1	100.0%
2016					2021				
Debt	740.7	45.6%	682.5	69.3%	Debt	1,390.7	48.6%	1,466.2	76.7%
Equity	883.2	54.4%	302.2	30.7%	Equity	1,469.4	51.4%	445.2	23.3%
Total	1,623.9	100.0%	984.7	100.0%	Total	2,860.1	100.0%	1,911.4	100.0%
2017					2022				
Debt	773.2	46.0%	779.1	63.8%	Debt	1,559.2	48.4%	1,696.6	78.9%
Equity	906.0	54.0%	441.8	36.2%	Equity	1,663.1	51.6%	452.6	21.1%
Total	1,679.2	100.0%	1,220.9	100.0%	Total	3,222.3	100.0%	2,149.2	100.0%
2018									
Debt	799.0	42.2%	888.2	68.7%					
Equity	1,092.7	57.8%	404.3	31.3%					
Total	1,891.7	100.0%	1,292.5	100.0%					

The two columns on the left of the table show NJNG's utility capital structure dollars and percentages. The two columns on the right show the remainder of the NJR capital structure supporting the holding company and its other subsidiaries. NJNG's total capitalization increased from \$1.41 billion on December 31, 2014 to \$3.22 billion on December 31, 2022. The debt and equity components of the growing utility capital structure remained balanced over this period, with equity capital ranging between 51.4 percent and 57.8 percent supporting the utility business.

Conversely, the debt dollars and leverage included in NJR's non-utility capital structure that finances the non-utility businesses and the holding company in total increased substantially over the same period. The non-NJNG capital structure changed from 53.3 percent equity and 46.7 percent debt at the end of 2014 to a highly leveraged 21.1 percent equity and 78.9 percent debt on December 31, 2022. The non-utility debt grew by more than five times over the eight-year period, from \$329 million to almost \$1.7 billion. The debt amounts increased by relatively large amounts in 2016, 2020, 2021 and 2022. Equity capital supporting the holding company and non-regulated businesses increased only 37.7 percent over the same years, resulting in rather extreme non-utility leverage levels of 78.9 percent by the end of 2022.

Large amounts of holding company debt increase the potential for the re-direction of utility financial resources to address financial stress occurring elsewhere in the enterprise structure. Credit rating agencies in particular are attentive to the potential for shifting funds to weaker performing operations, as noted in the next section on Credit Ratings and Utility Insulation.

D. Recommendations - - Dividends and Capital Structure

- 1. NJNG should establish formal, written dividend and capital management policies for its Board of Directors to monitor and to authorize appropriate dividend actions. (See Conclusion #2)**

NJNG should establish dividend and capital management analyses, policies and processes that are specific to the needs of the utility and enforceable by its Board of Directors. Capital management analyses and processes should be performed quarterly to ensure that NJNG consistently meets its capital structure targets and maintains equity capital at BPU-authorized levels set in rate proceedings, with specific capital management actions to be included in Board resolutions for approval.

The NJNG Treasurer and the Treasury group should perform NJNG-specific dividend and capital management analysis at least quarterly and more often as circumstances require. The Treasurer's analysis should consider the NJNG capital structure using quarter-end financial statements. The analysis should also consider the company's forward-looking liquidity position, including any impacts from factors like storms and other events affecting liquidity. The analysis should also review five-year forecasts for NJNG capital and funding needs and projected credit metrics on a going-forward basis, including assumed dividends, debt issuances and redemptions and assumed equity injections from NJR. The analysis should also consider regulatory capital structure impacts and any debt covenant limitations. The analysis should be used to inform specific dividend payment recommendations or to request equity injections from the NJR parent that cause the capital structure target and BPU-authorized equity levels to be met at quarter-end.

The analysis and capital management recommendations should be prepared for the NJNG and NJR boards of directors for inclusion in resolutions approving NJNG dividend or NJR equity injection actions.

E. Background - - Credit Ratings and Utility Insulation

Credit ratings offer a key indicator of the degree to which utility credit standing relies solely on its own operations and financial results and whether holding company and other affiliate circumstances affect utility finances and credit materially. The financial performance and capital structure of the holding company can affect each of its subsidiaries. We sought to determine whether NJNG has experienced negative financial impacts due to its relationship with NJR and the holding company's other affiliates. We also sought to verify that NJNG has been and remains properly and effectively insulated from the financial risks posed by the holding company and its affiliates.

Large amounts of holding company debt increase the potential for the re-direction of utility financial resources to address financial stress occurring elsewhere in the enterprise structure. Credit rating agencies are attentive to the potential for shifting funds to weaker performing operations. We sought to determine whether NJR has provided sufficient protection of NJNG capital through insulation measures and whether any gaps in required protection have reduced or have a material risk of reducing NJNG's financing ability or creditworthiness.

F. Findings - - Credit Ratings and Utility Insulation

1. NJNG Credit Ratings

Credit ratings offer an important measure of NJNG's overall financial strength and stability. NJNG targets credit metrics and resulting target credit ratings that ensure continued access to ample liquidity, even during periods of tight credit markets, at a maximally efficient cost of capital. Rating agencies focus primarily on funds from operations as a proportion of debt (FFO/Debt) in assessing a company's ability to service debt. NJNG has a long-term target for FFO/Debt of greater than [REDACTED], supporting a target corporate credit rating of the low to mid "A" range.¹⁸⁷ The next table shows that NJNG has maintained a high, investment-grade credit rating in the A- to A+ range since 2014.¹⁸⁸

NJNG Credit Ratings and Metrics

Item	2014		2015		2016		2017		2018	
	S&P	Moody's	S&P	Moody's	S&P	Moody's	S&P	Moody's	S&P	Moody's
Corporate Rating	A	N/A	A	N/A	A	N/A	A	N/A	BBB+	N/A
Commercial Paper	A-1	P-1	A-1	P-1	A-1	P-1	A-1	P-1	A-2	P-1
Senior Secured Debt	A+	Aa2	A+	Aa2	A+	Aa2	A+	Aa2	A	Aa2
Ratings Outlook	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Negative	Negative
FFO/Debt ¹	25.7%		31.3%		28.4%		32.2%		24.5%	
Item	2019		2020		2021		2022		June 2023	
	Fitch	Moody's	Fitch	Moody's	Fitch	Moody's	Fitch	Moody's	Fitch	Moody's
Corporate Rating	A-	N/A	A-	N/A	A-	N/A	A-	N/A	A-	N/A
Commercial Paper	F-2	P-1	F-2	P-2	F-2	P-2	F-2	P-2	F-2	P-2
Senior Secured Debt	A+	Aa3	A+	A1	A+	A1	A+	A1	A+	A1
Ratings Outlook	Stable	Negative	Stable	Stable	Stable	Stable	Stable	Stable	Stable	Stable
FFO/Debt ¹	20.4%		24.9%		22.7%		23.5%		24.6%	

¹ Fitch Method

From 2014 to 2018, S&P and Moody's Investors Service ("Moody's") rated NJNG senior secured debt at A+ and Aa2, respectively and its commercial paper program at A-1 and P-1, respectively. Maintaining a retained FFO/Debt ratio of above 24.5 percent during this period supported the utility's strong credit ratings. Recently holding an A+ rating from Fitch and an A1 rating from Moody's on its senior secured debt reflect a continuing solid rating, although somewhat lower credit metrics have resulted in more recent years.

The 2022 credit opinions of the rating agencies cite NJNG's low business risk as a local gas distribution company operating under a credit-supportive New Jersey regulatory environment and maintaining a constructive relationship with the BPU. Those opinions consider NJNG's service territory economically strong and characterized by a high residential customer base, but with exposure to major storm and climate change risks.

New residential construction and infrastructure hardening have operated as principal drivers of NJNG's capital investments. A broad suite of cost recovery mechanisms, including revenue decoupling and investment riders, support recovery of those investments. The rating agencies view mechanisms like these as providing revenue and cash flow stability outside the need for rate cases,

supporting returns on certain of its current capital expenditures. The ratio of cash flow from operations before changes in working capital to debt has comprised Moody's primary credit metric. Moody's anticipated a ratio in the 19 to 21 percent range for the two years following 2022.

Fitch and Moody's credit profiles for NJNG consider the risk that NJR's parent debt and other businesses add to the corporate family's overall credit profile. NJNG accounts for 60 to 65 percent of parent consolidated earnings. However, the rating agencies have recognized that NJR has had growing investments in energy infrastructure outside NJNG's regulated operations, albeit largely covered by contracts. Non-utility operations, if successful, can provide additional sources of sustainable cash flow to help service the parent company's growing debt and dividends, and potentially reduce the financial pressure on the utility. However, the stability of the whole organization's credit profile depends on prudent management of NJR's non-NJNG operations.¹⁸⁹

Fitch's 2022 credit update observed that, while NJNG provides the primary driver of earnings for the parent, its utility credit ratings also reflect the greater risks of NJR's other businesses, including FERC-regulated midstream assets, a portfolio of commercial and residential solar projects, an energy trading business, and significant parent-only debt that supports the non-utility businesses.¹⁹⁰

2. NJNG Credit Rating Changes

NJNG's credit ratings declined from 2018 through 2020. S&P revised its rating outlook on NJNG in 2018, citing increased potential that parent consolidated financial measures might not consistently achieve FFO/Debt ratios of at least 23 percent. The change in outlook reflected NJR's growing capital spending program, corporate tax reform, and at that time its modestly higher use of debt leverage to fund a growing midstream business.

The parent is not rated by the major rating agencies. However, S&P evaluates the credit metrics of the parent in assigning credit ratings and in providing opinions regarding NJNG. Effectively, therefore, NJNG's credit ratings from S&P become lower due to NJR ownership, given the comparatively greater credit risks at the parent company. S&P assigns to NJNG the rating determined for NJR's consolidated credit profile.¹⁹¹ S&P has explained that:

Under our group rating methodology we consider NJNG to be a core subsidiary of NJR. ... There are no meaningful insulation measures in place that protect NJNG from its parent and therefore our issuer credit rating on NJNG is in line with NJR's group credit profile of A."

On August 13, 2018, S&P significantly lowered NJNG's credit rating by two credit levels, from A to BBB+. S&P then also lowered NJNG's senior secured debt rating from A+ to A and its short-term and commercial paper rating from A-1 to A-2. These downgrades and S&P's diminished credit outlook for NJNG resulted from NJNG's rising capital expenditure program, the impacts of corporate tax reform, and higher use of debt leverage to fund NJR's growing non-regulated midstream business.

Following these downgrades, S&P withdrew all ratings on NJNG in May 2019 at the utility's request. NJNG replaced the discontinued S&P ratings with services from Fitch Ratings. On

November 29, 2018, Fitch assigned a first-time long-term corporate rating to NJNG of A-, a senior secured debt rating of A+, and a commercial paper rating of F-2.

Moody's also reflected a decline in 2018, revising NJNG's rating outlook from stable to negative, as it did for 23 other utility companies. Moody's viewed federal tax reform as credit negative for regulated utilities due to reduced cash collections from customers, and observed that the loss of bonus depreciation reduced tax deferrals. In early 2019, Moody's downgraded NJNG's secured debt rating from Aa2 to Aa3, offering a negative forward credit outlook. Moody's viewed the utility's credit measures as expected to deteriorate due to a loss of cash flow from deferred taxes, lower authorized rates of return, and peak capital programs in 2019 and 2020.

In March 2020, Moody's further downgraded NJNG's secured credit rating from Aa3 to A1 and its commercial paper rating from P1 to P2, noting the utility's higher debt levels to fund the company's elevated capital expenditure programs.¹⁹²

As compared with the above-noted internal target of maintaining an FFO/Debt ratio of greater than 16 percent, NJR recorded an FFO/Debt ratio of only 13.3 percent in 2020. Management reports 2019 and 2020 as a "bad year," with NJRES experiencing earnings losses for the first time. Two major acquisitions (Leaf River and Adelpia) at the time also stressed the parent's credit metrics. NJNG experienced lower earnings under base rates than several years old. NJR made a block common equity sale of about \$230 million in December 2020 to address the pressure on its credit metrics.

3. NJR Credit Ratings and Metrics

None of major recognized rating agencies credit rated NJR from 2014-2023. Moody's and Fitch Ratings have provided NJNG credit ratings, while S&P ratings ended in 2018, as noted. [REDACTED] however. NJR has employed a target for a primary metric employed by the rating agencies. Specifically, NJR has targeted a long-term average goal for the FFO/Debt ratio of greater than 16 percent, considered supportive of a credit rating of mid-to-high BBB.¹⁹³ The next tables show yearly (as of each September 30) NJR credit ratings and FFO/Debt ratios for 2014 through 2022 and for the nine 2023 months ending with June.¹⁹⁴

NJR Credit Ratings and Metrics (partially confidential table)

Item	2014	2015	2016	2017	2018
	S&P, Fitch, Moody's	S&P, Fitch, Moody's	S&P, Fitch, Moody's	S&P, Fitch, Moody's	S&P, Fitch, Moody's
Corporate Rating	None	None	None	None	None
Senior Note Rating	None	None	None	None	None
FFO/Debt Ratio ¹	33.6%	37.4%	25.2%	20.2%	25.7%
Item	2019	2020	2021	2022	June 2023
	S&P, Fitch, Moody's	S&P, Fitch, Moody's	S&P, Fitch, Moody's	[REDACTED]	
Corporate Rating	None	None	None		
Senior Note Rating	None	None	None		
FFO/Debt Ratio ¹	19.5%	13.3%	18.7%		

¹ Fitch Method

We found NJR's history of not obtaining credit ratings from the major rating agencies unusual for a utility holding company. Management explains not seeking them because it has "no need for" credit ratings from the major agencies, noting its belief that the primary use of ratings from the agencies involved the "major bracket" debt issuances of \$300 million or more typical of larger enterprises. NJR issues private-placement long-term debt to finance both the holding company and its non-utility subsidiaries, with many having no credit rating specific to them. Management considers it sufficient to allow its core debt investors to perform their own due diligence, because they closely follow NJR and NJNG financial results.

NJR is comfortable with raising debt capital with its private placement debt investors, who may understand the operations and consolidated credit metrics of NJR, even though it has never had a major agency credit rating. Many of NJR's debt investors perform their own credit analysis and due diligence with in-house analysts, lessening the need for credit ratings to provide due diligence for debt purchases.

[REDACTED]

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[REDACTED]

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G. Conclusions - - Credit Ratings and Utility Insulation

4. NJNG's credit ratings have remained reasonably strong despite some declines from 2018-2020.

Moody's credit rating for NJNG senior secured debt more recently stood at A1, while Fitch Ratings equivalently rates the utility at A+. The utility's commercial paper rating of P-2/F-2 placed it at

the second-highest rating category. NJNG's credit ratings have remained steady at these levels since 2020.

NJNG's Funds From Operations/Debt metric increased to 23 to 25 percent in 2022 and 2023, supporting its strong ratings. Both rating agencies expect NJNG to produce strong cash flow and credit metrics in the future, solidifying its stand-alone credit standing.

5. NJR has not provided NJNG with sufficient insulation from the parent's heavy debt load and from non-utility subsidiary operations, which creates unnecessary risk to NJNG and has negatively influenced the utility's credit standing. (See Recommendation #2)

We have long found S&P the major credit rating agency most focused on the sufficiency of utility financial insulation from holding company and non-utility affiliate risks. Where S&P finds a utility subsidiary not sufficiently insulated from its corporate family risks, it will apply the holding company's weaker credit metrics and credit evaluation which can put the utility subsidiary rating significantly below its earned, or stand-alone level.

Not long before NJR discontinued ratings from S&P, that credit rating agency signaled weak financial insulation from its parent company in 2018, stating that:

The negative outlook on NJNG reflects the increased potential that parent NJR's consolidated financial measures may not consistently achieve FFO to Debt of at least 23 percent. ... there are no meaningful insulation measures in place that protect NJNG from its parent and therefore our issuer credit rating on NJNG is in line with NJR's group credit profile"

Shortly thereafter, S&P downgraded NJNG by two credit notches to BBB+. Adding Fitch Ratings produced a rating from that rating agency of A+. However, over time, Fitch has grown more uncomfortable with NJNG's insulation and NJR's growing financial risks, noting in April 2022:

There is parent subsidiary linkage between NJNG and NJR (not rated). ... Fitch emphasizes NJNG's status as a regulated entity, and legal ring fencing is considered porous given the general protections offered by economic regulation. Access and control are evaluated as porous. NJR centrally manages the treasury function and is the sole source of equity"

Fitch has thus recognized that NJR's high levels of holding company debt pose risks to NJNG, that only porous insulation and ring fencing protect against those risks, and that the centrally managed treasury function is a risk contributor. Moody's also recognized in 2022 the risks that NJR and its non-regulated subsidiaries pose to its utility subsidiary.

Treasury management has emphasized that the company does not have money pools, has segregated bank accounts for NJNG, and that the utility issues its own debt and has its own commercial paper program.¹⁹⁷ These measures comprise basic and important foundational measures, but reflect merely first-generation insulation measures generally now considered insufficient. Ring-fencing techniques have greatly evolved over the past 20 years to include greatly refined methods of insulation from parent holding company and affiliate risks. The characteristics of NJR's businesses make NJNG's reliance on outdated measures no longer appropriate.

6. NJNG's equity maintenance ring fencing is not effective in preventing equity capital to fall below its ratemaking capital structure levels. (See Recommendation #2)

New Jersey statutes mandate notification to the BPU of transfers of more than five percent of utility retained earnings to the holding company, or of a special dividend declaration that would produce an equity to capitalization ratio below 30 percent. Provisions like these only require the notification to regulatory authorities of potentially destructive financial management, but do not prohibit them. We do not consider them fully effective in preventing a fall in or removal of equity that has on occasion been very destructive to the utility.

Merely requiring notice also reflects a now dated form of utility financial insulation. Best practices for equity capital maintenance affirmatively precludes actions that would reduce utility common equity as a percentage of total capitalization to below regulatory-authority authorized levels at any time. Such equity maintenance ring fencing and dividend policies should comprise a cornerstone of revised NJNG ring fencing.

H. Recommendations - - Credit Ratings and Utility Insulation

2. Create for NJNG lasting and enforceable ring-fencing measures sufficient to make the utility fully insulated and to be rated solely on its own credit characteristics by the major credit rating agencies. (See Conclusions #5 and #6)

NJNG should be ring-fenced to protect it more robustly from holding company and its non-utility business risks and financial stress. S&P has historically been the most effective proponent of defining appropriate utility insulation, especially regarding utility holding companies and their subsidiaries. S&P has been transparent in assessing and in setting forth requirements for the insulation of an entity within a holding company group. However, while S&P no longer rates any of the NJR companies, utility insulation should be designed to meet its insulation criteria.

Ring-fencing for NJNG should meet all S&P's criteria for full, effective insulation. Ring fencing that meets S&P's insulation criteria should also cause Fitch, which continues to be retained by the utility, to rate NJNG solely on its own financial merits and metrics with no negative influence from the parent or affiliates. NJNG ring fencing should also include new, strong equity maintenance provisions requiring capital structure equity levels to not at any time fall below that included in New Jersey rates.

Ring-fencing for utility entities should be contained in a state regulatory commission order to be effective and enforceable. Ring-fencing left to voluntary company action is subject to change at any time, with change probably a virtual certainty when utility protection proves most necessary.

I. Background - - Long-Term Debt Financing

The long-life capital assets that typify utility operations have generally caused significant levels of long-term debt financing to form a fundamental funding component of financial planning. It is not uncommon to find as much as half of a utility company's capital structure provided by debt financing of 30 to 40 years in duration. Effective planning and processes for raising external debt financing, as well as strong banking partners and fully informed debt investors, thus comprise crucial components of treasury operations.

Long-term holding company and utility subsidiary debt financing can also present substantial risk for utilities. Holding company or a non-utility affiliate debt residing in a separate corporate entity can nevertheless produce a variety of financial ties to the utility in ways that can cause direct or indirect harm. Not only financing documents, but indirect and joint Treasury management and bank relationships as well can create ties that result in a utility subsidiary comprising the “only deep pocket” for affiliate or holding company creditors to pursue in the case of financial distress. We evaluated and determined whether any debt financing instruments and common long-term debt management associated with the holding company or its non-utility operations impose directly or indirectly on utility financing and financial health.

J. Findings - - Long-Term Debt Financing

1. NJNG Long-Term Debt

NJNG had about \$1.411 billion in long-term debt outstanding of as of September 30, 2023. NJNG has issued senior secured notes to provide long-term debt funding for its utility business. The senior notes are secured by an equal principal amount of the company’s first mortgage bonds issued under NJNG’s Mortgage Indenture. The Mortgage Indenture, dated September 1, 2014, secures all outstanding first mortgage bonds issued by NJNG. The Mortgage Indenture provides a direct first mortgage lien upon substantially all the operating properties and franchises of the utility, other than excepted property such as cash, natural gas meters, and certain materials and supplies, vehicles and appliances.¹⁹⁸

The following table shows the utility’s long-term debt issuances outstanding on September 30, 2023, including the latest issuance on September 28. The long-term debt outstanding consists primarily of senior notes secured by first mortgage bonds, except for six issuances of first mortgage bonds in 2019 (underlined in the table) that represent the remarketing of three existing variable rate EDA first mortgage bonds and three other existing first mortgage bond issuances.¹⁹⁹

NJNG Long-Term Debt

Item	Date	Type	Term	Amount
Series RR, 4.61%	March 13, 2014	Senior Notes	30 years	\$55 million
Series QQ, 3.58%	March 13, 2014	Senior Notes	10 years	\$70 million
Series SS, 2.82%	April 15, 2015	Senior Notes	10 years	\$50 million
Series TT, 3.66%	April 15, 2015	Senior Notes	30 years	\$100 million
Series UU, 3.63%	June 21, 2016	Senior Notes	30 years	\$125 million
Series VV, 4.01%	May 11, 2018	Senior Notes	30 years	\$125 million
Series AAA, 3.86%	July 19, 2019	Senior Notes	40 years	\$85 million
Series ZZ, 3.76%	July 19, 2019	Senior Notes	30 years	\$100 million
Series YY, 2.45%	April 18, 2019	FMBs Remarketed	40 years	\$15 million
Series XX, 3.38%	April 18, 2019	FMBs Remarketed	19 years	\$10.5 million
Series WW, 3.50%	April 18, 2019	FMBs Remarketed	23 years	\$10.3 million
Series CCC, 3.00%	August 1, 2019	FMBs Remarketed	24 years	\$41 million
Series BBB, 2.75%	August 1, 2019	FMBs Remarketed	20 years	\$9.545 million
Series OO, 3.00%	August 1, 2019	FMBs Remarketed	22 years	\$46.5 million
Series DDD, 3.13%	June 30, 2020	Senior Notes	30 years	\$50 million
Series EEE, 3.13%	July 23, 2020	Senior Notes	30 years	\$50 million
Series FFF, 3.33%	July 23, 2020	Senior Notes	40 years	\$25 million
Series GGG, 2.87%	September 1, 2020	Senior Notes	30 years	\$25 million
Series HHH, 2.97%	September 1, 2020	Senior Notes	40 years	\$50 million
Series III, 2.97%	October 28, 2021	Senior Notes	30 years	\$50 million
Series JJJ, 3.07%	October 28, 2021	Senior Notes	40 years	\$50 million
Series LLL, 4.37%	May 27, 2022	Senior Notes	15 years	\$50 million
Series MMM, 4.71%	May 27, 2022	Senior Notes	30 years	\$50 million
Series NNN, 5.47%	October 24, 2022	Senior Notes	30 years	\$125 million
Series OOO, 5.56%	September 28, 2023	Senior Notes	10 years	\$50 million
Meter financing obligation				\$31.4 million
Less: Current maturities and debt issuance costs				\$(81.2) million
Total NJNG Long-Term Debt				\$1,411 Million

Planning for long-term debt issuance is on-going and looks a number of years ahead. The process for both NJNG and NJR includes the Treasury groups' analysis of external funding requirements for the next year. When analysis identifies the potential need for a sizable debt funding for the companies, management prepares a joint presentation to all members of both the NJR and NJNG boards of directors. The two boards, as explained in the *Governance* Chapter of this report are separate, but with some members in common. The joint presentation requests approval for debt issuances by both NJR and NJNG, if required.²⁰⁰

The presentation may include NJNG's estimated principal amount, expected credit ratings, expected term or tenor, and estimated timing and indicative pricing for terms of 10 years, 15 years, and 30 or 40 years. NJNG board of directors approval of debt issuances comes by resolutions voted at its meetings. Issuance requires previously obtained blanket authority from the BPU, which the Company requests every three years. In 2022, the BPU granted authority for the utility to issue and sell medium-term notes in an aggregate principal amount of up to \$500 million with maturities up to 40 years, and to issue first mortgage bonds to secure the medium-term notes. With the BPU

authority in place, the Board approves entering into one or more note purchase agreements to be executed by authorized officers of the company.²⁰¹

NJNG and NJR issuances of senior notes come through private placement with debt investors in established private placement markets. Management retains designated lead bank arrangers to structure, market, and place the notes. The arrangers generally come from two of the generally nine or so banks long utilized to facilitate both short and long-term NJNG and NJR funding. Management rotates among the long-term bank group participants the lead bank arranger responsibility - a fee-based business that requires experience and a strong execution history. Bank of America and ScotiaBank served as lead arrangers for the most recent NJNG long-term debt issued on September 28, 2023.

The debt investors include many repeat investors from a core group of insurance companies and other long-term infrastructure investors. The debt investors in NJNG senior notes rely on established Fitch and Moody's credit ratings renewed annually. Potential debt investors may contact the rating agencies directly with questions regarding NJNG credit issues, and may also perform their own analysis and modeling with their in-house financial analysts.²⁰²

2. NJNG 2014-2023 Long-Term Debt Issuances

a. 2022 and 2023 LTD Issuances

The next table summarizes NJNG's long-term note issuances in 2023 and 2022, which totaled \$275 million over two years. Each of the recent debt issuances came in the form of senior notes secured by first mortgage bonds rated A1/A+ by Moody's/Fitch. The notes have terms of 10, 15, or 30 years, and their holders include parties such as large insurance companies and long-term infrastructure investors.²⁰³

2022 and 2023 NJNG LTD Issuances *(confidential table)*

A large black rectangular box redacting the content of the table for 2022 and 2023 NJNG LTD Issuances.

b. 2021 LTD Issuances

The next table summarizes NJNG's \$100 million of long-term debt in two issuances completed on October 28, 2021 (placing it within NJNG's 2022 fiscal year, which began on October 1). The debt issuances came in the form of 30 and 40-year senior notes secured by first mortgage bonds, rated A1/A+ by Moody's/Fitch. Mizuho Securities and Scotia Capital served as lead arrangers, with the holders again including insurance companies and long-term infrastructure investors.²⁰⁴

2021 NJNG LTD Issuances
(confidential table)



c. 2020 LTD Issuances

The next table summarizes five different NJNG debt issuances completed in 2020. Their combined principal amounts totaled \$200 million, with individual amounts of either \$25 or \$50 or \$25 million. The debt issuances came in the form of either 30 or 40-year senior notes secured by first mortgage bonds, rated A1/A+ by Moody's/Fitch. J.P. Morgan and Wells Fargo served as lead arrangers for the first three issuances and Mizuho Securities and PNC Capital Markets for the remainder following in September 2020.²⁰⁵

2020 NJNG LTD Issuances
(confidential table)



d. 2019 LTD Issuances

NJNG was also quite active in the debt markets in 2019. NJNG issued 30 and 40-year senior notes totaling \$185 million secured by first mortgage bonds in two separate, July 2019 issuances. Both were initially rated Aa3/A+ by Moody's and Fitch, respectively, with the Moody's rating later downgraded. B of A Securities and Wells Fargo served as lead arrangers for these two issuances, which carried coupon rates of 3.76 and 3.86 percent, respectively.

NJNG also remarketed six existing first mortgage bond series in 2019, establishing new terms of 19 to 40 years with coupon rates ranging from 2.45 to 3.50 percent. U.S. Bancorp served as the arranger for all the remarketing issuances, with CEDE & Co. the investor on all. The next table shows NJNG's \$185 senior notes and about \$133 million of remarketed debt issuances completed in 2019.²⁰⁶

2019 NJNG LTD Issuances
(confidential table)



e. 2016 and 2018 LTD Issuances

NJNG performed debt issuances of \$125 million in each of 2016 and 2018, each with 30-year terms and rated Aa2 by Moody's. The Moody's rating was later downgraded two separate times to A1. The S&P credit rating was A+ in 2016, downgraded to A in 2018. S&P further downgraded NJNG to BBB+ later in 2018 before being replaced by Fitch Ratings. J.P. Morgan and TD Securities served as lead arrangers for the 2018 debt, and Wells Fargo the arranger for the 2016 issuances. The largest debt investors were again major insurance companies and infrastructure investors.²⁰⁷

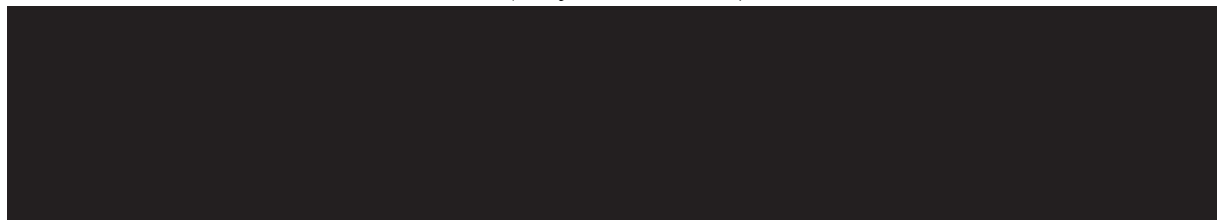
2016 and 2018 NJNG LTD Issuances
(confidential table)



f. 2014 and 2015 LTD Issuances

NJNG completed two long-term debt issuances in each of 2014 and 2015. The company issued \$50 million of 10-year and \$100 million of 30-year senior notes, rated Aa2 and A+ by Moody's and S&P, respectively, in April 2015. Wells Fargo served as lead arranger for the 2015 debt, and the largest debt investors were again major insurance companies John Hancock. TD Securities and US Bancorp served as lead arrangers for the 2014 debt issuances of \$55 million and \$70 million.²⁰⁸

2014 and 2015 NJNG LTD Issuances
(confidential table)



3. Credit Spread Summary

The tables summarizing the NJNG long-term debt issuances described in the preceding sections also break out the credit spread as a defined component of the issuance coupon rate. NJNG's spread varied widely over this period. NJNG credit spreads for 30 to 40-year debt funding ranged between 0.85 and 1.2 percent from 2016 through 2019, considered a "historically normal range" by the company. Tightening credit market conditions and volatility came with COVID 19 circumstances in 2020, and NJNG credit spreads widened substantially, ranging between 1.45 and 2.15 percent. With a return to more normal market conditions in 2021, NJNG credit spreads fell to a 0.95 to 1.05 percent range. Higher interest rate and tight credit market conditions returned in 2022, with the NJNG credit spreads on long-term debt increasing to 1.55 to 1.60 percent. The company's Treasury group attributes the variances in credit spreads to changing financial and credit markets conditions, and not to changes in the credit status of NJNG.²⁰⁹

4. NJR Long-Term Debt Financing

NJR has issued unsecured senior notes to provide long-term debt funding for holding company operations and for its non-utility businesses. NJR holding company and its NJRCEV subsidiary had outstanding about \$1.357 billion in long-term debt and financial obligations as of September 30, 2023. Certain of NJR's non-utility subsidiaries guarantee these unsecured senior notes. NJNG has made no guarantees or pledges regarding them. Such long-term debt issuances have traditionally been for terms of 10 to 12 years, with a single 5-year issuance in 2022. NJR has used the same bank arrangers as NJNG has to market its unsecured senior notes to private placement market debt investors of the same types. NJR has structured these notes as obligations of the holding company, issued through Note Purchase Agreements.

The following table shows the NJR's long-term debt issuances outstanding at September 30, 2023. The frequency and size of the NJR debt issuances have increased greatly in recent years. There have been two issuances for \$150 million in 2019, four issuances for \$460 million in 2020, and three issuances for \$210 million in 2022. The heavy debt financing in 2020 arose primarily from acquisitions of the Leaf River and Adelphia businesses for about \$524 million. NJR also issued \$231 million of common equity to help finance the acquisitions. NJR has also arranged over the past several years Term Loans for up to 364 days with its bank lenders ranging from \$150 to \$350 million.²¹⁰

NJR Long-Term Debt at September 30, 2023

Series	Type	Issue Date	Term/Tenor	Coupon Rate	Credit Spread	Principal Amount	Lead Placement Agents
Pru 3.48%	Senior Shelf Notes	Nov. 7, 2014	10 Years	3.48%	1.01%	\$100 million	Prudential Inv. Shelf
2016B	Unsecured Senior Notes	Aug. 18, 2016	10 Years	3.54%	1.80%	\$100 million	US Bancorp; Bank of Amer.;
2018A	Unsecured Senior Notes	Jun. 8, 2018	10 Years	3.96%	1.05%	\$100 million	J.P. Morgan; TD Securities
2019A	Unsecured Senior Notes	Jul. 17, 2019	10 years	3.29%	1.25%	\$100 million	Bank of Amer.; Wells Fargo
2019B	Unsecured Senior Notes	Jul. 17, 2019	10 years	3.29%	1.25%	\$50 million	Bank of Amer.; Wells Fargo
2020A	Unsecured Senior Notes	Jul. 23, 2020	10 years	3.50%	2.90%	\$130 million	Wells Fargo; J.P. Morgan
2020B	Unsecured Senior Notes	Jul. 23, 2020	12 years	3.60%	3.00%	\$130 million	Wells Fargo; J.P. Morgan
2020C	Unsecured Senior Notes	Sept. 1, 2020	11 Years	3.13%	2.45%	\$120 million	Mizuho Securit.; PNC Capital
2020D	Unsecured Senior Notes	Sept. 1, 2020	13 Years	3.25%	2.57%	\$80 million	Mizuho Securit.; PNC Capital
2022A	Unsecured Senior Notes	Jun. 23, 2022	5 Years	4.38%	1.45%	\$110 million	Wells Fargo; J.P. Morgan
Pru 3.64%	Senior Shelf Notes	Sept. 19, 2022	12 Years	3.64%	1.51%	\$50 million	Prudential
2022B	Unsecured Senior Notes	Dec. 15, 2022	10 Years	6.14%	2.25%	\$50 million	Mizuho Securit.; TD Security.
	Less: Debt issuance costs					\$(3.7) million	
Total NJR Long-Term Debt						\$1,116.3 million	
Clean Energy Ventures Long-term Debt - Net		Various	Various			\$240.7 million	

In addition to the NJR long-term debt, subsidiary NJRCEV has entered into transactions to sell commercial solar assets, with agreements to lease the assets back over a period of 5 to 15 years. The Company treats these transactions as financial obligations for accounting purposes, and are typically secured by the renewable energy facility asset and its future cash flows. The NJRCEV contractual commitments for the solar financing obligation payments were about \$240.7 million at September 30, 2023.²¹¹ In addition to its large debt burden, NJR also has guarantees of about \$222.3 million at September 30, 2022. The NJR guarantees cover NJRCES natural gas purchases and demand fee commitments, causing a further impact to parent company creditworthiness.²¹²

5. Potential NJNG Linkages in NJR Loan Documents

We reviewed the NJNG and NJR note purchase agreements for long-term debt issuances that remain outstanding. We reviewed the financing documents for direct or indirect ties to NJNG, also looking for any encumbrances of utility assets by the holding company. We sought to determine whether these documents contained any cross-defaults, material adverse change provisions, or collateral call provisions with potential negative impact for NJNG. We also evaluated whether financial distress or covenant violations at the holding company or other affiliates could cause restrictions or financial damage to the utility due to covenants in NJR's long-term debt financing documents.

Our examination of the financing and underwriting agreements for the NJR long-term debt issuances currently outstanding found no encumbrance of utility assets, cross-defaults, or material adverse change provisions in these documents. Debt limitation covenants in both the NJR and NJNG debt documents did cause some concern that required further review and analysis. In November 2021, NJR entered into amendments to each of its existing senior note purchase agreements. These amendments increased the company's maximum ratio of consolidated debt to consolidated capitalization (leverage ratio) from 65 to 70 percent.²¹³ Violations of the leverage restrictions could limit the ability of NJR or its "restricted subsidiaries" to acquire additional debt, liens and encumbrances, loans and investments, prohibit disposition of assets, limit dividends or restricted payments, and merge, consolidate, or sell substantially all of its assets. However, NJNG is defined in the note agreements as an "Unrestricted Subsidiary," eliminating the utility from restrictions in the event of NJR covenant violations.²¹⁴

NJNG does have in its own note purchase agreements similar provisions where events of default or violations of the NJNG leverage covenant of 65 percent would cause similar restrictions. However, such provisions reflect customary and standard usage for note agreements and do not restrict NJNG. The utility manages to debt targets in the mid-40s percentage range, and has never approached its 65 percent debt limit.

The NJR debt documents do not include the potential transfer of financial risks that could specifically harm NJNG that are directly attributable to financing document provisions. While NJR's financing documents do not offer a direct vehicle for transferring financial risks to NJNG, we note that other processes such as common treasury management and cash management and financing processes can cause risk transfer.

K. Conclusions - - Long-Term Debt Financing

7. NJNG has effectively funded its utility operations with long-term debt issuances of about \$1.4 billion since 2014.

NJR's Treasury group has planned for and issued long-term debt of about \$1.411 billion from 2014 through September 2023. NJNG issues its own senior notes, secured by an equal principal amount of the company's first mortgage bonds to fund the debt portion of its utility operations. NJNG's issuances of senior notes have been effectively privately placed with debt investors in established private placement markets by its lead bank arrangers hired to structure, market and place the notes.

NJNG has appropriate processes in place to plan for and execute the issuance of its long-term debt. NJNG has obtained authority from the BPU for a blanket issuance authority, most recently in 2022, to issue and sell notes of up to \$500 million and to issue first mortgage bonds to secure the notes. The NJNG Board of Directors approves the debt issuances in resolutions presented at its Board meetings. NJNG's issuances of senior notes have been privately placed with debt investors by its designated lead bank arrangers. The debt investors have included several repeat investors from a core group of insurance companies and other long-term infrastructure investors.

8. NJNG and NJR's long-term debt issuances carry appropriate interest rate pricing considering their disparate relative credit ratings.

The NJNG and NJR bank arrangers often prepare tables of recent, actual debt issuances prior to the client's debt issuance and apply actual market information to calculate indicative pricing of upcoming debt issuances. These tables can assist in evaluating whether pricing on NJNG or NJR's actual debt issuances are in line with comparable utility or holding company debt issuances.

The following depiction of NJNG's September 2023 debt issuance compares the interest rates and credit spreads over U.S. Treasuries of issuances similar to NJNG's in issuer type, term, credit rating, and security.²¹⁵

NJNG Debt Issuance Comparables
(confidential depiction)



The top section of this chart presents NJNG's indicative treasury yield, credit spread and total coupon rate for terms of five, seven, 10, 12, 15, 20, 30 and 40-year terms, considering A1/A+ ratings from Moody's and Fitch. The second chart section of public secondary issuances are not directly comparable to NJNG. They reflect public debt market issuances of a much larger size, which do not directly compare to private placement markets for smaller principal amounts.²¹⁶

The bottom section of U.S. private placement utility transactions does have more direct comparability to NJNG, however. The Madison Gas & Electric, NICOR and Aqua Pennsylvania senior note and first mortgage bond issuances in July and August 2023 are very comparable to NJNG. These issuances are senior notes or first mortgage bonds issued by gas and water utilities with comparable credit ratings. The credit spreads for a variety of terms are very close to those of NJNG's credit spreads, indicating that NJNG credit spreads and therefore indicative pricing are equivalent and therefore demonstrably reasonable for that credit level.

Liberty also reviewed other pricing charts for NJNG issuances in May and October 2022, also comparing the utility's indicative pricing and credit spreads to those of comparable actual debt transactions. This review also showed that NJNG secured similar pricing on its long-term debt issuances to those of other private placement utilities of the same credit level.²¹⁷ We concluded

that NJNG has received fair and reasonable credit spreads and interest rate pricing on its debt issuances, and demonstrably so in 2022 and 2023.

Liberty also reviewed NJR pricing charts for its debt issuances in 2022 and 2023. The comparisons show credit spread pricing for NJR falling in the middle of private placement holding company and unsecured issuances that are rated approximately BBB+.

The indicative pricing charts for NJR suggest that its long-term debt issuances are priced in the BBB+ credit range, designating a credit level for the holding company that is at least three credit levels below that of its utility subsidiary NJNG.

The indicative pricing charts also show holding company secondary trading levels of larger utility holding companies that are rated Baa1 or Baa2. The comparisons to larger, publicly issued holding companies of similar credit standing show NJR pricing of 30 to 40 basis points above that of its larger peers, an expected premium for smaller holding company issuances. We conclude from the NJR pricing comparisons that the credit markets believe that NJR is a credit of BBB+ or below, far below that of its utility subsidiary.²¹⁸

9. NJR's high debt leverage inappropriately exposes NJNG to serious financial risks. (See Recommendation #3)

NJR holding company long-term debt outstanding at September 30, 2023, totaled \$1.116 billion, plus NJRCEV total long-term debt of \$240 million. NJR and NJRCEV long-term debt represent 49.0 percent of its consolidated long-term debt, extremely high levels for a utility holding company. In addition to its large debt burden, NJR also has guarantees of about \$222.3 million at September 30, 2022 that are an incremental drag on the holding company's creditworthiness.²¹⁹

NJR's holding company debt and non-utility businesses have produced elevated NJR business and financial risks reflected in the utility's credit rating opinions in recent years. For instance, Moody's noted a primary credit challenge in its September 2022 NJNG credit opinion: "High leverage at parent company relative to consolidated debt".²²⁰ Fitch Ratings also notes "... significant parent-only debt that supports non-regulated business". A stated reason that such high levels of holding company debt impact NJNG financial risks is that Fitch considers the utility's "... legal ring fencing is considered porous given the general protections afforded by economic regulation. Access and control are evaluated as porous. NJR centrally manages the treasury function and is the sole source of equity...".²²¹

NJR's extremely high levels of debt leverage and financial obligations pose financial risks not only to the holding company, but also to NJNG. The utility is clearly not adequately insulated from the holding company and its debt levels, remaining at risk currently.

10. The NJR Treasury practice of jointly offering NJR and NJNG long-term debt through common bank arrangers does not appropriately separate utility and holding company financing. (See Recommendation #4)

NJNG and NJR have jointly planned for and solicited long-term debt issuances on numerous occasions in the past few years. The utility and holding company parent have jointly issued private placement long-term debt on July 17, 2019, June and July 2020, September 1, 2020, May and June 2022 and October and December 2022. In each of these instances, NJNG and NJR utilized two

common bank arrangers to market and place the debt instruments with private placement debt investors.²²²

As noted above, the process of issuing long-term debt for both NJNG and NJR includes the Treasury groups' analysis of external funding requirements, with a joint presentation then made to the members of both the NJR and NJNG boards of directors. The joint presentation requests Board approval to issue specific principal amounts of NJNG first mortgage bonds and NJR senior notes or NJR term loans.²²³ Two bank lead arrangers are hired to market and place the long-term debt of NJNG and NJR.

The NJNG and NJR Chief Financial Officer ("CFO") confirmed that the joint approach to issuing the two companies' long-term debt has been in place since his arrival as Treasurer in 2019, and represented a new Treasury approach to debt issuances. The CFO believes that arranging the debt issuances jointly is more efficient for the Treasury group when performed using the same processes and lead bank arrangers. The CFO also noted that the debt issuances for NJNG and NJR are by their separate corporate entities, and that while some of the private placement investors are interested in NJNG's 30 and 40-year debt, others are interested in NJR's 5 to 10-year debt.²²⁴

Joint solicitation of debt capital by a holding company and its utility subsidiary can lead to cross-subsidization by the utility subsidiary for the benefit of its holding company parent.

11. The NJNG and NJR long-term debt agreements do not contain covenants that materially threaten legal or financial harm to NJNG.

The outstanding financing and underwriting agreements for NJNG and NJR long-term debt issuances contain no apparent encumbrance of utility assets, cross-defaults, material adverse change provisions, or collateral call provisions. We also found in the debt documents no potential transfer of financial risks to NJNG due specifically to long-term financing document covenants. As explained above, however, circumstances such as NJR management of NJNG equity and dividend policies and operating joint credit facilities create potential for financial harm to the utility, as is also recognized by the credit rating agencies.

L. Recommendations - - Long-Term Debt Financing

3. Create for NJNG lasting and enforceable ring-fencing measures sufficient to make the utility fully insulated and protected from the long-term debt of the NJR holding company. (See Conclusion #9)

NJNG should be ring-fenced to protect it more robustly from holding company and non-utility business risks and financial stress, and especially the heavy debt position of the holding company. S&P has historically been the most effective proponent of defining appropriate utility insulation, especially regarding utility holding company risks, including their subsidiaries. S&P has been transparent in assessing and in setting forth requirements for the insulation of an entity within a holding company group. However, while S&P no longer rates any of the NJR companies, utility insulation should be designed to meet its strong insulation criteria.

Ring-fencing for NJNG should meet all S&P criteria for full, effective insulation. Ring fencing that meets S&P's insulation criteria should also cause Fitch, which continues to be retained by the

utility, to rate NJNG solely on its own financial merits and metrics with no negative influence from the parent or affiliates.

This ring-fencing, as in Recommendation #2, should be contained in a state regulatory commission order to be effective and enforceable. Ring-fencing left to voluntary company action is subject to change at any time, with change probably a virtual certainty when utility protection proves most necessary.

M. Background - - Cash Management and Credit Facilities

Utility holding companies can jointly manage banking relationships, credit facilities and cash management operations to meet the liquidity needs of the holding company, utility, and other business operations. Such joint cash management processes, cash management systems, concentration accounts and bank lines of can credit create opportunities for cross subsidization and create financial risk for the stronger subsidiaries - - typically those that provide regulated utility service, such as NJNG does. Funds management should optimize utility financial interests and avoid affiliate risks through appropriate management of funds in a well-designed, comprehensive structure.

Financing NJNG liquidity requirements has occurred through issuance of the utility's own commercial paper. NJR's approach has employed direct borrowing from revolving credit facilities and term loans, each arranged by its group of relationship bankers. NJNG also has access to its own revolving lines of credit set up by NJR with its same bankers. This approach has provided additional and back-up access to liquidity capital. However, it remains important that solicitation and management by the holding company of NJNG's revolving credit facilities in parallel to those of NJR and other subsidiaries occur through means and methods that do not negatively influence or compromise NJNG access to liquidity sources.

N. Findings - - Cash Management and Credit Facilities

1. Cash Management Operations

NJR's Treasury Director and senior treasury analysts perform cash management for NJNG, the holding company and its non-utility businesses. Two senior Treasury analysts perform cash management operations, with one senior analyst dedicated to NJNG, and the other to NJR and its other subsidiaries. Daily cash management operations follow consistent and specific processes repeated each business day.

NJNG operates a \$250 million commercial paper program credit rated the second-highest commercial paper ratings; *i.e.*, P-2/F-2 by Moody's and Fitch, respectively. Bank of America, Mizuho, and Wells Fargo serve as the NJNG commercial paper broker/dealers. The dealers compete for NJNG commercial paper business daily. NJNG also has a \$250 million Revolving Credit Facility ("RCF") with the NJR bank group. The utility uses this facility as a liquidity backstop for its commercial paper program - - a requirement for operating such programs. NJNG borrows almost exclusively on an overnight or one-day basis through its commercial paper program because it offers lower interest rates than the RCF. NJR does not have a sufficient credit standing to operate a commercial paper program to finance its daily cash management operations.

The holding company makes short-term borrowings for the holding company to finance its non-regulated businesses directly from its own RCF.²²⁵

The following activities typify NJNG's daily cash management process:

- The first thing in the morning, the NJNG senior treasury analyst calls and receives a commercial paper market update from each of the dealers.
- A NJNG daily cash forecast is then prepared or updated.
- Bank accounts at PNC (NJR's primary bank for cash operations) are reconciled for the prior day. PNC has separate bank accounts and sign-ins for NJR, and separate accounts and sign-ins for NJNG.
- PNC next provides a current-day cash report for review.
- JP Morgan provides a report for NJNG receipts at the utility's lockbox (at JP Morgan) in wire form, addressing receipts from the previous day.
- The senior treasury analyst then determines the day's NJNG cash needs, using daily cash receipts and disbursements data.
- The analyst receives from each broker/dealer commercial paper quotes that provide their prices for overnight borrowing for that day and the borrowing needs.
- The analyst selects the winning dealer quote, calls the dealer, and places the commercial paper notes.
- The winning commercial paper dealer provides a confirmation email to the senior treasury analyst.
- Treasury prepares an email summarizing NJNG and NJR cash positions daily for the Treasurer and the CFO.

NJR and NJNG each employ their own, separate set of bank accounts at PNC. Separate account IDs provide access to the NJR and NJNG accounts. PNC's Pinnacle system contains the accounts for all NJR companies. The PNC Pinnacle system controls all disbursements for all NJR companies.²²⁶ The senior treasury analyst for NJNG logs daily into the utility's accounts. The utility bank accounts reside in a section of the PNC Pinnacle system separate from those of NJR. The system and processes involved serve to separate all receipts and disbursements for NJNG from those of NJR.²²⁷

The NJNG and NJR senior treasury analysts have responsibility for performing cash forecasts for their respective companies. Large MS Excel files capture these cash forecasts. Management employs one-year cash forecasts for NJNG and for NJR and its subsidiaries (updated daily by the individual analysts). These cash forecasts provide daily, monthly, quarterly, and annual cash reports on a rolling 12 months-forward basis.²²⁸

The senior treasury analysts gather cash information from each individual subsidiary for inclusion in the forecasts. The analysts work closely with the entities for which they have responsibility to ensure timely and accurate changes needed to keep forecasts current. Daily cash position emails go to Treasury management and the CFO. They include receipts, disbursements, cash balances, and borrowing and investment balances.²²⁹ A weekly Treasury department meeting with the

Treasurer reviews the cash forecasts, and provides opportunity to discuss cash issues and events and to update the Treasurer and CFO on cash issues.

NJNG's revenues are, as typical for natural gas distribution utilities strongly seasonal, generating excess cash occasionally. An Investment Policy applicable for both NJR and NJNG has produced accounts at PNC, TD Securities and JPMorgan. The Investment Policy allows investments in government securities, money markets and highly rated investments - - all highly safe investments. Investments, as the policy requires have only overnight terms, to maximize liquidity.²³⁰

2. NJNG Commercial Paper Borrowing and Interest Costs

NJNG's interest cost on commercial paper is set by adding to the Federal Funds rate credit spreads associated the utility's A2/F-2 rating. As noted, this pricing basis makes NJNG's commercial paper borrowing almost always preferable to its RCF in meeting liquidity needs. We examined NJNG's quarterly commercial paper and RCF maximum and weighted average borrowing outstanding and weighted average short-term interest expense for 2021 through June 30, 2023. The data showed what we consider to be reasonable commercial paper rates.²³¹

NJNG borrowing costs ran well below one percent in 2020 and 2021, when interest rates generally fell to very low levels. NJNG borrowing costs ranged from 1.2 to 2.8 percent in 2018 and 2019 before falling to as low as 0.2 percent in 2020. Those rates, as has been true for others, have increased to between four and five percent in the first half of 2023. We examined NJNG's quarterly maximum and weighted average borrowing and investments outstanding and weighted average interest rates from the beginning of 2018 through the end of 2020.²³² We found the rates and credit spreads typical for common issuances by utilities with similar credit profiles.

3. NJNG and NJR Revolving Credit Facilities

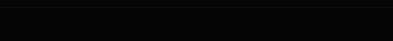
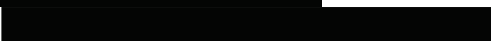
Revolving lines of credit and their participating bank lenders have proven major cornerstones in securing access to external financing for the NJR companies. NJR's banking group has arranged and operated these revolving lines. As noted, NJNG's \$250 million RCF backstops and allows use of its commercial paper program to finance daily utility operations. NJR makes its RCF available to finance holding company operations and, where required, the cash and liquidity needs of its non-utility businesses. Members of the banking group who have served as lead arrangers of NJR and NJNG long-term debt issuances (described previously in this chapter) have also served as providers of short-term loans of up to \$350 million to provide bridge or temporary debt financing. Examples of this other use include acquisitions or other large NJR debt financing needs.²³³ The NJR banking group has served as gatekeeper for all NJR companies in securing access to external debt financing, including for NJNG in meeting both shorter-term liquidity and longer-term financing needs.

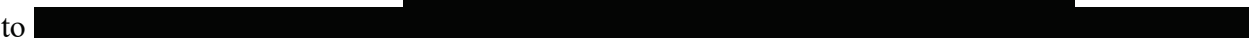
NJR has recently had a \$650 million RCF and NJNG one of \$250 million, both dated August 30, 2022. NJR and NJNG each have had, since at least 2014, RCFs arranged by the same lead bank arrangers. The next table summarizes the lending commitments under the RCFs.²³⁴

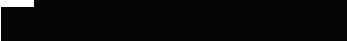
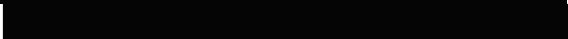
NJR/NJNG Revolving Credit Facilities 2022-2023
(confidential table)



The preceding table shows pricing based on NJNG’s senior secured debt ratings of A+/A1 by Fitch and Moody’s, respectively. The pricing highlighted in the shaded area includes credit spreads above the Secured Overnight Financing Rate (“SOFR”) rate of 87.5 basis points for NJNG and 112.5 basis points for NJR. This SOFR provides a broad measure of the cost of overnight borrowing collateralized by Treasury securities. In more recent years, SOFR has replaced the London Interbank Offered Rate (“LIBOR”) as the rate calculation basis for many short-term financing agreements and RCFs.²³⁵ LIBOR reflected a benchmark rate at which major international banks made short term loans to each other.

NJNG’s RCFs . Both NJNG and NJR also  NJNG pays 

The NJNG and NJR RCFs also  to allow them to 

. Another option allows 

4. NJNG and NJR RCF History

NJNG and NJR RCFs date back to 2014, continuing to operate under similar structures and terms, but with different dollar values. NJNG was party to an RCF for \$250 million from May 15, 2014 to December 15, 2018. NJR had a \$425 million RCF from September 2015 to December 15, 2018. Six of the eight participating banks were the same for both companies in these earlier RCF versions. The interest rate pricing grid of each of the RCFs employed NJNG's senior secured credit rating, with each company's pricing at a common LIBOR plus 87.5 basis points. The same commitment and arrangement fees and maximum leverage covenants of 65 percent applied to the NJNG and NJR RCFs at that time.

NJR and NJNG each entered new RCFs with identical bank line-ups on December 15, 2018, again for \$425 million and \$250 million, respectively. The new 2018 RCFs continued the prior pricing bases and values, and commitment, arrangement and upfront remained the same for both. Accordion features increased from \$50 million to \$100 million for NJNG, and from \$100 million to \$250 million for NJR, allowing each significant expansion of lending if required.

September 2, 2021 brought the next RCF changes. RCF size increased from \$425 million to \$500 million for NJR, but remained at \$250 million for NJNG, with moderate re-arranging of banks and commitments occurring. The most significant change came in differentiating pricing between NJNG and NJR. Pricing for NJR increased to LIBOR+112.5 basis points and commitment fees for the holding company increased to 10 basis points. The RCF accordion features, swing lines, letters of credit and fees generally remained the same for both between NJR and NJNG.

The September 2021 RCF versions lasted for only about one year, replaced by the current versions (detailed above) on August 30, 2022. The nine participating banks and their commitment levels stayed the same for NJNG, and the size of its RCF remained at \$250 million. The NJR RCF value increased from \$500 million to \$650 million, and its accordion feature limit dropped by \$150 million. As noted, SOFR also replace LIBOR as the pricing basis for the first time.²³⁶

O. Conclusions - - Cash Management and Credit Facilities

12. NJNG has effectively managed its cash and liquidity through its daily Treasury operations and a dedicated commercial paper program.

NJR's Treasury Director and a dedicated senior treasury analyst have performed cash management for NJNG. Daily cash management operations have followed effective and consistent processes repeated each business day. The utility has operated separate bank accounts in a dedicated section of the PNC Pinnacle banking system. The system has required a specific NJNG ID entry. All receipts and disbursements for NJNG have remained separate from those of NJR and its other businesses.

The NJNG and NJR senior treasury analysts have had responsibility for performing cash forecasts for their respective companies. A weekly Treasury department meeting with the Treasurer has

discussed cash forecasts and provided opportunity to discuss cash issues and events and to update the Treasurer and CFO on cash issues.

NJNG has had access to its own \$250 million commercial paper program to finance its utility operations. NJNG also has employed a \$250 million RCF primarily as a liquidity backstop for the commercial paper program. NJNG has borrowed on an overnight or one-day basis through its commercial paper program, with lower interest rates than the RCF option. Three commercial paper dealers have competed for NJNG commercial paper business daily, further enhancing its cost effectiveness.

13. NJR has taken advantage of NJNG's financial strength and credit standing to advantage, producing lower rates for holding company RCF borrowing. (See Recommendations #4 and #5)

NJR and NJNG each closed new RCFs with the holding company's bank group in December 2018, September 2021 and August 2022. In each instance, NJR received interest rate pricing based on the "NJNG senior secured debt rating" rather than its own credit standing, which is demonstrably lower than of its utility subsidiary. We asked why NJR has not priced its borrowing based upon its own credit standing, NJR Treasury management responded that "NJR does not have a public credit rating". Management also noted that "NJR has sought to retain the same terms and pricing as that of previous RCF agreements" - - pricing that clearly favored NJR.²³⁷

The slide below shows this interest rate pricing anomaly in summarizing NJR and NJNG RCFs in place from December 2018 until September 2021. Note particularly the two left columns of the chart.²³⁸

NJR and NJNG RCF Summary
(confidential depiction)



The first footnote on the bottom of the slide explains that NJNG's senior secured debt ratings drove NJR pricing. Thus, NJR and NJNG both experienced the same interest-rate pricing of LIBOR+87.5 basis points (noted in the blue and orange shaded areas), with equal commitment and upfront fees charged to each.

A second example comes from an overview of the new RCFs signed on September 2, 2021. NJNG's senior secured credit rating again drove NJR's interest rates; however, NJR pricing and commitment fees had increased to LIBOR+112.5 basis points and 10 basis point commitment fees. NJR's pricing at one level more expensive than NJNG in the 2021 RCFs, remained significantly advantageous considering its much lower credit standing.

The most recent RCFs for NJR and NJNG (signed August 30, 2022) provide a third example, as NJR's overview demonstrates.²³⁹

RCF Overview Summary
(confidential depiction)



The pricing grid shows that NJR's "SOFR spread" pricing of 112.5 basis points (see the bold-type line in the pricing chart) continues to derive from NJNG's senior secured credit rating. The pricing chart also provides prices for lower credit ratings all the way down to ratings level BBB+, its most expensive displayed pricing level. For example, the SOFR credit spread for BBB+ credit ratings shows as 175 basis points, with commitment fees of 25 basis points.

Clearly NJR's RCF pricing has gained substantial advantage from NJNG's higher credit standing.

14. NJR's practice of jointly soliciting and negotiating its own and NJNG bank relationships and revolving credit facilities promotes cross-subsidization and further exposes the utility to holding company financial risks. (Recommendations #4 and #5)

NJR Treasury's practice of jointly soliciting, negotiating and managing NJR and NJNG banking relationships and credit facilities has occurred since at least 2018, and likely earlier. NJR's Treasury management, including the CFO, Treasurer, and Treasury Director, carry out responsibilities for both NJR and NJNG. Treasury presents financial planning information and requests approvals for credit facilities and long-term debt issuances to joint sessions of the NJR and NJNG boards of directors. A common NJR banking group structures and syndicates revolving credit facilities for NJR and NJNG in parallel. NJR also uses "lead arrangers" from the joint banking group to market simultaneously long-term debt issuances by both companies as part of common financing processes.

The financial interests of a utility holding company and its regulated subsidiary can clearly diverge on occasion. Credit rating agencies in NJNG rating reports have noted that NJR's common treasury management and limited utility insulation exposes the utility to the holding company's substantial financial risks, which is especially true if the parent falls into financial duress.

The joint solicitation and use of a common banking group and the joint negotiation of revolving credit facilities and long-term debt issuances reflect a lack of sufficient financial management independence for the utility, which should be better insulated and protected from the financial risks of its holding company parent and its non-regulated subsidiaries.

P. Recommendations - - Cash Management and Credit Facilities

4. NJNG should solicit and establish its own banking group, its own independent Revolving Credit Facility and make its long-term debt issuances independent of its holding company parent. (See Conclusions #10, #13 and #14)

NJNG would benefit from employing its own banking group and independently offering its own RCF, long-term debt and other debt financing separate from the funding operations of the NJR holding company. The utility does not benefit, and may be inappropriately credit linked, due to being packaged and jointly marketed with its substantially financially weaker parent holding company. NJNG is financially sound with strong credit ratings and is capable of independently raising capital in the financial markets on a stand-alone basis, separate and not packaged with and negatively influenced by its weaker parent.

5. NJNG should strengthen its Board of Directors and Treasury management governance to better support the financial interests of the utility. (See Conclusions #13 and #14)

NJR and NJNG's Treasury management and CFO work for both companies, the Board of Directors members work for both companies and the common banking group of nine banks also works for both companies. The interests of the NJNG utility in financial decision-making and financing operations are not currently being protected with its current processes, responsibilities and

authorization and operations, as noted in credit rating agency reports and NJR's use of NJNG's credit ratings for its own purposes. NJNG should make proposals to strengthen the utility's independence and decision-making regarding financing decisions and Treasury management, including changes to its Treasury management and Board of Directors governance and approval processes.

Appendix I: NJNG Capital Structure

March 31, 2014	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	March 31, 2017	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	June 30, 2020	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	534.4	42.0%		Debt	714.3	43.7%		Debt	1,017.2	42.5%	
Equity	737.3	58.0%	51.2%	Equity	921.4	56.3%	52.5%	Equity	1,376.2	57.5%	54.0%
Total Book Capitalization	1,271.7	100.0%		Total Book Capitalization	1,635.7	100.0%		Total Book Capitalization	2,393.4	100.0%	
June 30, 2014	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	June 30, 2017	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	September 30, 2020	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	562.2	43.7%		Debt	719.9	44.3%		Debt	1,157.4	46.9%	
Equity	724.5	56.3%	51.2%	Equity	905.3	55.7%	52.5%	Equity	1,310.9	53.1%	54.0%
Total Book Capitalization	1,286.7	100.0%		Total Book Capitalization	1,625.2	100.0%		Total Book Capitalization	2,468.3	100.0%	
September 30, 2014	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	September 30, 2017	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	December 31, 2020	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	636.1	46.9%		Debt	726.7	44.8%		Debt	1,167.9	46.2%	
Equity	719.2	53.1%	51.2%	Equity	895.7	55.2%	52.5%	Equity	1,360.4	53.8%	54.0%
Total Book Capitalization	1,355.3	100.0%		Total Book Capitalization	1,622.4	100.0%		Total Book Capitalization	2,528.3	100.0%	
December 31, 2014	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	December 31, 2017	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	March 31, 2021	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	682.0	48.3%		Debt	773.2	46.0%		Debt	1,151.7	44.4%	
Equity	728.7	51.7%	51.2%	Equity	906.0	54.0%	52.5%	Equity	1,440.9	55.6%	54.0%
Total Book Capitalization	1,410.7	100.0%		Total Book Capitalization	1,679.2	100.0%		Total Book Capitalization	2,592.6	100.0%	
March 31, 2015	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	March 31, 2018	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	June 30, 2021	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	656.9	45.8%		Debt	708.2	42.3%		Debt	1,159.2	44.6%	
Equity	777.3	54.2%	51.2%	Equity	966.5	57.7%	52.5%	Equity	1,442.5	55.4%	54.0%
Total Book Capitalization	1,434.2	100.0%		Total Book Capitalization	1,674.7	100.0%		Total Book Capitalization	2,601.7	100.0%	
June 30, 2015	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	June 30, 2018	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	September 30, 2021	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	644.8	45.1%		Debt	721.3	42.7%		Debt	1,260.8	47.1%	
Equity	784.4	54.9%	51.2%	Equity	968.9	57.3%	52.5%	Equity	1,418.3	52.9%	54.0%
Total Book Capitalization	1,429.2	100.0%		Total Book Capitalization	1,690.2	100.0%		Total Book Capitalization	2,679.1	100.0%	
September 30, 2015	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	September 30, 2018	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	December 31, 2021	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	672.6	46.4%		Debt	766.2	43.4%		Debt	1,390.7	48.6%	
Equity	776.8	53.6%	51.2%	Equity	1,001.0	56.6%	52.5%	Equity	1,469.4	51.4%	54.0%
Total Book Capitalization	1,449.4	100.0%		Total Book Capitalization	1,767.2	100.0%		Total Book Capitalization	2,860.1	100.0%	
December 31, 2015	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	December 31, 2018	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	March 31, 2022	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	725.8	47.3%		Debt	799.0	42.2%		Debt	1,218.6	43.7%	
Equity	807.4	52.7%	51.2%	Equity	1,092.7	57.8%	52.5%	Equity	1,572.2	56.3%	54.0%
Total Book Capitalization	1,533.2	100.0%		Total Book Capitalization	1,891.7	100.0%		Total Book Capitalization	2,790.8	100.0%	
March 31, 2016	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	March 31, 2019	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	June 30, 2022	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	700.5	45.0%		Debt	751.8	39.3%		Debt	1,325.1	45.7%	
Equity	856.3	55.0%	51.2%	Equity	1,161.2	60.7%	52.5%	Equity	1,574.9	54.3%	54.0%
Total Book Capitalization	1,556.8	100.0%		Total Book Capitalization	1,913.0	100.0%		Total Book Capitalization	2,900.0	100.0%	
June 30, 2016	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	June 30, 2019	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	September 30, 2022	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	782.0	47.6%		Debt	838.5	42.0%		Debt	1,394.1	46.4%	
Equity	860.3	52.4%	51.2%	Equity	1,157.4	58.0%	52.5%	Equity	1,608.4	53.6%	54.0%
Total Book Capitalization	1,642.3	100.0%		Total Book Capitalization	1,995.9	100.0%		Total Book Capitalization	3,002.5	100.0%	
September 30, 2016	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	September 30, 2019	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	December 31, 2022	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	777.2	47.7%		Debt	920.3	43.7%		Debt	1,559.2	48.4%	
Equity	852.9	52.3%	51.2%	Equity	1,184.0	56.3%	52.5%	Equity	1,663.1	51.6%	54.0%
Total Book Capitalization	1,630.1	100.0%		Total Book Capitalization	2,104.3	100.0%		Total Book Capitalization	3,222.3	100.0%	
December 31, 2016	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	December 31, 2019	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %	March 31, 2023	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %
Debt	740.7	45.6%		Debt	971.3	43.2%		Debt	1,443.8	45.0%	
Equity	883.2	54.4%	52.5%	Equity	1,277.9	56.8%	54.0%	Equity	1,763.8	55.0%	54.0%
Total Book Capitalization	1,623.9	100.0%		Total Book Capitalization	2,249.2	100.0%		Total Book Capitalization	3,207.6	100.0%	
				March 31, 2020	Dollars in Millions	Actual Cap. %	BPU Authorized Cap. %				
				Debt	970.6	41.6%					
				Equity	1,364.2	58.4%	54.0%				
				Total Book Capitalization	2,334.8	100.0%					

***Chapter VIII: Accounting and Property Records
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Chapter VIII: Accounting and Property Records

A. Background

This chapter addresses the primary financial systems and the policies and procedures related to NJR accounting, with a particular emphasis on plant accounting and accounting internal controls. This report's *Cost Allocations* Chapter deals with the costs directly billed and otherwise allocated or assigned to NJNG from the NJR Service Company ("NJRSC"). That Chapter also addresses the result of our examination of affiliate billing and transaction paths.

Accounting processes and the underlying systems, if not carried out properly, can have a negative effect on the financial statements presented by the company - - statements relied on by investors and utility regulators to ensure the integrity of the financial data used to set rates. Controls must appropriately ensure the proper recording of transactions in correct accounts and to the proper companies, to provide an accurate basis for management's internal purposes and for accuracy and completeness in setting rates and further in making costs to serve customers and their sources and justifications transparent to regulatory process authorities and stakeholders to provide confidence in utility operating accounts and in the lack of cross subsidization among entities.

B. Findings

1. Organization and Staffing

The NJR Corporate Controller has executive responsibility for accounting functions broadly at NJR and for NJNG as well. NJR performs them on a consolidated basis for all its businesses, entities, and operations, but does assign resources to work directly with NJNG accounting activities. The Corporate Controller has eight direct reports. Seven of these direct reports operate in the Financial Planning and Accounting group:

- Sr. Derivative Accountant
- Manager – Non-Reg Accounting
- Manager Accounting Research & Policy
- Director of External Reporting & Accounting Policy
- Manager External Reporting
- Manager Energy Settlements
- Controller-Regulated.²⁴⁰

The Financial Planning & Accounting staff totals 31 employees, with 17 operating in the Controller-Regulated group. This group performs most accounting functions that affect NJNG, including Accounts Payable, Fixed Assets, and General Ledger entries.²⁴¹ The Director of Digital Controllershship and Automation is the eighth of the direct reports to the NJR Corporate Controller.

2. Accounting Systems

NJR instituted Project NEXT to support and modernize business processes and technology platforms. Implementation of a new Enterprise Resource Planning (ERP) software solution comprised a central element of that transformation.²⁴² NJR converted to the Oracle Fusion ERP software system as of July 1, 2020, replacing its JD Edwards Transaction System. Both ERPs offer

integrated systems containing focused modules that interface with other financial systems. The new, Oracle Fusion General Ledger generates entries from subledgers such as Accounts Payable, Accounts Receivable, and Procurement, as well as manual entries, and transactions interfaced from other source systems, such as UCIS for customer billing and cash receipts and Ceridian Dayforce for payroll.

Ceridian Dayforce serves as the human capital management platform and processes payrolls for NJR, NJNG, and other affiliates. PowerPlant, a widely used and utility-specific fixed asset system serves as the repository for NJNG and other affiliate fixed assets, continuing property records, and as NJNG's work order ledger. PowerPlant also provides for tax depreciation, and capital planning support.²⁴³

We examined a broad array of 55 documents that describe and guide the operation of the General Ledger and other feeder systems. These documents detail system policies, procedures, and process flows, 14 of them related to the General Ledger, 12 to Billing, and 18 to Payroll and Time Reporting. The documents ranged from providing relatively simple guidance for absence reporting and deductions from payroll to the detailing of more complex instructions for Balance Sheet Account Reconciliations, Payroll Processing, and controls around Critical Spreadsheets.²⁴⁴ Management presented a confidential system flow chart of the databases and platforms that support the Company's accounting and reporting systems. It shows the interfaces between the General Ledger and supporting Oracle modules and interfaces with other feeder systems, like PowerPlant.²⁴⁵

We also examined the Company's chart of accounts utilized for internal reporting and external reporting in accordance with US Generally Accepted Accounting Principles (GAAP).²⁴⁶

3. Work Order Management

Work order systems accumulate costs (both capital and expense) from various sources, including employee time sheets and expense reports, overheads, allocations, vendor invoices, and journal entries. NJNG is in the implementation phase of a new work and asset management software platform from IBM, called Maximo. This replacement is required, as the vendor will not support the currently used system beyond 2025.²⁴⁷ Pending that replacement, NJNG will continue to use JD Edwards, a third-party software product, currently owned by Oracle. Separate and distinct accounting elements maintain the costs that the work order system manages, allowing NJNG's ERP to direct costs to the right accounts at the right company. The system handles all contractor-related infrastructure work, including inventory management. Work completion information passes to PowerPlant, the Company's fixed asset management system. All contractor invoicing passes through to the Oracle ERP.²⁴⁸

Financial Procedure 133 describes the processes for approving open work orders, for closing them, and for providing associated controls. A staff accountant or designee reviews work orders against approved budgeted amounts. Responsible engineering personnel then review the costs associated with similar projects in order to determine whether the costs are appropriate in relation to the budgeted amount. Project budgets and any changes above 10 percent to pre-approved project budgets route through Oracle project budget workflow approval to the appropriate personnel. Absent approvals and required documentation, work orders get rejected and returned to the

responsible engineering personnel. The Staff Accountant reviews project details against the capital budget listing to verify specific listing of the project in the plan, and to verify that estimate conformity to the approved capital plan. If the estimates do not conform or if the estimated work order involves costs more than 10 percent above a plan's approved amount, the Staff Accountant will reject the project. If the documentation is satisfactory, the Staff Accountant or designee will electronically approve the work order in Oracle Projects. Proper recognition of approved projects by PowerPlant allows charges made against the work order.²⁴⁹

Financial Procedure 133 describes controls around the process to close work orders. For example, comparison of detailed reports from PowerPlant and the Oracle General Ledger seek to ensure accurate plant account balances. In addition, a Work Order Detail Unit Cost Analysis created for all work orders lists all materials, labor, AFUDC and Engineering Overhead estimated and actual costs. Work orders with a 10 percent or \$5,000 variance between the actual and budgeted amounts undergo Engineering Department review.²⁵⁰

4. Monthly Book Close Process

We examined accounting documentation of the monthly books close process prepared in 2020 and updated in 2023. The document outlines procedures related to Sarbanes-Oxley Act Section 404 ("SOX") key internal controls for NJR's "Perform the Close" sub-process. The "process narrative" document focuses on the procedures and controls performed in the monthly and quarterly close process. It provides a sound description of the books close process and controls. The SOX control validation process discussed in more depth in the *Controls, SOX, Internal Audit, and NYSE Listing Requirements* Chapter of this report, includes testing of the controls this document addresses.

The Perform the Close process involves three major tasks:

- Preparing and reviewing monthly and quarterly reconciliations
- Preparing and reviewing journal entries
- Performing monthly and quarterly close procedures.

The detailed procedures and controls performed in the books close process address a number of key controls including, but not limited to:

- Complete, accurate, and valid General Ledger balances
- Complete and accurate presentation of accounts and balances in the reporting package
- Appropriate values recorded for assets
- Presentation of balance sheet and income statements in accordance with GAAP.
- Posting of transactions in the appropriate reporting period.

Completion of a monthly closing checklist seeks to ensure posting of all expected journal entries to the General Ledger. At month end, comparison of a journal entry detail report run from Oracle for all posted journal entries to the checklist seeks to ensure completion of all closing entries. Reconciliation of all balance sheet accounts for NJR and its affiliates takes place in accordance with a separate Balance Sheet Reconciliation Policy. The Corporate Controller or designee performs a monthly review of all journal entry batches equal to or above \$100,000 to ensure that journal entries have not been edited and approved by the same individual for the current accounting close period.²⁵¹

5. Policies and Procedures

Our base review of accounting guidance sources encompassed 55 documents detailing policies, procedures, and system process flows. They vary considerably in detail. Some, such as Work Order Management, Balance Sheet Reconciliations, Payroll, and Critical Spreadsheets include extensive detail. Others, such as Deductions from Compensation, Absence Reporting, Parental Leaves, and Paycheck Distribution have little detail.²⁵²

Management reported updating of policy statements provided to us on cycles not greater than four-years on a rolling basis. A document entitled “Creating and Maintaining Policies and Procedures” confirmed the need for review on cycles not greater than four years.²⁵³ Management’s response to our request for documentation of all policy reviews for which a policy review produced no revisions was that there were none.²⁵⁴

In reviewing the revision cycles for the 55 documents we examined as part of our base review, we found:²⁵⁵

- One without a date for the most recent version
- Four fewer than four years old
- 28 not last updated within the four years
- 18 for which more than four years had passed between previous updates
- Sometimes long revision gaps for the 46 noted in the two preceding bullets
 - 10 over 25 years
 - 22 between 10 and 25 years.

6. Accounting Controls

The *Controls, SOX, Internal Auditing, and NYSE Listing Requirements* Chapter of this report addresses our examination of the overall internal control environment and more specifically of SOX controls. Here, we selected for more in-depth review a number of policy and procedure documents related to controls associated with accounting processes and procedures; *e.g.*:²⁵⁶

- The Utility Plant/Fixed Assets policy, which identifies control P2P-1 which provides for three-way matching among purchase orders, invoices, and receipt of goods for items purchased through a purchase order
- Control FS7UP09, which governs reconciliation of the General Ledger to fixed asset records
- Control P2P-10, which provides control over accounts payable transactions to ensure posting to and accounting for in the correct period.

We examined payroll process controls in place to ensure the independence and security of the payroll function and accounting for payroll costs among subsidiaries. Management provided a list of 11 primary and secondary controls that address the completeness and accuracy of payroll processing and payroll costs incurred by NJR and its subsidiaries. Examples from that list include:

- Manager Payroll approves payroll-service provider withdrawals for net pay, taxes, and garnishments
- Manager Payroll reviews payroll register from Dayforce and compares to General Ledger batches

- “Unauthorized Timesheet” report containing unapproved timesheets is sent to the respective managers for their approvals.
- Payroll Administrator performs a payroll variance analysis comparing employees’ current pay to their prior pay.²⁵⁷

We also examined the process for reconciling balance sheet accounts. The “Balance Sheet Account Reconciliations Policy Statement” states that “The frequency of performance of a given account’s reconciliation is based on the account’s risk assessment.”²⁵⁸ The reconciliation process classifies balance sheet accounts into three categories:

- High risk – reasonable potential for account misstatement by a material amount
- Medium risk – reasonable potential for misstatement by a significant amount up to a material amount
- Low risk – no reasonable potential misstatement by a significant or material amount.

Each account secures a rating based on quantitative factors that include volume of transactions and dollar value of the account, and qualitative factors that include complexity of transactions, level of automation, and subjectivity of accounting rules. Factor ratings produce a point score, which defines the assignment of high, medium or low risk. High risk accounts undergo reconciliation monthly, medium risk accounts quarterly in the quarters’ third month, and low risk accounts quarterly in the quarter’s first and second months.²⁵⁹

7. Accounting Related Internal Audits

The *Controls, SOX, Internal Auditing, and NYSE Listing Requirements* Chapter of this report describes our overall examination of the Internal Audit function. In reviewing accounting, we supplemented that examination by reviewing a sample of internal audit reports addressing accounting matters. We examined 11 internal audit reports. Four of them addressed cost allocation and affiliate transaction issues.²⁶⁰ The *Cost Allocation* Chapter of the accompanying Phase One report addresses that review. Another concerned SEC registration filings; the *Controls, SOX, Internal Auditing, and NYSE Listing Requirements* Chapter of this report addresses that report. The remaining six reports were:

- FY 19 Project NEXT
- FY 18 PRAGMACAD System
- FY 17 Settlement Process
- FY 17 Financial Accounting
- FY 17 Payroll
- FY 16 Enterprise Risk Management

The Project NEXT audit evaluated aspects of the project prior to its completion under a consultative effort to assess the current maturity level of project management processes. None of the reports of these six examinations contained any findings of concern.²⁶¹

We made a second selection of audits specifically related to accounting functions:

- 2015 Financial Accounting
- 2015 Payroll Function
- 2016 Payroll Function

- 2016 Accounts Payable
- 2016 Corporate Policies and Procedures
- 2017 Financial Accounting
- 2018 Utility Plant – Construction
- 2018 SEC / Regulatory Filing
- 2020 SAVEGREEN risk and controls integration
- 2022 FERC Accounting and Reporting Process
- 2022 Financial Planning and Capital Allocation.²⁶²

Three of these audits raised concerns. Both the 2015 and 2016 Payroll Function audits were deferred at the request of management. Short audit deferrals requested when management is engaged in a change in process are not uncommon. However, the delay of a process as important as Payroll, in consecutive years, with no reason given, is concerning. We also noted, on further examination of the list of audits performed during the audit period, that audits of Officer Expense Accounts were dropped from the schedule of audits in 2015, 2016, and 2017 and never rescheduled in subsequent years.²⁶³ Management could not identify the reasons for delaying and then dropping of this audit, stating only that the legacy audit team did not record the reasons.²⁶⁴

The third audit that raised concerns was the Policies and Procedures audit. That audit noted the requirement for policies and procedures to be reviewed at least every four years and concluded that “a sample of corporate P&P were properly reviewed and approved as required within the prior four-year period.” The audit results are hard to rationalize with the widespread failure to perform reviews on the required cycle that we found.

8. Financial Reporting to the BPU and FERC

Management prepares three main financial reports on an NJNG basis:

- NJNG stand-alone audited financial statements
- NJNG Annual Financial Report
- NJNG Monthly Financial Report

NJNG files the Annual Financial Report and the Monthly Financial Reports with the PBU.²⁶⁵

The *Other Reporting* Chapter of the accompanying Phase One report deals with our examination of these financial reports, including:

- Comparison among reports for consistency
- Policies and Procedures for filing the reports
- Determination that there were no timeliness issues with filing with the NJBPU or penalties assessed resulting from filing issues

As explained in the *Other Reporting* Chapter of the accompanying Phase One report, NJNG is not a major interstate natural gas pipeline subject to FERC jurisdiction and as such is not required to file a FERC Form 2.²⁶⁶

We conducted one other audit procedure not addressed in the *Other Reporting* Chapter of the accompanying Phase One report. We examined the financial exhibits from three general rate cases filed during the audit period. The three cases, filed on November 11, 2015, March 28, 2019, and

March 30, 2021, all had test periods that spanned multiple years. As a result, the financial exhibits contained annual data for every year from 2014 through 2020, with the exception of 2015.²⁶⁷ We traced a sample of key financial account balances from those exhibits to the Annual Report to the NJBPU and found no exceptions.

9. Continuing Property Records

PowerPlant houses and manages NJNG's Continuing Property Records ("CPR"), tracking fixed asset details by:²⁶⁸

- In-service date
- Property group
- Number of units
- Description
- Company
- Utility account
- Retirement Units
- Location.

We examined the year-end detailed CPR reports for 2014 through 2022 and examined the growth trends in the various classes of plant.²⁶⁹ We noticed a large variation in Transmission Mains, which grew by 12 percent in 2019, 26 percent in 2020, and 94 percent in 2021. The explanation provided was that the increases were due to two projects (the Southern Reliability Link and 30" Jamesburg Line Replacement).²⁷⁰

We also received reconciliations of the CPR records to the General Ledger for 2017 through 2022.²⁷¹ We reviewed these reconciliations and the logic of the reconciling items during an interview with the individual responsible for the reconciliations.²⁷²

In addition to the reconciliation to the General Ledger, we also examined a list of assets and related accumulated depreciation by vintage as of September 30, 2022. The schedule appeared to be complete and raised no concerns.²⁷³

10. Overheads

The two broad categories of cost overheads employed apply to payroll and to direct capital project costs. Labor overhead costs, such as payroll taxes, are applied to the departments where the underlying employees reside. Labor overhead costs for other fringe benefits, such as medical insurance are recorded to the Human Resources department and then allocated based on each company's headcount.²⁷⁴

The overhead category applicable to capital work includes Engineering and Stores costs. Both are captured by work order and manually entered into PowerPlant during the closing process. Overhead charges are verified upstream, and a report is run to verify that all overhead charges have been cleared out. These calculations are performed by utility specific software algorithms in Oracle. This process creates the monthly closing journal entries via an interface between PowerPlant and Oracle General Ledger that is run monthly to automatically input these journal

entrees.²⁷⁵ We examined the Overhead verification report for December 2021 and found it as described in the procedures.²⁷⁶

11. Asset Sales and Impairments

We obtained a schedule of NJNG asset sales during the audit period. Most involved retired vehicles with no gain or loss recorded. Two transactions in 2021 generated a total loss of [REDACTED].²⁷⁷ The Company represented no asset impairments recorded by NJNG or NJRSC during the audit period.²⁷⁸

C. Conclusions

1. NJR accounting function organizational structure uses service company personnel acting on behalf of NJNG in a manner common among utility holding companies and in a manner that focuses appropriately on utility needs and risks.

The fact that most of the functions impacting NJNG are performed in the Controller-Regulated group adds a level of assurance that the interests of NJNG are properly represented by the service company employees performing those functions. Recommendation #5 in the *Other Reporting* Chapter of the accompanying Phase One report recommends more involvement by NJNG employees in the review of financial reports to the NJBPU. That review will provide added and appropriate assurance of completeness and accuracy of financial reports prepared by service company employees.

2. NJR employs accounting systems whose capabilities properly maintain and separate financial data.

Oracle, a state-of-the-art system used by many other electric utilities and other entities, provides the backbone for NJR finance and accounting systems. PowerPlant, a system commonly used by most utilities, does the same for plant accounting. NJR has effectively integrated them, along with a number of other systems that feed or take data from Oracle. We found overall system architecture, part of the larger Project NEXT transformation, to be effective, and well-documented.

3. NJNG operates under a well-designed Work Order Management Process effective in assigning costs to the correct company and account.

The JD Edwards work management system appears to work effectively to drive costs to the correct accounts and correct entities. This feature has importance in ensuring no cross-subsidization by NJNG of affiliates. The *Cost Allocations* Chapter of this report, however, does recommend enhancements in monthly summaries of affiliated charges. Our review disclosed no indication of inaccuracy in the underlying capture of costs in the right accounts and companies. The Work Order Management Process is well documented and appears to be well controlled. We also note that NJR is in the process of replacing the system with a conversion to Maximo, due to the end of support for the current JD Edwards system.

4. We found an appropriately designed and adequately implemented monthly book close processes.

We found the process well documented, comprehensive, soundly sequenced and effectively executed. We note that the documentation of this process is in the form of a process narrative that

is part of the annual SOX controls testing, and as such, emphasizes the controls in place relative to this process.

5. We found accounting policies and procedures generally sound and complete, but insufficiently reviewed for continued applicability. (See Recommendation #1)

Numerous accounting policies and procedures vary in terms of detail and appropriate applicability. However, they are generally adequate. However, the process for reviewing and updating those policies at four year or lesser intervals is not being followed. Policy revision dates we examined showed updates more often than not made outside four years, and often by much longer.

6. We found accounting subject to comprehensive and appropriate controls subject to regular evaluation and testing.

As noted in the *Controls, SOX, Auditing, and NYSE Listing Requirements* Chapter of this report, the system of internal controls appears well established, and regularly tested through internal audits and the SOX review process. We noted no failure or design flaws in the controls we examined. Internal Auditing regularly reviews accounting matters and its examinations have not produced significant findings. Our review of accounting related internal audits, however, revealed some anomalies that will be further discussed in the *Controls, SOX, Auditing, and NYSE Listing Requirements* Chapter of this report.

7. Financial Reporting to the NJBPU appears timely and accurate.

Our examination of a sample of reports filed with the BPU found them timely. Our examination of the report data found no inconsistencies among reports nor inconsistencies with data provided in general rate cases during the audit period. Issues with report policies and procedures as well as compliance with certain filing requirements are documented in the *Other Reporting* Chapter of the accompanying Phase One report of this report.

8. We found adequate systems, procedures, and processes for ensuring complete and accurate CPR, which contain intended information and which we sufficiently reconciled to plant in service balances.

Our examination of CPR for nine years found them reflective of all asset information intended. Our examination of the reconciliation to the General Ledger for 2017 through 2022 found the reconciliations to be complete and the reconciling items to be logical and well explained.

9. We found the processes governing the application of payroll and capital overheads adequate.

Our examination of the overhead clearing process revealed no significant issues.

10. We found Asset Sales and Asset Impairments documentation proper.

We examined the schedule of asset sales for the audit period and found the volume minimal, and the gain/loss on disposition to be immaterial. There were no impairments during the audit period at NJNG or NJRSC.

D. Recommendations

- 1. Complete a full review of all corporate accounting policies within the next year and establish a process whereby the stated policy goal of review and revision every four years is achieved. (See Conclusion #5)**

The current documentation indicates that reviews are substantially later than required. If a review is completed, and no changes are required to the policy document, evidence of that review should be provided to establish that the review took place and no revisions were required. Management should prepare a roster of all corporate accounting policies, review them for appropriate revisions, and establish a process that ensures that it continues to perform such reviews on a four-year cycle.

Chapter IX: Human Resources and Staffing
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Chapter IX: Human Resources and Staffing

A. Background

This chapter examines the structure, responsibilities, resources, and activities of the central NJR Services Company (“NJRSC”) Human Resources (“HR”) Organization that serves NJNG and the other business operations of NJR. This chapter also examines staffing at NJNG and NJRSC, examining its planning, numbers and changes in them, use of overtime, work force aging, succession planning, and benefits programs and competitiveness.

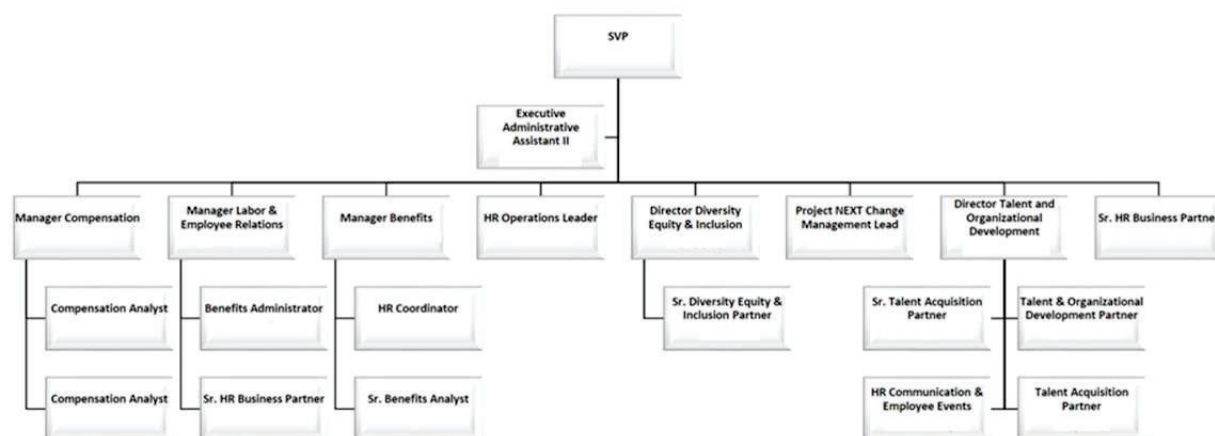
B. Findings

1. Organization and Staffing

A consolidated NJRSC HR department performs compensation, benefits, labor and employee relations, diversity, equity and inclusion, talent management and acquisition, and organizational change management activities for all of NJR’s operations, including those of NJNG. NJRSC HR also serves NJNG by providing partnering designed to engage with utility leadership, management, and workers on day-to-day personnel and other HR matters (*e.g.*, benefits questions, personal development, and questions and concerns about the work environment).²⁷⁹

A staff of 18, operating under NJR’s Senior Vice President & Chief Human Resources Officer, managed human resources on an NJR-consolidated basis in 2017. A three-person Payroll function, headed by a manager in 2017, moved from the HR organization by 2021. Staffing grew to 20 by mid-2023, organized as illustrated in the following chart.²⁸⁰ There has been little change in the core HR functions of compensation, benefits, labor and employee relations, and talent and organizational development. These groups account for 14 of the staff. The most significant change came with creation of a two-person Diversity, Equity & Inclusion group, headed by a Director. Of the two other positions, one is vacant and the other serves in a transitional role supporting the changes associated with Project NEXT capabilities and changes affecting HR.

2023 NJR Human Resources Organization



HR Costs

The next table summarizes the NJRSC HR organization’s recent costs.

HR Organization Costs

Component	2019 (A)	2020 (A)	2021 (A)	2022 (A)	2023 (B)	Change
Labor ¹	\$10,468,494	\$7,812,394	\$12,331,873	\$12,041,330	\$11,166,498	7%
Dues & Fees	\$186,205	\$132,399	\$95,818	\$43,841	\$143,009	-23%
3rd Party Services	\$1,169,098	\$1,477,198	\$1,569,168	\$1,232,250	\$2,239,385	92%
Other ²	(\$308,575)	\$324,989	\$1,071,952	\$1,210,730	\$1,147,528	-472%
Total	\$11,515,222	\$9,746,979	\$15,068,810	\$14,528,151	\$14,696,421	28%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology & Communications, Advertising & Marketing, Contractor Materials, and Reliability, Capital Transfers, and Other

A significant change in pension expense of about \$4.3 million drove the large drop in Labor costs in 2020. A change in discount rates and accounting methods largely produced the difference. The change in the Other category arose principally because of the reassignment from Information Technology to HR of software service agreements, which took some time to reflect budget responsibility fully within HR for the agreements.²⁸¹ The 2024 budget showed a drop of about \$1 million from the 2023 budget.²⁸² The following table summarizes changes in outside costs between 2019 and 2022. The changes are consistent with the major changes of Project NEXT, personnel growth, and changes in costs for outside services (e.g., benefits, actuarial, and financial).

Changes in Outside HR Costs

Services	2022	2019	Δ
IT Consulting	\$688,819		\$688,819
Consulting Services	\$362,885	\$99,421	\$263,463
Legal Services	\$237,462	\$140,747	\$96,716
Actuarial Services	\$219,647	\$35,638	\$184,009
Training & Development	\$132,210	\$17,408	\$114,802
Memberships & Subscriptions	\$129,079	\$32,361	\$96,718
Job Postings & Recruiting	\$108,067	\$26,089	\$81,978
Screening & Testing	\$99,373	\$15,642	\$83,731
Temporary Labor	\$57,290	\$25,484	\$31,806
Financial Services	\$44,777	\$10,656	\$34,121
Software	\$40,209	\$31	\$40,178
Employee Sueveys	\$32,000	\$18,841	\$13,159
Office Services Safety, Supplies	\$15,000	\$221	\$14,779
Advertising	\$15,000		\$15,000
Electronic Signatures	\$12,224		\$12,224
Employee Relations	\$10,980		\$10,980
Other	\$8,820		\$8,820
Scholarship	\$4,180	\$2,900	\$1,280
Outplacement	\$1,500		\$1,500
Total	\$2,219,523	\$425,439	\$1,794,084

2. HR Goals and Objectives

HR has operated under the measurable targets. They have fallen into four categories. The next table summarizes the changes in them between 2019 and 2023. HR has reported performance against them for the current and three prior years.²⁸³

NJR HR Department Targets

Goal	2019	2023
<i>College/University Diverse Candidate Recruiting Opportunities</i>		
≥6 Diverse Candidates	Yes	
<i>Performance and Development Activity Completion</i>		
100% of Employee Plans	Yes	
100% of Mid-Year Performance Plans	Yes	
100% of Year-End Performance Plans	Yes	
<i>Employee Engagement Survey Responses</i>		
Employee engagement	Yes (83%)	Yes (%TBD)
80% “Alignment”	Yes	
63% “Agility”	Yes	
71% “Customer Centricity”	Yes	
<i>Code of Conduct</i>		
100% Training Completion	No	Yes

Other companies’ HR organizations employ a wide range of metrics beyond the small number employed by the NJRSC HR organization. Examples include:

- Absenteeism
- Time to hire
- FTEs
- Benefit participation rate
- Overtime
- Benefits \$ per employee
- Time to full productivity
- Training cost per employee
- HR cost per employee
- Turnover rate
- Job offer acceptance rate
- Departures within a year
- Retention rate
- Vacation/sick time used
- Time since last promotion
- Training participation rate
- Cost per hire
- Worker’s comp. claims
- Average performance ratings
- HR software use rates
- Performance against goals
- Performance distribution
- Training completion rate
- Training return on investment

The HR organization has not benchmarked its scope of operations, organization, costs, performance or other performance characteristic or attributes.²⁸⁴ Management conducted an Employee Survey in each year from 2016 through 2019, encompassing all employees, including those of NJNG, with full surveys in 2016 and 2018 and pulse surveys in 2017 and 2019. It has not performed any since. The surveys performed had a comprehensive scope and produced results by organization, including separate results for 18 separate groups, including, for example, customer service, regulatory, energy delivery, energy services, and gas supply.²⁸⁵

A comprehensive list of HR policies and procedures provide guidance to NJR and NJNG employees, including:²⁸⁶

- Alcohol and Controlled-Substance Testing (Non-DOT-Regulated)
- DOT (PHMSA) Drug & Alcohol Control Program
- Dress Code
- Employee Driver’s License Verification and Monitoring
- HR Change Notification Process
- Smoke Free Workplace
- Time Sheet Policy and Procedure
- Use of Contingent Workers

- Vetting Procedure for Nonprofit Volunteer Opportunities
- Anniversary Day for GO and S&P Employees
- Background Checks – Represented and Non-Represented Employees
- Breaks and the Corporate Image
- Equal Employment Opportunity Policy
- Event Based and Duty Supervision Compensation
- Flexible Work Arrangements
- Holidays – Company Authorized
- Home Reporting
- Absence or Tardiness Due to Weather Conditions
- Hybrid Work Schedule
- Intercompany Employee Transfer
- Maintaining the Privacy of Employee Records and Information
- Mandatory Retirement for Bona Fide Executives and High Policymaking Employees
- On the Job Injuries
- Allowable Overtime for Non-exempt Employees and Transportation
- Recognition for Champion Award Program
- Recruiting and Hiring Employees
- Separation of Employment
- Taxable Employee Provided Vehicle Program
- Human Resources Administrative Policy and Procedure
- Voluntary Leave Sharing Program
- Time and Absence Reporting
- Deductions from Compensation
- Leaves of Absence for Personal Reasons - Bargaining Unit Employees
- Leaves of Absence – Non-Union Employees
- Parental Leaves
- Paycheck/Deposit Advice Distribution
- Billing Deductions During a Non-Paid Leave
- Processing Payroll
- Reporting Meal Premium and Out-of-District Pay
- Audit Process of Contractor US DOT Drug & Alcohol Compliance Procedure

3. HRIS

The HR organization has employed the widely used Dayforce (formerly Ceridian) suite of applications for managing human resources, payroll, benefits, workforce management, recruiting and learning.²⁸⁷ Dayforce, a commonly used offering from Ceridian, serves as the HRIS used by NJR and its entities, including NJNG. The capabilities of Dayforce address a variety of human resource-related needs, including:

• <i>Benefits Enrollment</i>	• <i>COBRA</i>	• <i>Compensation</i>
• <i>Compliance</i>	• <i>Disciplinary Action</i>	• <i>Employee Self Service</i>
• <i>Manager Self Service</i>	• <i>Payroll</i>	• <i>Performance Management</i>
• <i>Recruitment</i>	• <i>Time & Attendance</i>	• <i>Training & Skills</i>
• <i>Vacation & Sick Leave</i>	• <i>Workflow</i>	

4. Human Resources – Talent and Organizational Development

HR's Talent and Organizational Development group has responsibility for talent management, including professional and leadership training across NJR entities and businesses, including NJNG. Staffing has remained consistent for at least the last five years. A Director, Talent and Organizational Development led a staff of two professionals in 2018. Structure and staffing of the group remain the same.^{288,289} The next table summarizes recent year training program costs. They have dropped by about 60 percent since 2019 and actual costs have substantially underrun budgets each year, by an average of 50 percent and most recently by 74 percent. Management reported COVID-19 conditions as restricting training activities through 2022. However, costs remain significantly lower than 2019 levels, with, for example, the 2024 budget at only \$250,000.

Professional And Leadership Development Operating Costs

Actual	Budget	Variance		Actual	Budget	Variance		Budget
		\$	%			\$	%	
2019				2020				2023
361,445	535,920	(174,475)	-33%	217,591	548,325	(330,734)	-60%	192,000
2021				2022				2024
282,749	559,292	(276,543)	-49%	147,601	570,478	(422,877)	-74%	250,000

5. Succession Planning

NJR has made significant strides in expanding its succession planning efforts, an area the last audit of this type found in need of improvement. The report of that audit recommended development of a more robust succession planning process including all executive-level and key management positions, plans to backfill them, and more formal training and development plans. We examined 2020 and 2023 summaries of the process and its results. NJR's Senior Vice President of Human Resources reported to the NJR's board of directors Leadership Development and Compensation Committee on mid-year succession planning processes and status.²⁹⁰ The NJR senior executive described key executive succession planning inputs, which included:

- Talent Development Lifecycle and Timeline (Dropped from 2023)
- Officer Succession Plan Summary
- Business Unit Succession Plan Charts
- Officer Leadership Goals
- Projected Officer Retirements
- Officer Talent Profiles
- Officer Succession Candidate Talent Profiles
- Talent Call Descriptions.

Two-phased talent review meetings between HR and business unit leadership address current and future talent needs. One phase includes meeting with business unit leaders and their direct reports to assess overall talent in the unit. A separate meeting with the business unit leader discusses successors and the building of a plan to support succession. Specific questions these meetings address include:

- Who has growth potential and what critical experience they need to develop it
- Who is best fit for specific roles
- High potential leaders for these future roles and their critical experience needs

- Diverse succession pipeline.

Management targets the maintenance of at least two successors ready to take on needed roles presently to within three years. Planning in 2020 showed a broad profiling of personnel, including nearly 60 positions, some of them reaching as far down as the supervisor level. The categorizing of potential uses a reasonably typical structure, with categories including High Potential, Key Contributor, Critical Professional, and Concern, each having defined performance characteristics and producing the identification of specific developmental areas on which to focus.

Evolution of the process continued into 2023, covering 20 officers. The four NJNG officers covered included the Senior Vice President and COO (NJNG's top officer), the Senior Vice President, Regulatory Affairs, Marketing and Energy Efficiency, the Vice President - Operations, and the Vice President - Energy Delivery. Detailed profiling continued to involve about 60 management positions in total.

The process added a new category, Too New to Call, for those without sufficient time to begin assessing potential. The process still relied on meetings. Each business unit leader reviewed the unit's talent plan with CEO and Senior Vice President of Human Resources, addressing talent analytics, business priorities and plans to achieve them. Business unit leaders then established development plans for the top successors in their units. The areas addressed at these sessions advanced somewhat, by 2023 including:

- Business priorities over next several years
- Assessing succession plan diversity and building it if required
- Current skills and experience compared to identified needs
- Identifying those with potential to grow and critical experience needed to do so
- Those with best fits for specific leadership roles
- Those with high leadership potential for the future and critical experience needed to develop it.

Progress in ensuring succession-ready candidates improved from 2022 to 2023:

- From 26 to 45 percent of covered positions having at least one ready-now successor
- From 32 to 45 percent of positions with at least two candidates expected to be ready within three years.



6. Benefits

The next table shows recent year medical insurance and dental insurance costs. The budgeted 2024 increase falls at the lower end of the range projected for 2024 by respected industry sources such as insurer Aon and compensation and benefits consultant Mercer Health & Benefits ("Mercer"). Aon has reported an annual increase of 4.4 percent for the five years preceding 2023. The 5.3 percent NJR rate is moderately higher, overall, but lower in the last several years.²⁹¹

Medical and Dental Insurance Costs

Insurance	2018	2019	2020	2021	2022	2023	Δ	2024 (B)	Δ
Medical	\$16,699,878	\$17,056,096	\$17,941,700	\$19,288,214	\$20,881,926	\$20,338,439	22%	\$21,626,064	6%
Dental	\$ 712,274	\$ 750,398	\$ 698,864	\$ 883,751	\$ 816,950	\$ 1,010,784	42%	\$ 1,022,424	1%

Mercer, a leading benefits consulting firm, provided NJR with a comprehensive 2019 review of existing benefit plans and strategy and Mercer provided an equally comprehensive review and benefits planning document for 2021. The 2019 document, for example, addressed:²⁹²

- The current state of bargaining unit and exempt plans (*e.g.*, medical, prescription, dental, accident, critical illness, hospital indemnity, life insurance)
- Recent changes
- Employee population statistics (*e.g.*, age, “generation,” salary, dependents, tenure)
- Changes in premium, employee contribution and cost share, and enrollment
- Claims history
- Market trends (industry consolidation, new drugs, affordability, use of smaller networks and incentives, employee engagement)
- Changes in the industry in health care costs before and after plan changes and compared to inflation and earnings
- Types of plans offered
- Strategies for managing high-cost claims and promoting a “culture of health”
- Retiree medical plans
- Benchmarking of NJR medical, dental, and vision plan elements (*e.g.*, employee contributions, deductibles, office visit cost, coinsurance, out-of-pocket maximums, prescription copays, dental).

7. Planning Workload and Staffing

Workload and staffing planning for NJR business operations, including those of NJNG employ Dayforce and the TM1 Budgeting/forecasting system. Planners in the business units conduct annual business unit planning meetings. These meetings produce proposed staffing complements for submission to the Finance personnel who coordinate budgeting and forecasting processes. For represented employees, management reviews with representatives of bargaining unit employees a schedule showing represented employee’s days and hours of work for the coming year. After that review, management posts the resulting schedules on company bulletin boards across the system. Shifts are chosen prior to year start based on seniority.²⁹³

The NJR CFO, CEO, and board of directors then review and must approve the staffing complement compiled by Finance as part of the annual budgeting process. This process produces a roster of authorized positions. When an authorized position becomes vacant, the hiring manager can submit through Dayforce a requisition to fill it. Personnel in Human Resources responsible for managing compensation reviews the requisition for conformity with positions budgeted. Following review and approval by a superior of the hiring manager and by the business unit leader. Following final CFO approval, the position may be filled.²⁹⁴

NJR has not performed any internal or external staffing studies or benchmarking over the last five years of staffing at NJNG or for the common NJR service providing organizations.²⁹⁵

8. NJNG Staffing

The next table shows by major area the growth in corporate and NJNG resources since 2018.²⁹⁶ The subsequent table details these changes by particular cost center. Note that functions started as cost centers during the period and some ended. Accounting for potential differences in those start and end dates, the largest areas of change came in:

- A Central Operations increase of 54 persons (47 percent), with
 - Creation of the Meter Exchanges cost center accounting for an increase of 36
 - Training resources increasing by 5 persons (100 percent)
- An Environmental, Marketing, and Energy Efficiency increase of 17 (27 percent), driven by creation of SAVEGREEN RGGI6 in 2021, which produced 41 positions and the partially offsetting elimination of Marketing Energy Efficiency, generating a net change of 17 positions (27 percent)
- Generally parallel growth in operations, customer service, and accounting and billing.

NJNG Staffing Changes by Major Area

Area	2018	2019	2020	2021	2022	2023	Change	
							#	%
Corporate	18	15	15	16	19	24	6	33%
Environmental, Mktg, EE	64	65	66	78	76	81	17	27%
Central Operations	114	133	135	160	166	168	54	47%
Engineering	46	46	46	50	49	49	3	7%
Operations Support	30	33	33	38	38	39	9	30%
Field Operations	243	254	257	256	265	267	24	10%
Meter Reading	63	65	64	67	68	64	1	2%
Customer Service	77	76	83	83	100	92	15	19%
Accounting and Billing	26	29	27	28	30	33	7	27%
Total	681	716	726	776	811	817	136	20%

NJNG Staffing Change Details

Cost Center & Department	2018	2019	2020	2021	2022	2023	Change		Cost Center & Department	2018	2019	2020	2021	2022	2023	Change	
							#	%								#	%
1310 President's Office	1				2	3	2	200%	2150 Ocean Div Operations	36	40	37	44	43	42	6	17%
1511 TSA Cyber Security					2	4	4		2310 Northern Div 1st Resp.	15	17	16	16	16	16	1	7%
1610 Customer/Community Relations	5	5	5	5	5	5	0	0%	2320 Bay Div 1st Resp.	20	21	18	17	16	18	-2	-10%
1620 Government Affairs	3	1	1	1	1	1	-2	-67%	2330 Central Div 1st Resp.	31	32	32	29	29	29	-2	-6%
1630 Regulatory & External Affairs	9	9	9	10	9	10	1	11%	2340 Ocean Div 1st Resp. Lkwd/Mnhkn	42	43	43	42	43	44	2	5%
1750 NJNG Business Development						1	1	100%	2410 Northern Div Meter Reading	14	16	15	17	16	14	0	0%
1640 Environmental	7	6	7	8	7	9	2	29%	2430 Central Div Meter Reading	6	5	7	7	6	7	1	17%
1700 Marketing Services	28	28	26	27	29	31	3	11%	2440 Ocean Div Meter Reading	43	44	42	43	46	43	0	0%
1715 SAVEGREEN RGGI 6				43	40	41	41		2210 Distribution Engineering	18	17	17	19	19	20	2	11%
1710 Mktng Energy Efficiency Prgrn	29	31	33				-29	-100%	2220 Systems Engineering	28	29	29	31	30	29	1	4%
2000 Energy Services	8	10	9	10	9	8	0	0%	2620 Stores Lakewood	5	6	6	6	6	6	1	20%
2010 Operation Services	12	11	11	12	13	9	-3	-25%	2700 Transportation	12	14	14	14	15	16	4	33%
2013 Occupational Health & Safety						5	5		3010 Performance Meas. & Support	13	13	3	4	4	4	-9	-69%
2020 C & R Services	20	20	20	19	23	23	3	15%	3020 Business Performance			7	11	10	10	10	
2030 Central Dispatch	23	24	24	25	25	25	2	9%	3030 Energy Assistance			3	3	3	3	3	
2040 Meter Shop	12	11	11	13	13	13	1	8%	3110 Field Serv. Cust. Inquiry Rekwy Twp	1						-1	-100%
2045 Meter Exchanges		19	19	37	36	36	36		3120 Asbury Park Customer Services	4	4	5	4	3	4	0	0%
2050 System Enhancement	21	22	22	21	25	25	4	19%	3130 Lakewood Field Services	2	2	2	2	2	1	-1	-50%
2060 Training	5	5	6	8	10	10	5	100%	3140 Customer Inquiry Wall General	65	65	71	72	92	83	18	28%
2070 Gas Control	10	9	10	12	12	14	4	40%	3210 Gas Transportation	5	5	5	5	3	4	-1	-20%
2080 NJ Rise	3	2	3	3			-3	-100%	3220 Central Credit & Collections	12	13	12	13	13	13	1	8%
2530 Pressure, Measurement, and Trans	37	40	42	40	45	45	8	22%	3230 Customer Accounting	10	12	10	10	12	15	5	50%
2110 Northern Div Operations	13	14	18	16	16	17	4	31%	3240 Remittance Processing	4	4	5	5	5	5	1	25%
2130 Central Div Operations	49	47	51	52	57	56	7	14%	Total	645	676	689	732	768	775	130	20%

Some utilities make substantial use of contracted resources to augment staff positions; *i.e.*, to fill continuing roles, as opposed to providing services such as construction. NJNG has made only nominal use of such resources (between 3 and 10 positions); *i.e.*, not in sufficient numbers to make them a material contributor to ongoing staffing costs.²⁹⁷

9. Service Company Staffing

The next table shows by major area the growth in corporate and NJRSC resources since 2018.²⁹⁸ The subsequent table details these changes by particular cost center. Note that functions started as cost centers during the period and some ended. Accounting for potential differences in those start and end dates, the largest areas of change came in Information Technology groups, which increased by 32 positions (68 percent).

NJRSC Staffing Changes by Major Area

Area	2018	2019	2020	2021	2022	2023	Change	
							#	%
Human Resources	23	21	21	23	23	23	0	0%
Financial	59	61	60	65	66	65	6	10%
Information Technology	47	61	63	69	78	79	32	68%
General Counsel	12	5	12	13	11	11	-1	-8%
Communications	7	10	9	9	10	9	2	29%
Other Support Services	19	20	22	22	21	24	5	26%
Total	167	178	187	201	209	211	44	26%

NJRSC Staffing Change Details

Cost Center & Department	2018	2019	2020	2021	2022	2023	Change	
							#	%
1100 Diversity	2	2	1	1	2	2	0	0%
1110 Human Resources	21	19	20	22	21	21	0	0%
1200 Financial Planning & Accting	41	43	35	30	30	31	-10	-24%
1210 Treasury Functions	5	5	5	6	6	5	0	0%
1220 Risk Mgmt.	7	10	12	11	11	11	4	57%
1230 Internal Auditing	6	3		2	3	3	-3	-50%
1240 Financial Planning & Analysis			6	7	7	7	7	
1245 Corporate Development			2	2	1	1	1	
1250 Digital Controllershship & Automation				7	8	7	7	
1500 Information Technology	41	46	5	3	3	3	-38	-93%
1501 Infrastructure & Operations	1	1	22	24	26	25	24	2400%
1502 Business Relationship & PMO			7	6	7	7	7	
1503 Application Development			15	20	23	24	24	
1504 Enterprise Architecture			3	4	4	4	4	
1510 Cyber Security	5	5	7	3	12	13	8	160%
1515 Project NEXT		9	4	9	3	3	3	
1600 General Counsel	12	5	12	13	11	11	-1	-8%
1660 Corporate Communications	7	10	9	9	10	9	2	29%
1300 Office Services & Print Shop	6	5	6	6	4	5	-1	-17%
1400 Procurement & Contract Mgmt.	4	6	6	7	8	9	5	125%
2910 Facilities Maintenance	9	9	10	9	9	10	1	11%
Total	167	178	187	201	209	211	44	26%

NJR has made greater use than NJNG of contractors for staff augmentation, with the numbers increasing from 2018's 14 positions to 2022's 19, with a maximum of 22 in 2021.²⁹⁹

Personnel costs drive a very large portion of the costs assigned and allocated to NJNG, given the generally corporate and administrative services provided. The next table summarizes costs to NJNG for the past five years.³⁰⁰ They show a modest 2.5 percent growth rate approximating or somewhat less than wage and salary growth rates. This low growth came despite large hardware and application development costs over the period, which has included Project NEXT. Eliminating the Application Development and Hardware/Software costs (highlighted in the next table) shows the costs dropping by about two percent over the period. The growth in other NJR businesses has been a material contributor to these results by providing a larger base over which to allocate service company and corporate costs. From a cost-to-NJNG perspective, that larger base has more than offset the resource growth at the corporate and service company level.

Corporate and Service Company Costs to NJNG

Functional Group	2018	2019	2020	2021	2022	2023*
1000 - Corporate - IS	-	-	\$4,917,467	\$15,797,636	\$17,934,626	\$15,816,005
1310 - Executive office	\$9,197,866	\$10,643,335	\$4,469,121	-	-	-
1110 - Human Resources	\$4,581,884	\$3,931,505	\$7,154,720	\$12,252,719	\$11,270,209	\$11,444,832
1500 - IT Administration	\$9,921,965	\$7,112,320	-	-	-	-
Application Development	\$6,993,911	\$7,940,807	\$10,416,443	\$7,470,147	\$7,025,948	\$10,056,573
Hardware/Software	\$7,319,656	\$7,250,073	\$8,652,600	\$9,936,144	\$10,889,583	\$13,099,461
1200 - Accounting	\$19,049,025	\$18,480,269	\$10,027,970	\$4,974,277	\$4,414,621	\$5,222,950
1210 - Treasury	-	-	\$1,023,058	\$1,306,685	\$1,235,622	\$830,872
1220 - Credit & Risk	-	-	\$281,500	\$771,371	\$1,102,396	\$885,915
1230 - Internal Audit	-	-	\$688,827	\$1,455,485	\$1,553,509	\$1,691,911
1240 - Financial Planning and Analysis	-	-	\$232,206	\$706,310	\$895,610	\$991,008
1245 - Corporate Development	-	-	\$75,925	\$200,164	\$188,649	\$230,437
1250 - Digital Controllershship & Automation	-	-	\$0	\$508,021	\$1,112,221	\$1,328,355
1300 - Office Services	-	-	\$527,220	\$1,307,259	\$1,337,483	\$1,462,947
1400 - Purchasing	\$1,294,957	\$1,738,478	\$1,454,248	\$938,077	\$1,148,035	\$1,327,764
1100 - Diversity	-	-	\$45,908	\$320,535	\$454,131	\$396,101
1660 - Corporate Communications	\$583,103	\$776,948	\$1,228,363	\$1,430,563	\$1,527,490	\$1,775,348
1600 - Legal/General Counsel	-	-	\$1,009,618	\$1,874,038	\$1,983,193	\$2,407,664
2910 - Facilities/Security-Wall HQ	\$1,906,507	\$1,687,421	\$841,762	-	-	-
Total	\$60,848,873	\$59,561,156	\$53,046,956	\$61,249,431	\$64,073,326	\$68,968,143
<i>Yearly Change</i>		-2%	-11%	15%	5%	8%
<i>Total Period Change</i>						13%
<i>*Annualized from totals through September (x12/9)</i>						

10. Workforce Aging

In response to a request for a description of structured approaches to and analyses of work force aging issues, projected vacancies, and anticipated recruitment needs, management reported that it discusses potential vacancies and retirements, but provided no quantitative depictions or assessments of aging and tenure (significant for purposes of analyzing retirement potential). Management also indicated that it has not, at least since 2018, conducted any internal or externally supported studies or analyses of workforce aging.³⁰¹ It is customary for companies to chart aging, tenure, and retirement eligibility, rate of retirement election, and other age and tenure factors by work groups and for key positions, for use in recruitment and development planning.

Management has not documented any analyses of whether and to what extent expected retirements may produce skills and experience gaps of material significance. However, management has reported its recognition that a large number of employees will become retirement eligible in the next several years.

The next table shows a generally increasing trend.³⁰² NJR defines retirement eligibility as 55 years of age with more than twenty years of service or 65 years of age with more than fifteen years of service.

NJNG Retirement Eligibles

Type	2014	2015	2016	2017	2018	2019	2020	2021
Bargaining Unit	5	4	12	16	17	12	10	10
Other	3	7	9	3	8	10	6	15
Total	8	11	21	19	25	22	16	25

Management has not undertaken a formal analysis of projected retirements, but cites its awareness that a large number of employees will become eligible for retirement income in coming years. First Responder and Distribution apprentice programs, construction of a new training facility that addresses field training, and the addition of approximately 30 new Utility Technicians comprise measures to address these circumstances. The Utility Technician increase resulted from bringing in house work that contractors had performed.³⁰³ Management also does not undertake analysis of turnover rates or reasons overall or by work group.³⁰⁴

11. Overtime

A request to identify targets, objectives, standards, and practices employed to address the effectiveness of the use of overtime produced a response indicating that none exist, apart from the judgment of the managers responsible for managing overtime in their departments.³⁰⁵ The next table summarizes overtime levels, as a percentage of regular time. The FTE columns show roughly similar number of full-time equivalents that regular and overtime hours comprise (calculated at 2,000 work hours per year).

2019 through 2022 Overtime Summary

Year	Hours		OT %	FTEs	
	Regular	OT		Reg.	OT
2018	1,363,322	152,104	11.16%	682	76
2019	1,431,753	149,905	10.47%	716	75
2020	1,466,486	92,981	6.34%	733	46
2021	1,521,131	128,674	8.46%	761	64
2022	1,576,545	142,950	9.07%	788	71

In order to determine trends from 2019 through 2022, we listed overtime totals for those departments whose annual overtime hours exceeded five percent of regular hours multiple times. The following table details overtime by department for 2018 through 2022 for the departments experiencing those levels. Five percent overtime levels do not raise concern; we simply used that as representing the point at which overtime becomes more than nominal. Levels routinely exceeding 10 percent (highlighted in yellow in the table) bear attention and those exceeding 15 percent (highlighted in orange in the table) can begin to raise concern, depending on causes and solutions. Those exceeding 20 percent (highlighted in red in the table) on a recurring basis raise more substantial interest. Here too the FTE column assumes annual work hours of 2,000 for an individual.

Departments with >5% Annual Overtime Levels

General Grouping	Department	2018	2019	2020	2021	2022	FTEs	
							Reg	OT
1st Response	915 Northern Div 1st Response	18.4%	13.7%	10.0%				
	2310 Northern Div 1st Response			12.4%	12.1%	15.1%		
	925 Bay Div 1st Response	18.2%	17.2%	10.0%				
	2320 Bay Div 1st Response				13.2%	15.5%		
	935 Central Div 1st Response	19.1%	19.6%	9.7%			42	13
	2330 Central Div 1st Response			18.8%	26.7%	30.0%		
	955 Ocean Div 1st Resp. Lkwd/Mnhwkn	7.5%						
	2120 Central Bay Div 1st Response Ops					17.6%		
	2320 Bay Div 1st Response			12.7%	13.2%	15.5%		
Centralized Operations	700 Operation Services	5.1%	6.0%				23	5
	2010 Operation Services			12.5%	20.9%	22.5%		
	840 Central Credit & Collections	12.3%	11.3%	5.5%				
	860 Customer Inquiry Wall General	5.4%	10.5%					
	900 Training	24.6%	25.9%	12.4%				
	2060 Training			10.3%	11.3%	11.3%		
	905 C & R Services	18.1%	23.7%	12.9%				
	94003 P M T	21.3%	21.3%	10.4%				
	977 NJ Rise		6.5%					
	2080 NJ Rise			15.2%	16.5%	14.2%		
	3030 Energy Assistance				8.0%	12.4%		
Division Operations	910 Northern Div Operations	16.5%	15.9%	5.5%				
	2110 Northern Div Operations			13.3%	14.1%	11.7%		
	930 Central Div Operations		20.5%	12.1%			44	8
	2130 Central Div Operations			15.7%	17.1%	18.1%		
	930 Central Div Operations W.L. Maude	20.0%	15.7%					
	95001 Ocean Div Operations	36.1%	29.0%	15.1%				
	2440 Ocean Div Meter Reading				15.7%	16.6%		
	3120 Asbury Park Customer Services			9.8%	7.0%			
	2620 Stores Lakewood			6.7%	8.5%	7.6%		
Other	3130 Lakewood Field Services			8.8%	12.9%	14.4%		
	430 Systems Engineering	9.3%	11.3%	11.8%				
	2220 Systems Engineering			7.7%	9.1%	10.2%		
	450 System Enhancement	9.2%	9.8%	5.6%				
Total		11.2%	10.5%	6.3%	8.5%	9.1%		

Management has achieved a material drop in overtime levels since 2018. The drop from 11.2 to 9.1 percent change has reduced overtime by 19 percent over this period. The recent trend has shown some increase, making continuing attention to control of overtime important. The most significant levels experienced both historically and in 2022 occur in field organizations, particularly among first responders. Field resources generally are those most stressed by weather events. Efficiently sizing first responders poses significant challenges as well, making overtime commonly much greater among these resources. The preceding table indicates that three groups (Central Division Operations, Central Division First Response, and Operations Services) make up an inordinate percentage of 2022 overtime levels and have been large contributors to overtime in the earlier years of the period as well. These three sources alone account for 36 percent of 2022 overtime hours, despite comprising only 14 percent of total resources (based on regular hours).

An examination of service company overtime over the 2019 through 2022 period showed it at a nominal one percent level, with little variation among the contributing departments, except for IT, where levels ran between three and four percent for some years.³⁰⁶ The overall low level is not surprising, given the largely professional functions involved; nor is the IT level surprising given

its frequent participation in project requirements whose needs (e.g., schedule milestones deadlines) drive immediate term work needs.

12. Performance Tracking

Customer Service has tracked generally the same metrics through the audit period, addressing Average Speed of Answer, Service Level, Collections, Billing Exceptions, and Payment Methods. Field measure tracking has expanded over time, as the comparison of 2023 versus 2019 metrics shown in the tables below illustrates.³⁰⁷

2023 NJNG Energy Delivery Metrics

Responders	C & R	Meter Shop
Average Response Time	C&R Services per 8 hour day	Meter Repair Cost
% OLE Calls with a Response < 60 Minutes	*NB Services per 8 hour day	Jobs completed per day (Instrumentation)
Utility Service Appointments On Time	Energy Delivery Cust. Satisfaction %	Store Room
Energy Delivery Cust. Satisfaction %	Percentage of Non Field Work	Turn Over ratio
Percentage of Non Field Work	Dispatch	Cycle Count Accuracy
PM&T	% OLE Calls with Response < 60 Minutes	Meter Reading Rockaway
Average Time per Regulator Inspection	Average Response Time	Actual Read Percent
Energy Delivery Cust. Satisfaction %	Utility Service Appointments on time	Errors per 10,000 Reads
Percentage of Non Field Work	Energy Delivery Cust. Satisfaction %	Meter Exchange Program
Distribution	Fleet Services	# of Jobs Completed 8 hour shift
Average Time to Repair a Main Leak	PM Maintenance Completion	Percentage of Non Field Work
Energy Delivery Cust. Satisfaction %	Fleet Satisfaction	Energy Delivery Cust. Satisfaction %
Percentage of Non Field Work		

2019 NJNG Energy Delivery Metrics

1ST RESPONDERS	NJNG CONSTRUCTION CREWS
Average Response Time	C&R Services per 10 hour day worked
Percent OLE Calls with Response < 60 Minutes	NB Services per 10 hour day worked
Utility Service Appointments Made On Time	Customer Satisfaction Percentage - C&R
Preventable vehicle accidents per million miles	Preventable vehicle accident rate per million miles
Customer Satisfaction Percentage - 1st Responder	PM&T
DISTRIBUTION	Customer Satisfaction Percentage - Energy Delivery
Average Time to Repair a Main Leak	Average Time per Regulator Inspection (Hours)
Customer Satisfaction Percentage	Completion of Annual Regulator Inspections
Preventable vehicle accidents per million miles	Preventable vehicle accidents per million miles
Larger than Domestic Meter Exchange Program	

There is no process for tracking productivity, production or other performance metrics for internal common service departments.³⁰⁸

C. Conclusions

- 1. The use of a common HR organization to perform HR functions has served to provide NJNG efficiently with an appropriate level of service dedicated sufficiently to the utility's particular needs.**

The organization has substantial but consistent staffing levels organized to provide focused attention on the many needs that large enterprises task an HR organization to provide. The organization has made reasonably typical use of outside expertise, given its size and needs for specialized services. The dedication of resources to work with NJNG management in meeting its day-to-day personnel and related needs is both typical and appropriate. HR costs have remained in proportion to a growing NJR employee complement, growing at a rate lower than the growth in employee numbers. The HR organization operates under a sufficiently broad and detailed set of policies and procedures. They cover the areas typically addressed and they provide clear guidance to employees.

- 2. The HR organization has consistently employed specific, measurable goals, but not at a scope or breadth common among other enterprises. (See Recommendation #1)**

Goals with measurable targets have remained fairly constant since 2019. They have fallen into the following categories: diverse candidate recruitment, completion of performance development plans and reviews, employee engagement, and code of conduct completion. They do not substantially extend to measures of HR's own effectiveness (e.g., costs or time to hire, job acceptance rates). They also do not extend to some of the human factors that underlie employee performance effectiveness (e.g., absenteeism, overtime levels). They also do not focus on measures that relate to the effectiveness of managers and supervisors in managing personnel (e.g., turnover rates, time to full productivity).

- 3. Professional development has for some time faced substantially reduced resources. (See Recommendation #2)**

The amounts spent on professional development fell significantly following the onset of COVID-19 restrictions. Despite the passing of those restrictions, expenditures remain at somewhat less than half 2019's levels, with the 2024 budget showing no increase.

- 4. Benefits programs and costs undergo regular review, consist of elements consistent with our experience, and have in recent years shown annual cost growth in line with market cost changes.**

Recent years have seen regular analyses of current program elements, their comparability with what others offer, trends in the industry to increase value to employees or reduce costs to the company. Competitive solicitation has been used. Annual cost growth has come into line with industry.

- 5. Despite growth in NJRSC resources over the past five years, costs to NJNG have remained fairly stable.**

As described under the following conclusion, staffing at the corporate, or NJRSC, level has grown by 26 percent since 2018. Increases in the scope and breadth of NJR operations and growth at NJNG have driven those increases. Despite the overall increase, however, NJNG costs from

NJRSC have grown at rates consistent with inflation, and likely below them, recognizing the large development costs of Project NEXT that has brought a new ERP platform and significant other system changes over this period.

6. The significant growth in staffing that has occurred in the past five years at NJNG and NJR, while understandable, has nevertheless reached a level that warrants effectiveness evaluation to ensure it has been optimized. (See Recommendation #3)

NJNG staffing has grown by 20 percent from 2018 to 2023, with growth in every major category. Just from 2021 to 2023, growth has reached 5.3 percent. The utility's needs have grown along with customer growth and growth in external requirements. However, the continuation of significant growth levels makes it time for a focused review of staffing organization and numbers. NJRSC staffing has grown by a somewhat larger 26 percent. Again, growth is understandable, given the increase in the scope of NJR's overall operations, growing external requirements, and incorporation of new technologies. However, as with NJNG, that growth has reached a level that warrants benchmarking against peers.

7. With staffing increases have come material reductions in overtime at NJNG, but recurring high levels in some groups warrant a process for regularly reviewing the causes. (See Recommendation #4)

Overall overtime rates and those that had proven particularly high in 2018 have come down. Overtime levels are not a concern overall. Nevertheless, it is important to ensure, particularly in the absence of company overtime standards, that groups persistently experiencing overtime levels above 15 percent undergo analysis to identify whether resource additions or reallocations are in order.

8. NJR does not undertake the kinds of data collection or perform the analysis of workforce aging and expected departures that are common. (See Recommendation #5)

There is no regular, structured, analytically supported process for identifying projected vacancies, and anticipated recruitment needs, and no quantitative depictions or assessments of aging and tenure. There have been at least since 2018 no studies or analyses of workforce aging.³⁰⁹ NJR thus lacks, both for NJNG and NJRSC, resources customarily maintained for information such as aging, tenure, and retirement eligibility, rate of retirement election, and other age and tenure factors by work groups and for key positions.

D. Recommendations

1. Establish a broad set of performance measures addressing: (a) NJRSC HR's performance effectiveness, (b) employee performance effectiveness, and (c) supervision effectiveness. (See Conclusion #2)

A broad set of measures apply in the industry for measuring how well an HR organization does directly and how well the rest of the business performs in areas that HR operations influence. These factors include and extend well beyond those noted in the findings section of this chapter. HR, working with senior management across NJR and NJNG, needs to inventory the key factors that underlie each of the three areas covered by this recommendation: (a) how well and how efficiently is NJRSC performing the activities for which it is directly responsible, (b) how well human factors

are aligned with business unit performance effectiveness, and (c) how well supervision is working to develop the workforce. The result should be a series of metrics specific to each of these three areas, each of them subjected to measurable, results-oriented goals, and regularly monitored and analyzed for means to address gaps in meeting the targets established.

2. Return professional development activities to a level commensurate with their pre-COVID-19 levels, focusing on developing NJNG leadership with substantial natural gas distribution operating experience. (See Conclusion #3)

The advances in succession planning should be accompanied by a strong professional development program. Near-ready candidates to succeed those departing have increased, but room remains to ensure readiness at deeper levels. NJNG retirement risk has recently been cited as a succession issue worthy of mention in reporting to the board of directors. NJNG needs a healthy pipeline of natural gas-experienced senior and executive management candidates. HR should work to support development of companion leadership skills needed to supplement identified employees' operational and technical skills. HR should work with NJNG leadership to design more expansive leadership development programs for candidates with strong operational and technical capabilities, unconstrained by what has become a long-term trend toward substantially reduced development expenditures.

3. Conduct a focused review, including benchmarking, of the changes in staffing structure and levels that have occurred over recent years. (See Conclusion #6)

Both NJNG and NJR have experienced significant (25 percent or greater) staffing increases since 2018. That growth has come as NJNG has experienced significant growth, as have NJR's other, nonutility operations overall. With the increases large, steady, and continuing, it has become appropriate for NJR and NJNG to step back and analyze whether staffing structures and numbers are optimum. A corporate-wide review should assess these factors, identify alternatives, and make changes found appropriate for optimizing performance effectiveness and efficiency. The analysis required needs to examine whether services historically provided in common should remain so, and areas where changes in alignment between internally and externally provided resource may warrant change. Benchmarking using reliable data from peer companies should form part of this examination as well.

Clearly, circumstances have compelled resource growth over the period in question. However, growth at levels in the range of one quarter of total resources make it important to ensure that incremental change that has been occurring regularly for some years has not resulted in sub-optimization of resource alignment, numbers, and use.

4. Undertake regular analysis of recurring levels of high overtime use. (See Conclusion #7)

It is common to find higher levels of overtime among field resources, particularly first responders. Occasional levels of 15 percent or greater are not troubling, but can become so if repetitive. NJNG does not apply standards to measure levels of overtime that begin to raise a need for inquiry. NJNG overtime rates have fallen as staffing (as noted above) has increased. Several groups have more recently experienced overtime levels greater than 15 percent. NJNG management should regularly and promptly identify groups where those levels become sustained to identify potential needs for resource augmentation or reassignment.

5. Develop a program for assembling and analyzing potential departure data for use in identifying recruitment and replacement needs. (See Conclusion #8)

HR should develop a matrix that uses staffing data to identify likely departures by year for use in identifying likely resource acquisition and allocation needs in a manner that will optimize the process of recruitment, reassignment, training, and development to ensure continuity in positions and at locations requiring significant numbers of incumbents.

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Chapter X: Compensation and Benefits

A. Background

Executive compensation requires different authorities and methods than does compensation of other exempt personnel. In addition, labor agreements, rather than board of director or management discretion, define compensation for bargaining unit members. This chapter addresses compensation goals, processes, authorities, review cycles, use of outside expertise, elements, and competitiveness of compensation for executives and for non-executive, non-exempt personnel (generally considered “management” for compensation purposes). It also addresses health and welfare and post-employment benefits.

B. Findings

1. *Compensation Setting Process*

a. Executives

An annual process for determining executive compensation begins in May, which falls into NJR's third fiscal year quarter. Management identifies financial and operational goals and targets, performance measures, and action plans under NJR's Commitment to Stakeholders (“CTS”) for execution by its business units, including NJNG. The planning process generally continues into September, with the next fiscal year then approaching. The culmination of the process comes with executive leadership and then board of directors approval of overall NJR and business unit goals, measures, and plans for execution in the fiscal year about to begin. These planning elements and markers form the basis for communication across NJR and guide performance planning and evaluation processes and management presentations to employees.

These elements and markers set expectations that will drive compensation decisions over the coming fiscal year, while performance against those set the preceding year drive compensation decisions about base salary, short-term cash incentives, and long-term stock-based incentives. The NJR board of directors exercises responsibility for the compensation program for executives, principally working through its LD&C Committee and the CEO. The CEO recommends to the LD&C Committee compensation amounts for executive officers. Considering them, the LD&C Committee makes executive compensation recommendations for ratification by the full board of directors.³¹⁰ Executive leadership, working with HR and with management in the groups for which they are responsible, make compensation decisions for management positions under highly structured governance and guidelines. Collective bargaining produces agreements that govern compensation of represented employees.

In carrying out its executive compensation roles, the LD&C Committee has for some years retained a compensation consultant, FW Cook, to provide independent compensation advice and counsel annually. The LD&C Committee has regularly determined that the consultant, whose work continued through 2023, has had no financial ties to NJR entities or management. The consultant's work has included:

- Market data gathering and analysis
- Advice on compensation standards and trends

- A compensation policy risk assessment
- Policy and program implementation assistance
- Director compensation market data and advice with respect to non-employee director compensation.

The consultant meets periodically with the LD&C Committee in executive session. The consultant also meets with the CEO or designee and the chair of the LD&C Committee in advance of each committee meeting. The chair may also request a consultant meeting that excludes the CEO. Examples of reported independent consultant work include meetings with management at committee direction, prior review of committee meeting materials, advice to the committee on market trends and compensation design, and review of recommendations for base salary and annual short- and long-term awards for named executive officers.

b. Others

The NJR Service Company's HR benefits department administers benefits plans and programs for employees, using an outside firm to provide administration expertise and support. A self-service Human Resources Information System ("HRIS") accommodates plan enrolment for new employees, and the HR benefits department conducts annual open enrollment that permits employees to choose from the benefit options available. Business units planning offers to candidates for employment secure compensation manager approval before extending offers.

Compensation and benefits planning and administration fell for many years under a single manager supported by a single analyst. The addition of a second analyst in 2021 permitted assignment of one to NJNG and the other to the remainder of NJR business operations.³¹¹

The salary, wage, and benefits provisions of contracts with represented employees guide the administration of these matters. For non-represented, exempt non-officers, an annual compensation review cycle begins with recommendations for equity adjustments and promotions from leadership in each business unit, including NJNG. Compensation personnel in the central HR department review those recommendations, consider peer company comparisons, and confirm alignment with established company salary structure to produce a consolidated set of recommendations for NJR CEO review and approval. Year-end merit cycle review begins after promotion and equity adjustments have secured approval recommendations from compensation consulting partners and professional organizations guide decisions about merit increase levels, with approval by NJR financial leadership.³¹²

The cycle for addressing compensation changes have remained essentially the same since at least 2018. Bargaining unit agreements detail compensation for represented employees. NJR employs a combination of base salary and performance-based incentives to compensate non-represented employees, operating under a "pay-for-performance" philosophy. NJR targets total compensation at competitive levels for normal business operations. Performance-based incentives can produce total compensation above or below that level when performance falls below or rises above set levels. A leading compensation consulting firm, Mercer, annually reviews the salary structure.³¹³

Headcount and salary adjustment operate under a cycle that sets dates for a succession of key steps.³¹⁴

- Mid-May: Budget increase requests to accommodate additional headcount
- Mid-July: Requests for salary adjustments and promotions entered using Success Factors
- Mid-September: Vendors provide benefits information to employees at Health Fair
- Mid-September: Sessions with employees on upcoming open enrollment
- Late September to Mid-October: Employees make open enrollment elections
- Late October: CEO approves requests for promotions and salary adjustments
- Early- to Mid-November: Supervisors recommend merit increases and annual incentive payouts
- Late November: Thank You checks distributed to employees, if awarded
- End-November: CEO approves merit increases and incentive payouts
- Early December: Incentive payouts made; employee compensation statements distributed
- Early January: Promotions, merit increases, and salary adjustments go into effect.

Success Factors, offered by SAP, consists of a suite of widely used, “cloud-based” software that employers use to manage central human relations functions; *e.g.*, recruiting, learning and development, and performance and compensation management.³¹⁵ Its modules provide:

- Employee Central: an HR system of record offering a repository for employee data, maintenance of regulatory compliance records, time and attendance tracking, benefits administration support, and organization structure and job titles
- Performance and Goals: real-time communication between employees and supervisors about individual objectives and performance and progress in meeting them
- Employee Central Payroll: timely and accurate payment processes
- Work Zone: a dashboard and workspace for employees to perform work activities
- Recruiting: a collaborative recruiting platform, a social recruiting marketing platform, and support for posting openings on multiple job boards
- Learning: social and mobile features enabling supervisors to create courses linked to individuals with tracking capability
- Employee Central Service Center: an on-line resource center for HR policies and access to the HR helpdesk
- Compensation Management: capability to guide and manage compensation programs, to provide historical data, tracking and budgeting, and to enable access to compensation types and a means for users to calculate variable compensation
- Onboarding: orientation for new hires and transfers among departments, support for employee departure processes
- People Analytics: workforce analytics and planning, reporting for SAP SuccessFactors, creation of workforce management plans, examination of data, predictive analysis and modeling, and reporting.

As noted above, SAP’s Success Factors Platform supports annual incentive and merit cycles for non-represented employees. NJR employed a platform provided by a leading compensation consulting firm WTW (formerly Willis Towers Watson) to provide market data for comparing compensation levels.³¹⁶ NJR changed its source for securing compensation market data to another leading firm, MarketPay in 2021. A JD Edwards-sourced enterprise resource planning system, used at the time to meet a wide range of NJR finance and accounting needs, maintained salary information through 2016, followed by Dayforce (formerly Ceridian) thereafter.³¹⁷ NJR annually

purchased compensation data from survey companies and secured compensation program reviews from Mercer.³¹⁸

2. *Compensation for Executives*

Compensation structure and content fall into three principal categories: executive, non-executive exempt (commonly referred to as “management”), and bargaining unit members.

a. Goals and Practices

NJR designs for executives base salary and incentive compensation (which adds annual cash-based and long-term, equity-based incentives) as part of the total compensation package to drive behaviors it believes will enhance successful execution of business strategies, recognizing each position’s responsibilities and expertise.

The principles that guide NJR executive compensation include:³¹⁹

- Reward achievement of short- and long-term objectives and relating compensation to value created for shareowners
- Reflect competitive and best practices
- Attract, motivate, reward and retain talent needed to achieve business objectives at compensation levels competitive with those of comparable companies
- Set compensation based on individual leadership and contribution, considering individual skills, experience and achievement
- Base compensation on CTS key safety, reliability, price, customer service, quality; valuing of employees, and corporate citizenship performance measures
- Link compensation to corporate financial performance and creation of long-term shareowner value
- Balance compensation among base, annual short-term incentive, and long-term equity incentive awards to place a sufficient amount of total compensation at risk
- Increase the compensation portion at risk as responsibilities increase
- Incorporate safeguards to prevent the taking of unnecessary and excessive risks
- Incorporate cultural behavior objectives (added for 2024).

The following practices guide executive compensation structure and amounts:³²⁰

- Balance short- and long-term compensation
- Incorporate multiple performance metrics into the Officer Incentive Program (“OIP”) to encourage executive focus on financial and operational goals important to NJR and other stakeholders
- Link realized value from long-term incentives to absolute and relative stock price performance
- Link annual incentive compensation to environmental and social goals through the CTS
- Maintain meaningful share ownership guidelines for directors and executive officers
- Apply NJR’s (“Clawback Policy”) to cash and equity incentive compensation paid to executive officers
- Prohibit NJR stock hedging and pledging by directors, officers and employees
- Require a double trigger to accelerate equity award grants following a change of control

- Engage an independent advisor who performs no other NJR work to advise NJR board and committees on executive and director compensation matters
- Conduct annual review of risks that compensation programs and policies create
- Avoid employment agreements or guarantee base salary, bonus, or equity awards
- Avoid tax payments and tax gross-ups for executives
- Avoid excessive perquisites
- Avoid option repricing or buyout absent shareowner approval.

Annual reviews assess executive compensation against market measures.³²¹ The independent compensation consultant operating under the oversight of the LD&C Committee prepares these annual reviews, which analyze the competitiveness of each executive's compensation. This analysis provides data for committee use in analyzing and recommending executive compensation levels. Following that analysis, the LD&C Committee considers compensation recommendations for each executive position. The LD&C Committee forms compensation recommendations for the CEO. The Board of Directors has final approval authority.

b. Compensation Elements

The next table shows the distribution of individual components of top executive compensation by base, short-term incentive, and long-term incentive components, as reported in the December 2022 NJR Proxy Statement.

Top Executive Salary by Component Breakdown

Position	Year		
	Base	STI	LTI
NJR CEO	22%	24%	54%
NJR CFO	39%	24%	37%
NJR Gen. Counsel	35%	18%	47%
NJNG COO	33%	20%	47%
Non-Utility COO	33%	20%	47%

The 2023 regular annual review of executive compensation showed no major changes from recent prior years. It continued to incorporate the same elements, which included:

- An annual OIP establishing specific Net Financial Earnings ("NFE") and CTS targets and individual leadership goals that drive annual cash-based incentive awards
- Long-term incentive awards for participants other than the NJR CEO, which includes performance share units ("PSUs") and Time-Vested Restricted Stock Unit ("RSU") awards
- For the NJR CEO, NFE-based PSUs and Total Shareholder Return ("TSR")-based and Performance-Based RSUs payable in three annual installments and vesting subject to achieving a set NFE/share target
- Noncompetition and non-solicitation covenants to eliminate awards for departing executives to positions deemed harmful to NJR's interests.

Executives may also receive CEO-recommended and LD&C Committee approved special recognition awards. The next table provides more detail about these elements and how NJR describes their benefits for the Company.³²²

Executive Compensation Elements

Element	Description	Objectives
<i>Annual Short-term Compensation</i>		
Base Salary	Fixed annual compensation	Aids in recruitment; marketplace competitive
Annual Short-Term Incentive Awards	Performance-based for achieving annual NFE, individual, Commitment to Stakeholders goals	Links at-risk opportunities to company, individual performance
<i>Long-term Compensation</i>		
Performance Share Awards	Stock units payable in stock, based on 3-year TSR performance relative to comparator, cumulative NFEPS	Aligns portion of executive compensation to long-term NFEPS and relative TSR goals
Time-Vested RSU Awards	Units vesting over time, payable in stock, awardable under long-term incentive program or special performance recognition	Promotes retention, aligns with long-term shareowner interests by linking compensation to changes in stock price, dividend payments
Performance-Based RSU Awards	Stock units with time-based vesting if annual NFEPS goals met	Aligns compensation to financial performance, promotes retention
Deferred Retention Stock Awards	Deferred retention stock units payable in stock for compliance with non-competition/solicitation covenants	Disincent departure to a competitor; links compensation to stock price, dividend payments
<i>Other Compensation</i>		
Deferred Compensation	Deferred receipt of compensation and treatment as if invested in specified vehicles	Enables payments structuring to meet personal financial objectives
Post-Termination Payments and Benefits	Made upon termination for retirement, death, disability, change of control	Supports lateral recruiting, retention, and evaluation of strategy, structure changes
Other Benefits	Generally available retirement savings and defined benefits, medical, dental, life, accidental death & dismemberment, travel & accident and disability	Facilitate recruitment and retention as part of broad-based total compensation

c. Short-Term (OIP) Executive Compensation Structure and Targets

The next table shows targeted annual incentive values as a percentage of base salary by officer level.

Annual Incentive Targets for Officers

Position	2018	2019	2020	2021	2022	2023
Chief Executive Officer	110%	110%	100%	100%	110%	110%
President	75%	75%	none	none	none	none
Executive Vice Presidents	50-70%	50-70%	none	50-70%	none	none
Senior Vice Presidents	40-60%	40-60%	40-60%	40-60%	40-60%	40-60%
Vice Presidents & Subsidiary Presidents	30-50%	30-50%	30-50%	30-50%	30-50%	30-50%
Other Officers	20-40%	20-40%	20-40%	20-40%	20-40%	20-40%

The OIP includes a “Performance Hurdle” that requires the meeting of at least 75 percent of the NJR targeted NFE. Achieving NFE less than this target would mean no OIP awards for officers. The distribution of the OIP awards to the officers other than the CEO assigns 50 percent of award amount to NFE targets, 30 percent to individual leadership goals for each, and 20 percent to achievement of NJR’s CTS. While similar, the LD&C Committee and the full NJR board establish the 30 percent leadership component for the CEO. As an example of the nature of the leadership component goals, NJR’s 2023 proxy cited the following “highlights” of NJNG’s COO performance:

- NJNG financial results exceeding the financial plan
- Deployment of a record \$60 million in SAVEGREEN energy efficiency investment

- Exceeding customer growth target and expanding New Jersey counties served
- Top quartile performance in Escalent/Cogent's survey addressing ease of doing business with utilities
- Designation as a most trusted brand and an environmental champion
- Advancement of NJNG's decarbonization strategy
- Exceptional DART incident rate
- Receipt of AGA Industry Leader Accident Prevention Award.

Based on thresholds for each of the three components, OIP awards can range from 0 to 150 percent of the potential value targeted for each. The NFE component sets specific values for a Hurdle, below which no OIP awards can be made, a Threshold, at which 50 percent can be awarded, a Target, at which 100 percent can be awarded, and a Maximum, at which 150 percent but no more can be awarded. These NFE targets use overall NJR performance for all of the named executive officers, except for the NJNG Senior Vice President & COO, for whom an NJNG-specific NFE applies.

The OIP's Commitment to Stakeholders component employs performance levels that employ similar threshold, target, and maximum levels. These measures divide into five categories:

- Safe, Reliable and Competitively Priced Service: measuring employee and system safety and reliability and pricing competitiveness
- Customer Satisfaction: measuring customer care, problem resolution, billing accuracy, and response timeliness
- Quality: measuring corporate policy currency and sufficiency in communicating key requirements
- Valuing Employees: measuring feedback, leadership development, workforce relations, and work environment
- Corporate Citizenship: measuring outreach, environmental focus, promoting ethical behavior, and fostering community and business relationships.

Specific measures with targeted levels include

- Average emergency response time
- Overall customer satisfaction percentage
- Currency, sufficiency, and effectiveness of corporate policies and procedures
- Satisfaction scores of participants in diversity training
- DART incident rate (days away, restricted or transferred)
- Employee volunteer hours under NJR's VISION program.

OIP NFE Component: The NFE component of annual incentives requires meeting minimum NFE per share amount before any award amounts under this component, which accounts for 50 percent of annual incentives. Awards can then escalate to a capped level of NFE achieved. For example, the fiscal 2021 scale for the NFE component operated as follows:

- NFE below a hurdle of \$117.5 million (75 percent of targeted NFE) - - no awards
- NFE at established Threshold amount of \$125.4 million - - awards at 50 percent of individual award opportunity

- NFE at Target amount of \$156.7 million - - awards at 100 percent of individual award opportunity
- NFE at established level of \$188.0 million or higher - - awards at 150 percent of individual award opportunity.

These targets vary each year and recognize expected changes in external drivers of NFE (*e.g.*, tax changes). Continuing with the fiscal 2021 example, actual NFE of \$207.7 million exceeded the cap level, generating maximum 150 percent awards for the NFE component of annual incentives.

OIP Annual Incentives Leadership Component: OIP leadership component award amounts rely on CEO performance reviews for the other named executive officers. The CEO discussed those reviews with the LD&C Committee, which ratified them. This component used tiering similar to that of the NFE component. Four named executive officers received maximum (150 percent of target) awards in this category (nominally weighted at 30 percent of total OIP award opportunity) meaning that each actually received 1.5 times that nominal value (or 45 percent).

OIP Commitment to Stakeholders Component: This CTS structure has consisted of 69 specific CTS Performance Measures falling into five categories:

- Safe, Reliable, Competitively Priced Service
- Customer Satisfaction - - measures of customer care, problem resolution, billing accuracy, and response timeliness
- Valuing Employees - - measures of feedback to employees, leadership development, workforce relations, and positive work environment
- Quality - - measures of organization process quality
- Corporate Citizenship - - measures of customer and community outreach, environmental focus, ethical behavior promotion, fostering of community and business relationships.

A team of employees from across NJR business units developed the CTS Performance Measures under a process begun during fiscal year 2020. Recommended measures underwent review and revision by the CEO, with participation by the CFO. Leadership uses this set of objective, quantifiable indicators broadly to measure the quality of service and performance provided to customers and other stakeholders. Six specific CTS Performance Measures drove the 2021 and 2022 OIP CTS component calculation, employing threshold, target, and maximum levels as did the NFE component. The next table shows these levels. As noted, the CTS component accounts for 20 percent of the annual incentive. With each of the six measures shown exceeding 100 percent, the awards made under the CTS component thus exceeded the 20 percent. For example, 2021 performance measured at 123.1 percent of target, producing a 24.6 percent payout. A moderate further increase to 124.1 percent resulted in 2022, generating a payout of 24.82 percent of the target amount for the annual short-term incentive award formula's CTS component. Nevertheless, operational performance did not reach 150 percent under any of the six components, meaning that incentives for improved performance remained under each in those years.

Fiscal 2021 and 2022 OIP CTS Components

Measure	Factor	Year	T'hold	Target	Max	Actual	%
Average Emergency Response Time	Minutes	2021	25.2	21.0	16.8	18.8	126%
		2022	24.6	20.5	16.4	18.7	122%
Overall Customer Satisfaction ¹	Percent	2021	78.0%	89.0%	100%	92.4%	115%
		2022	78.0%	89.0%	100%	89.6%	103%
Policies and Procedures	Note 2	2021	90.0%	95.0%	100%	100%	116%
		2022	90.0%	95.0%	100%	95.3%	103%
Diversity Training Efficacy	Note 3	2021	3.4	4.2	5.0	4.7	131%
		2022	3.8	4.4	5.0	4.6	117%
DART ⁴	Rate	2021	3.12	2.60	2.08	2.05	150%
		2022	3.12	2.60	2.08	1.3	150%
Employ VISION Program Volunteering	Hours	2021	650	812	2,166	974	100%
		2022	600	750	900	1,992	150%

¹ from transaction survey² Current, scope sufficient, effective in communicating requirements³ Per participant satisfaction scores⁴ DART: the rate per 100 FTEs of days away or restricted**d. Long-Term Incentives**

Targeted annual levels of long-term incentive awards exist for each officer. NJR offers them to remain competitive in attracting and retaining executive talent. These awards seek to focus on performance by employing relative TSR and cumulative NFE per share. The board's independent consultant reviews the levels set annually. The CEO recommends each year award levels to the LD&C Committee, again for eventual full board ratification. The LD&C make the makes the recommendation to the full board on the NJR CEO's awards each year. The awards can take three forms for this group:³²³

- PSUs that vest on the basis of TSR performance relative to that of a comparator group, with vesting occurring over three years
- PSU's based on cumulative NFE per share performance, vesting over three years
- Service-based RSUs;
- Deferred retention stock units
- Performance-based RSUs, vesting on the basis of NFE per share and payable in three annual installments.

Targets as a percentage of base salary have remained fairly steady since 2018, after increasing for Other Officers by 10 percent at each end of the established range:

- 200 percent for the NJR CEO: (increased from 100% since 2019)
- 80-110 percent for the Senior Vice President: (increased from 40-60 percent since 2022)
- 50-80 percent for Vice Presidents and Subsidiary Presidents (increased from 30-50 percent since 2022)
- 30-50 percent for Other Officers: (increased from 20-40 percent since 2022).

The award types operate on the basis of thresholds that set a range of performance levels:

- Minimum (no awards)
- Target (awards at 100 percent)
- Maximum (capping awards at 150 percent of pre-set targets).

NJR's stated objectives for its long-term equity incentives for top executives comprise:

- Incentives competitive with peer group practice, executive retention, and performance motivation
- Establishing vesting periods of durations that encourage retention of awardees
- Use of TSR and net financial earnings for performance and RSUs to link compensation to criteria meaningful to shareowners.

The long-term equity incentives that NJR provides for top executives include the following and set the following floors and ceilings on them:

- Performance Share Units equal to one common stock share and awarded on the basis of comparative NJR TSR performance against that of a panel of 16 natural gas and combined utilities whose capitalization is between one-fifth and five times that of NJR
 - 0 percent for TSR below the 25th percentile
 - 40 percent for TSR from 25th to 55th percentile
 - 100 percent for TSR from 55th to 80th percentile
 - Up to a maximum of 150 percent for TSR at or above 80th percentile
- NFE Performance Share Units equal to one common stock share and awarded on the basis of net financial earnings per share over the 36-month vesting period
 - 0 percent for NFE below \$6.30 per share
 - 500 percent for NFE between \$6.30 and \$7.87 per share
 - 100 percent for NFE between \$7.87 and \$9.44 per share
 - Up to a maximum of 150 percent for NFE above \$9.44 per share
- Performance Based RSUs available to the CEO, should NFE reach at least \$1.83 per share for fiscal 2023
- Time-Vested RSUs for named executive officers other than the CEO vesting at 2023, 2024, and 2025 fiscal year ends.

The program computes TSR using the following formula to show price change from the award to the date of vesting (36 months) as follows:

$$TSR = (Price_{end} - Price_{begin} + Dividends) / Price_{begin}$$

The portion of TSR share units that vest depends on performance, measured by share price change plus dividends over the 36-month vesting period compared to the performance of the comparator group. The percentage that vests depends on the quartile into which NJR performance falls:

- Below the 25th percentile, no vesting
- From the 25th percentile to the target (55th) percentile, 40 percent vests
- From the 55th to the 80th percentile, 100 percent vests
- At the 80th percentile and above, 150 percent vests.

2023 Long-Term Executive Awards

Award	Recipients	Conditions	Vesting
TSR Performance Share Units	All named officers	TSR at/above comparator group	36 months
NFE Performance Share Units	All named officers	At or above NFE performance goals	36 months
Performance-Based RSUs	CEO	At or above NFE performance goals	Three equal 2023, 2024, 2025 installments
Time-Vested Restricted Stock Units	All except CEO	None	Three equal 2023, 2024, 2025 installments

PSUs seek to motivate performance by linking it to financial goals. PSUs consist of stock unit grants payable in common stock, earned based on NJR-achieved TSR compared to those of a comparison group and to NJR's NFE/share over three years. Time-Vested RSUs promote retention and alignment of executive and shareowner interests relative to stock prices and dividend payments. These units consist of time-vested stock unit payable in common stock and vesting over multiple years. Time-Vested RSUs, are not subject to future performance. Instead payment of them in three equal annual installments over the coming 36 months seeks to induce executives to remain with the company.

NJR provides three stock-based long-term incentive award opportunities for named executive officers other than the CEO and the VP NJR Energy Services (“NJRES”). The latter’s stock-based incentives were addressed above. The CEO’s stock-based long-term incentives consist of annually awarded Performance Based RSUs payable in three equal annual installments over the coming 36-month period. NJR earnings per share targets must meet targeted levels for these units to have value, making them entirely at risk.

e. Peer Group Analysis

Comparison of executive compensation with a peer group is essentially universal in the utility industry. NJR's executive compensation goals include the production of levels competitive with those offered by similarly sized publicly held companies having a common industry focus. The next table shows the peer group used to test competitiveness for 2021 and 2022. The four highlighted companies were dropped by 2023.

Executive Compensation Peer Group

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f. Top Officer Compensation Targets

Total direct compensation, a commonly used measure for comparisons with peer groups consists of base salary plus annual short-term incentive awards and long-term equity incentive awards, with the two incentive elements measured on the basis of achievable (versus achieved) amounts. The next table shows targeted total compensation targeted compensation for top officers in recent years.³²⁵ Note that the positions comprising the top five officers changed in these three years.

Named Officer Targeted Compensation 2021-2023

2021								
Position	Base Salary		Targeted Incentives				Targeted Total Direct Comp.	
	Dollars	Percent	Short-Term		Long-Term		Dollars	Percent
			Dollars	Percent	Dollars	Percent		
CEO	\$825,000	23%	\$907,500	26%	\$1,822,848	51%	\$3,555,348	100%
CFO	\$440,000	35%	\$264,000	21%	\$562,896	44%	\$1,266,896	100%
Non-Utility COO	\$352,000	36%	\$211,200	21%	\$422,968	43%	\$986,168	100%
Sr.VP & GC	\$386,250	41%	\$193,125	21%	\$355,094	38%	\$934,469	100%
SVP & CHRO	\$339,904	41%	\$169,952	21%	\$312,482	38%	\$822,338	100%
Totals	\$2,343,154	31%	\$1,745,777	23%	\$3,476,288	46%	\$7,565,219	100%
2022								
Position	Base Salary		Targeted Incentives				Targeted Total Direct Comp.	
	Dollars	Percent	Short-Term		Long-Term		Dollars	Percent
			Dollars	Percent	Dollars	Percent		
CEO	\$900,000	22%	\$990,000	24%	\$2,254,623	54%	\$4,144,623	100%
NJNG COO	\$460,000	33%	\$276,000	20%	\$654,726	47%	\$1,390,726	100%
Non-Utility COO	\$400,000	33%	\$240,000	20%	\$581,979	48%	\$1,221,979	100%
Sr.VP & GC	\$360,500	36%	\$180,250	18%	\$473,654	47%	\$1,014,404	100%
CFO	\$360,000	40%	\$216,000	24%	\$335,267	37%	\$911,267	100%
Totals	\$2,480,500	29%	\$1,902,250	22%	\$4,300,249	50%	\$8,682,999	100%
Change (\$)	\$137,346	-2%	\$156,473	-1%	\$823,961	4%	\$1,117,780	0%
Change (%)	6%		9%		24%		15%	
2023								
Position	Base Salary		Targeted Incentives				Targeted Total Direct Comp.	
	Dollars	Percent	Short-Term		Long-Term		Dollars	Percent
			Dollars	Percent	Dollars	Percent		
CEO	\$938,250	20%	\$1,032,075	22%	\$2,768,004	58%	\$4,738,329	100%
CFO	\$396,000	36%	\$237,600	22%	\$459,494	42%	\$1,093,094	100%
NJNG COO	\$479,550	35%	\$287,730	21%	\$587,098	43%	\$1,354,378	100%
Non-Utility COO	\$417,000	35%	\$250,200	21%	\$510,508	43%	\$1,177,708	100%
Sr.VP HR	\$290,000	26%	\$130,500	12%	\$706,652	63%	\$1,127,152	100%
Totals	\$2,520,800	27%	\$1,938,105	20%	\$5,031,756	53%	\$9,490,661	100%
Change (\$)	\$40,300	-2%	\$35,855	-1%	\$731,507	3%	\$807,662	0%
Change (%)	2%		2%		17%		9%	

The short-term target equates to 110 percent of the CEOs base salary, to 60 percent for the next two, and 50 percent for the remaining two. Base salary increases for three of the listed officers increased by 10 percent from 2021 to 2022 the preceding year and the other three by 3 percent. The CEO had just completed his first year as CEO, producing a base salary below the peer group median. The other two 10 percent increases also occurred to bring base salaries closer to the peer-company median for those positions.

The base salary of the first three listed executives increased by 10 percent from 2021 to 2022, the preceding year, and the other three by three percent. The CEO had just completed his first year as CEO in 2022, producing a base salary below the peer group median. The other two 10 percent increases also occurred to bring base salaries closer to the peer-company median for those positions. Base salary increases for the listed officers increased generally by 4.25 percent, except for the CFO, whose base salary increased by 10 percent to bring it more in line with the peer group used for comparing top executive compensation.³²⁶

g. Recent Trends

The LD&C Committee of the NJR board has commissioned annual reviews NJR's Compensation Philosophy for a group of about 20 NJR and affiliate executives, including those of NJNG. That philosophy has remained fairly stable across the period whose annual executive compensation reporting to the board we reviewed; *i.e.*, 2017 through 2023. The full board reviews LD&C Committee determinations about executive compensation. Committee review has also addressed ownership of NJR shares by each executive covered by NJR's stock ownership guidelines for officers. The same independent consultant, FW Cook, a leader in providing such services, has performed reviews over this period, following selection to do so by the LD&C Committee. The reviews we examined address trends in executive compensation and changes in regulatory, shareowner services organization, and regulatory (*e.g.*, the U.S. SEC) requirements and measurement bases. The outside firm has also conducted annual reviews of the comparator groups used for assessing the market competitiveness of NJR executive compensation, considering base, annual incentive, and long-term incentive compensation elements.

The consultant's report for 2017 found NJR on the whole smaller than the 12-company peer group as measured by market capitalization, which the consultant viewed as the most important indicator of size and complexity. The consultant cited this factor and revenue as relevant in comparing compensation. NJR exceeded the revenue median by as much as it underran the median for market capitalization.

The outside firm compared compensation elements using proxy analysis and survey data. Proxy analysis considers compensation of the CEO, CFO, and three highest paid officers. Survey data seeks a match of positions at entities from an energy services industry survey). Key findings by the outside consultant about comparative compensation included:

- Base Salaries from two to three percent below the median
- Short-Term Incentive targets (OIP) between the median and 75th percentile
- Base and OIP combined to produce target cash compensation generally at the median; *i.e.*, from one percent below to five percent above
- Adding long-term, generally stock value-based incentives to target cash compensation produced targeted total direct compensation seven percent below the median.

By 2020, the firm's reporting addressed compensation benchmarking and competitiveness for executives and an Executive Compensation Governance & Regulatory Update.³²⁷ It also reviewed recent trends and "areas to watch" in executive compensation. It compared NJR practices in light of Institutional Shareholder Services Inc. ("ISS") and Glass Lewis criteria, metrics, and findings with respect to NJR compensation matters. The report found NJR's executive compensation sound, with no recommendations for changes. Reporting by the NJR board's outside, independent consultant for 2020 cited Glass Lewis as giving NJR received low grades when examining "pay-for-performance" since 2017. The "F" grade for 2019 signified a Glass Lewis finding that NJR's executives received greater compensation for lesser performance when compared with peers. Cook found incentive compensation program design at NJR in alignment with peer group and market practices, but recommended annual redesign of both the short- and long-term incentive components.



The outside consultant's report for 2023 noted significant improvement in the pay-for-performance category noted earlier. The report addressed listing, regulatory, and market trends in executive compensation and found continuing strength in NJR's governance of compensation and in its officer incentive compensation elements. The report also found the short-term, OIP incentive compensation element's inclusion of non-financial measures, representing 50 percent of the total, greater than the 38 percent weighting of the selected peer group. The setting of 150 percent of targeted incentives as the maximum awardable fell below the peer group median, as reported by the consultant. The next table compares NJR's position among the peer group according to each metric reported. It shows how NJR's 2023 position changed from the 2017 and 2020 reports.

NJR vs. Compensation Peer Group Panel

Measure	NJR Percentile		
	2017	2020	2023
Market Capitalization	33 rd	39 th	64 th
Revenue	61 st	65 th	62 nd
Operating Income	16 th	15 th	55 th
Net Income	66 th	61 st	73 rd
Total Assets	10 th	11 th	11 th
Employees	7 th	7 th	7 th
1-year Total Shareowner Return	75 th	last	First
3-year Total Shareowner Return	58 th	-	94 th

Key 2023 findings include:

- Competitive long-term incentive structure, but a [REDACTED] more typical among the peer group
- [REDACTED]
- Short-Term incentive (OIC) at [REDACTED]
- [REDACTED]
- [REDACTED]
- Targeted total direct compensation [REDACTED]

The outside consultant's report for 2023 noted a number of interesting observations about compensation for the NJNG officers in the group:

- [REDACTED]
- [REDACTED]
- [REDACTED]

h. Other Top Executive Compensation

Other forms of compensation have been moderate, ranging, for example, between \$18,600 and \$75,307 for named executive officers for 2023. Compensated items included for each a car allowance, company paid insurance premium, and matching 401(k) and charitable contributions.

i. Other Compensation-Related Provisions

Employment Continuation Agreements protect the named executive officers in the event of employment termination due to a change in control of company ownership. These agreements entitle executives so terminated without cause to the sum of annual base salary and three-year average bonuses times three (times two in the case of the CEO). The agreements condition such payments on meeting non-compete, employee solicitation, and confidential information limitations. NJR officers may take deferred compensation, must hold minimum amounts of NJR common stock, and may not engage in speculative transactions involving or pledge as collateral NJR securities. Clawback provisions permit recoupment of incentive compensation in the event of accounting restatements resulting from material financial reporting noncompliance or conduct detrimental and causing material company financial or reputational harm.

3. *Compensation of Non-Executive, Exempt Personnel*

a. Goals and Practices

Executive leadership, operating under active CEO engagement, has responsibility for determining compensation for non-executive employees other than bargaining unit personnel. These employees consist of those having responsibilities for managing and supervising others and of others operating more as individual contributors. For these non-executive, exempt personnel NJR designs base

salary and total compensation to attract and retain individuals having skills, education, and experience needed for job performance. The non-exempt positions fall into an ascending range of classifications, each having an established salary ranges. These ranges undergo annual review and adjustment, with new positions slotted accordingly, based on business unit review and evaluation by HR compensation personnel. Those reviews seek to maintain compensation ranges consistent with midpoints for the marketplaces where NJR competes for talent.

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Following substantial analysis and reporting guided by HR's compensation personnel, senior NJR financial and corporate leadership approve proposed merit increase targets (percentages). These targets produce for managers a total pool they can allocate to those whose performance they have responsibility to manage. Managers allocate their merit pool amounts among their personnel using two principal criteria:

- Individual performance scores that result from the performance management process
- Where each individual's compensation falls within the minimum to maximum range established for the position involved.

HR compensation personnel calibrate those allocations to ensure overall consistency, and the CEO finally approves them.

There are no compensation targets for bargaining unit positions, whose compensation collective bargaining determines.

b. Compensation Elements

The compensation program elements for non-exempt positions have remained the same from at least 2018.³²⁹ They have consisted of:

- Fixed base compensation
- Base compensation adjustments based on merit or equity on an annual cycle
- Annual incentives based on performance measures and salary grade
- Sign-on and retention bonuses
- Recognition Champion awards
- Cash discretionary cash incentives
- Non cash Discretionary Equity awards.

The Recognition Champion Award program rewards employees at reasonably nominal (from a company cost perspective) for individual or team contributions and achievements adding value in five defined categories. Five classes of awards, three at \$150, one at \$1,000, and one at up to \$5,000 address these categories.

c. Annual Incentives for Non-Executive, Exempt Employees

NJR sets annual short-term incentive targets yearly employing, depending on each employee's level, earnings, business-unit, individual, and CTS targets. A separate, NFE driven Annual Incentive Plan (the NJRES AIP) has applied to affiliate NJRES. The next table shows the annual incentive targets as a percentage of base salary for non-exempt (management) employees.³³⁰

Management Incentive Targets

Group	Grades	%
1	1 – 4	4%
2	5 – 7	7%
3 ¹	8 – 14	10%
4 ²	11 - 14	15%

¹ Non-Directors ² Directors

Awards begin at 80 percent of target when performance reaches 80 percent under the two criteria (CTS and business unit performance) that drive annual incentive awards to management personnel. Awards can expand progressively as measured performance increases, reaching 100 percent at targeted performance reaching target, ultimately capping at performance levels reaching 120 percent of target. The two criteria apply separately to produce a combined annual incentive award by business unit. Within each unit, individual employee performance scores resulting from the performance management process guide allocation of the unit's award among unit employees. These basic elements have remained in place since at least 2018.

The collective bargaining agreement addresses discretionary annual incentives for represented employees. Two subsidiaries, NJRES and Leaf River, have different annual incentive dimensions.

The next table shows annual incentive targets and actual payouts for other non-exempt personnel by salary grade.³³¹ It also shows actual awards by grade for the primary annual incentives and for the other, smaller incentives described above. The “#s” column uses historical information to provide a general indicator of the share of the population represented by each grade ³³²

Annual Incentive Targets and Payouts by Position Grade
(confidential table)**d. Non-Executive, Exempt Compensation Grades and Levels**

NJR divides salary grades into four overall groups:³³³

- 1-4: General office/Clerical positions compensated on a non-exempt wage/hourly basis

- 5-7: Supervisory and professional positions consisting principally of individual contributors, analytical functions, or lower-level supervisors and engineers generally compensated on a salary and exempt basis
- 8-14: Non-director supervisory & professionals, attorneys, upper-level supervisors, managers & engineers compensated on a salary and exempt basis
- 11-13: Directors compensated on a salary and exempt basis.

The minimum and maximum salary ranges for grades 11 through 14 use a fairly common 25 percent above and below the grade's mid-point. Grades 7 through 10 have a 15 percent range, and Grades 1 through 6 have a 15 percent range.³³⁴ Compensation personnel in HR employ a range of surveys to support efforts to establish and review compensation mid-points.³³⁵ A widely used outside expert firm examines NJR's salary structure yearly in relation to market values.³³⁶ Compa ratios compare a company's mid-points to such market mid-points. The next table shows that compa ratios have clustered around 1.0, which means that compensation for the positions compared as a whole conforms to assessed market mid-points.³³⁷

Compa Ratios

Grade	NJNG			Service Company			NJR		
	Year			Year			Year		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
1				0.82	0.84	0.84			
2				0.84	0.83	0.84			
3	0.96	0.94	0.94						
4	0.92	0.94	0.94	0.89	0.89	0.89			
5	0.92	0.94	0.94	1.01	1.02	1.02		1.10	1.10
6	0.95	0.91	0.91	0.92	0.92	0.94	1.02		
7	0.99	1.01	1.01	0.98	1.00	1.00	0.96	1.02	1.02
8	0.96	0.95	0.95	1.01	1.02	1.02	1.07	0.95	
9	0.99	1.01	1.01	1.03	1.04	1.04		1.08	1.08
10	1.03	1.05	1.05	1.01	1.01	1.02		1.05	
11	1.04	1.05	1.05	1.05	1.05	1.06	0.95		1.37
12				1.05	1.03	1.02	1.07	1.04	1.04
13	0.93	0.95		0.95	0.93	1.04	0.80	0.87	
14				0.81	0.80	0.79			

e. Long-Term Incentives for Non-Executive, Exempt Employees

The long-term incentive plan operates at three levels:³³⁸

- Top-level Named Executive officers
- Other executives
- Non-executive exempt (management personnel).

The last, non-executive group members do not have targeted award levels, but can receive Deferred Retention Shares ("DRSs") at the discretion of higher management. NJR offers them to reward performance and retain high potential or critical personnel. DSRs awarded vest over three years. Business unit leaders recommend awards for review by the Senior Vice President, Human Resources and the NJR CEO for recommendation to the NJR board's LD&C Committee for approval and full ratification. NJR reports increased use of DRSs in the face of increased competition for talent in the industry.

4. Other Compensation Awards

Other discretionary, special, and other one-time compensation awards have included:³³⁹

- Sign-on bonuses to encourage new hires to take employment
- Retention bonus to encourage employees to remain
- Thank-you awards for extraordinary year-end corporate operations performance
- Above and Beyond award for those performing outside normal responsibilities, demonstrating exceptional dedication, enhancing work processes, or saving costs
- Diversity, Equity, and Inclusion (DEI) Ambassador Award for those advancing diversity and inclusion
- Alfred C. Koeppe Service Award to a bargaining unit employee exemplifying a commitment to service
- President's Award: Awarded to an employee who develops new ideas that produce cost savings or customer satisfaction
- Other awards, such as Special Achievement or Project Awards given on completion of special projects or events.

In the past three years, such awards in the aggregate have ranged between \$1.5 and \$3.9 million, with the NJNG and service company shares averaging about two-thirds of the total awarded across all NJR entities.

5. Health and Welfare Benefits

NJR offered employees in 2018 three medical plan options, one with two separate tiers, each with distinct pricing. The options offered differing deductibles, out-of-pocket maximums, and coinsurance, and differing coverages for doctor visit, hospital services, and emergency care. Two options included vision care, with separate vision coverage available for those selecting the other option. NJR also offered free access to a "Health Advocate" benefit for information about medical conditions and help with administrative (e.g., claims and billing) matters. NJR offered prescription drug coverage under a three-tiered approach that required increasing co-pay levels as a covered employee might move from generic to preferred and ultimately to non-preferred brands. Two-tiered dental coverage provided differing levels of coverage for a typical range of dental services.³⁴⁰

NJR offered employees in 2023 a choice of three medical plans provided by new provider Aetna, each with varying employee, partner, and family annual rate. The options offered differing deductibles, out-of-pocket maximums, and coinsurance, and differing coverages for doctor visit, hospital services, and emergency care. NJR made two levels of dental coverage available. Vision care included pricing for in- and out-of-network options. Prescription plan coverage included two tiers, each with increasing pricing levels based on generic versus branded selections. Access to Health Advocate continued and NJR also offered at no charge access to: (a) a 24-hour nurse line for information on matters such as health topics, procedures, treatment options, and (b) CBS Minute Clinics for medical services. Medical benefits also included 24/7 access to TELADOC doctors and mental health professionals for non-emergency treatment by phone or video.

NJR has supported benefits offerings through comprehensive planning reviews including extensive benchmarking. We reviewed two *Strategy for Action* analyses, each from the spring time

frame of 2020 and 2021 and each presented by industry leading Mercer.³⁴¹ The 2021 document began with a reference to the impact of COVID-19 and listed leading health and welfare topics and issues the pandemic affected and their consequences and focuses (*e.g.*, telehealth, connectivity with employees working at home, longer-term times away from work, medical and time-off cost implications). The planning document summarizes the current state of health and welfare programs and benefits at NJR, the current environment in which they operated, benchmarking, planning for 2021 and beyond, and next steps. The document summarized current company sponsored benefits and carriers used to assist in providing them, as listed in the next table.

The presentation charged benefit recipient demographic information, enrollment rates, annual changes in premiums, and claims history.

Extensive data on the current environment compared changes in health benefits costs per employee with earnings and overall inflation, changes in drug costs, medical plan types offered, trends in enrollment by types, average employee contribution levels, growth in telemedicine use by employees categorized by employee cost contribution, employers offering support to employees with serious medical issues, access to behavioral care (*e.g.*, through EAPs), employers offering retiree medical benefits, impacts of new laws and regulations, changes in major vendors, options for addressing out-of-network claims, new provider approaches and combinations, factors that differentiate how generations (*e.g.*, millennials, baby boomers) value health care, means for introducing greater flex to address value differences, promoting affordability for low-wage workers, family planning support, and prescription strategies, among others.

A benchmarking summary compared NJR offerings separately to utilities and a more general national group with more than 500 employees. It showed close conformity with the panels and a competitive, but not high comparative actuarial value of the offerings of NJR, except for a comparatively “rich” and eventually dropped medical plan with a comparatively high actuarial value. NJR offered a greater than typical range of voluntary benefits (those substantially or full employee paid).

Changes in premiums from insurers and employee contributions to costs have not proven significant in recent years, as the next table shows. The Mercer benchmark listed presents this industry-leading firm’s estimated increase to renew a health plan with no changes.

Changes in Medical and Dental Cost Factors

Measure	2020	2021	2022	2023	Avg.
Medical Premium Rates	-3%	6%	11%	-8%	2%
Dental Premium Rates	-4%	4%	-8%	7%	0%
Employee Contribution	14%	15%	15%	16%	15%
Mercer Benchmark	3.4%	6.3%	3.2%	5.4%	4.6%

The number of participants drives program costs. NJR faced a significant increase in participant changes (by more than 10 percent) in recent years.

Medical and Dental Participants

Program	2020	2023
<i>Medical</i>	<i>1,406</i>	<i>1,562</i>
Employees	1,056	1,180
Retirees	350	382
<i>Dental</i>	<i>1,116</i>	<i>1,251</i>
Employees	1,116	1,251

6. Other Benefits

NJR's benefit offerings in 2018 also included a Flexible Spending Account Program (FSA) allowing employees to set aside pre-tax dollars to cover unreimbursed medical and daycare expenses. Employees could also purchase supplemental life, disability, cancer, dental, accident, or group pet insurance. NJR made available at no employee cost an Employee Assistance Program for addressing personal or family issues, such as financial, legal, addiction, and other family or personal issues. Clear information explained program scope and employee cost differences, enrollment requirements and actions, and provided on-line links to more detailed program information and outside provider contact information.³⁴²

In 2023, access to the Employees Assistance Program continued, augmented by access to an Aetna behavioral health network to find providers and schedule appointments. Flexible Savings Account access continued as well, and employees could combine selection of a high deductible health plan with a Health Savings Account ("HSA") to fund qualified health care expenses. A range of supplemental insurance offerings continued, including disability, dental, pet, accident, legal, and identify theft.

7. Post Employment Benefits**a. Pension Benefits**

NJR provides pension benefits to long-term employees at full company expense and to represented and non-represented employees under similar terms and conditions. However, different employment dates apply:

- Hiring before December 31, 2012 for represented employees
- Hiring before October 1, 2009 for other employees.

The calculation of benefit entitlements relies on earnings and years of service. The pension program sets the first day of the month following one's 65th birth date as the normal retirement date. Employees with at least 20 years of service may retire as early as age 55 and receive benefits. There is no mandatory retirement age.³⁴³ Spouses can qualify for benefits for employees dying before retirement. Employees can choose from a number of options that continue payments to beneficiaries after retiree death. The amounts of option payments and the duration selected for them change the percentage of benefit entitlements paid. Disability retirement is available when an employee not otherwise eligible for benefits under the company's long-term disability plan begins to receive Social Security disability benefits.

Benefits calculations apply a formula that accounts for covered compensation based on a standard Social Security table, excess compensation, credited service years, and final average compensation (average of the employee's highest 60 consecutive months of compensation). The formula begins with the sum of covered compensation multiplied by 1.10 percent and excess compensation (the amount above covered compensation) multiplied by 1.65 percent. The formula then multiplies this sum by years of credited service up to a maximum of 28. For each year of credited service above 28, the formula then adds 1.25 percent of final average compensation up to the covered level and further adds 1.65 percent times the portion of excess final average compensation. Early retirement benefits employ a similar formula if the retiree defers receiving them until age 65, but discounts the benefits to the extent receipt before age 65 begins. Additional benefits apply for those who made contributions to their retirement prior to June 1, 1984, when the ability to make those contributions ended.

A Summary Plan Description New Jersey Natural Gas Company Plan for Retirement Allowances for Non-Represented Employees explains entitlements and benefits level calculation clearly and provides illustrative example. This summary provides additional information about pension entitlements and a summary of actions to take as retirement approaches. Enrollment at a three percent pre-tax rate occurs automatically unless changed by the employee.

b. Retirement Savings Plan

NJR makes available to non-represented employees and to represented employees where bargaining agreements permit a retirement savings plan permitting pre- and post-tax contributions. The Company matches employee contributions up to 6 percent of compensation. Company contributions vest over time employed. Employees may direct their savings investments to qualifying funds. *A New Jersey Resources Corporation Employees' Retirement Savings Plan Summary Plan Description* explains the plan's operations and how employees can use it. This document also provides guidance about investment types, risks, and returns explained. Employees may borrow against their savings plans accounts³⁴⁴

c. Cost Summary

The next table shows that the costs of pensions, deferred compensation, and other post-employment benefits have fallen and that the costs of the NJR employee savings plan have increased, with the net change of both categories combined a 15 percent drop.³⁴⁵

Changes in Post-Employment Benefits Costs

Year	2019		2020		2023
Item	Actual	Budget	Actual	Budget	Budget
Pension/OPEB/DefComp/PEP	8,279,126	8,317,080	9,463,022	8,605,454	6,880,479
Pension Non-Service Cost	5,205,162	4,818,696	3,995,956	7,425,829	2,843,830
Savings Plan	2,808,535	2,795,574	3,086,862	3,277,756	4,056,532
Total	16,292,823	15,931,350	16,545,840	19,309,039	13,780,841
Year	2021		2022		2023
Item	Actual	Budget	Actual	Budget	Change
Pension/OPEB/DefComp/PEP	9,736,490	10,469,109	9,005,421	8,613,527	4%
Pension Non-Service Cost	3,664,596	7,134,506	(2,564,352)	(5,266,191)	-201%
Savings Plan	3,647,983	3,392,902	4,001,334	4,997,954	78%
Total	17,049,069	20,996,517	10,442,404	8,345,290	-49%

C. Conclusions**1. NJR employs a sound structure and approach for establishing compensation and regularly reviewing it.**

The board of directors takes responsibility and actively engages in the establishment of compensation goals, objectives, targets, and measurement of performance against them for compensation purposes. The board's LD&C Committee regularly engages an independent compensation consultant who undertakes regular annual reviews of executive compensation structure and elements, offers information and advice on compensation trends, and provides analyses of NJR executive compensation. The full board acts on the committee's recommendations.

Dedicated members of the service company HR department address the structure and elements of compensation non-exempt managers, supervisors, and individual contributors. Their efforts include access to a reasonable range of consultants, advisors, surveys, and other information. They use these sources to assess regularly the salary ranges for the more than 10 grades into which compensation for these non-executives fall and to measure competitiveness of compensation structure and levels. They address equity and calibration of compensation across the operations of NJR and they ensure that managers and supervisors use NJR's performance management system, which has sufficient capabilities, as intended in making decisions about changes in salary and annual incentive decisions. They do so through a group that is small but seemingly sufficient to keep pace with a well-established and substantial annual slate of performance review and compensation activities.

2. Compensation elements and weighting and compensation levels are typical and without indication of excess.

Annual executive and management incentive structure, scope, and target percentages by position level have remained consistent for a number of years and are reasonably typical of what the industry considers appropriate in securing and retaining high performing talent.

For executives, the work of the LD&C committee's independent consultant has consistently shown targeted compensation for executives, including the portions assigned to base salary, annual, cash-

based incentives, and long-term, equity-based incentives, to be competitive with a peer group, as it has changed over time, consisting of comparably sized enterprises. Other forms of executive compensation (e.g., perks) has remained at moderate levels. Increases for executives in recent years reflect what has been an unusually large number of early entrants into the positions involved and have produced results consistent with targets and the potential for awards varying above or below targets based on performance.

For covered non-exempt employees, we found compensation goals, salary ranges, and apportionment of compensation amounts between base and incentive elements commensurate with industry experience. Compa ratios show overall that compensation for these employees falls at levels matching what HR's data and analysis shows with respect to competitiveness with those against whom NJR and its businesses compete for talent. Incentives, as is true as well for executives, take account of operational performance and some key NJNG metrics.

3. NJNG is experiencing an information gap about compensation for a [REDACTED]. (See Recommendation #1)

The [REDACTED] for the position found insufficient "insufficient size-appropriate" data for benchmarking [REDACTED]. The target total direct compensation for the other [REDACTED]. Different organizational structures can make it difficult to find data for certain positions. For example, some utilities provide both electricity and gas service and among them some combine and some separate executive duties between those two service types. Other companies operate in different and sometimes larger holding company structures, which can affect the executive or management level at which they slot positions. Nevertheless, ensuring sufficient yet competitive competition for critical [REDACTED] positions, [REDACTED], calls for more detailed efforts to secure information about compensation competitiveness.

4. Positions at higher management levels have regularly secured [REDACTED] when measured against the target percentages set. (See Recommendation #2)

For the 2018 through 2023 period, awards for levels [REDACTED]. We did not find the percentages of base salary set as targets for annual incentives for either the higher or lower compensated grades out of line with industry experience or expectations here. What stands out is [REDACTED].

With overall financial and operational targets well coordinated, the question that arises is how [REDACTED]. Understanding the reasons for the divergence is important in ensuring that management [REDACTED].

5. NJR has employed comprehensive and current information that has enabled it to consider changes to its health and welfare benefits on a soundly informed basis; its changes have produced a range of benefits comparable to other others in the industry.

HR has regularly studied health and welfare programs, assessed their competitiveness, and made changes over the period we examined. Outside expertise has provided a substantial body of information on trends in the industry, costs, and changes in employee valuation and expectations regarding such benefits.

6. NJR has experienced industry competitive rates of change in health and welfare benefits costs in recent years.

The last audit of this type found benefits costs to be an issue warranting management attention. As NJR has studied and altered health and welfare benefits more recently, it has experienced annual changes in costs competitive when measured under a benchmark provided by a leading firm in the industry. NJR has continued to provide a range of other benefits that its benchmarking shows to be consistent with others in the industry. They include behavioral health, flexible savings account, health savings account, and a variety of insurance offerings.

D. Recommendations

1. Identify a market competitive compensation value for NJNG's executive position for Operations. (See Conclusion #3)

[REDACTED]

2. Assess the reasons for the disparity in annual incentive rewards, relative to their targets, for the lower exempt salary grades. (See Conclusion #4)

[REDACTED]

Chapter XI: Customer Service
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Chapter XI: Customer Service

A. Background

NJNG, the principal subsidiary of New Jersey Resources, delivers customer service through phone, field, and face-to-face interactions to around 570,000 customers, primarily located in suburban Monmouth, Ocean, and parts of Morris, Middlesex, and Burlington counties. Customer growth of 6,000 to 9,300 annually through conversions and new additions have contributed to over 1.2 million annual customer calls, 6.6 million customer bills, 6 million payments, 4,500 emails, and 6,700 chat sessions (the last through a capability introduced in 2023).^{346,347}

The following sections provide a concise overview of NJNG's Customer Service organization, costs, management, and performance. Following sections of this chapter offer more in-depth examinations of key Customer Service areas, covering:

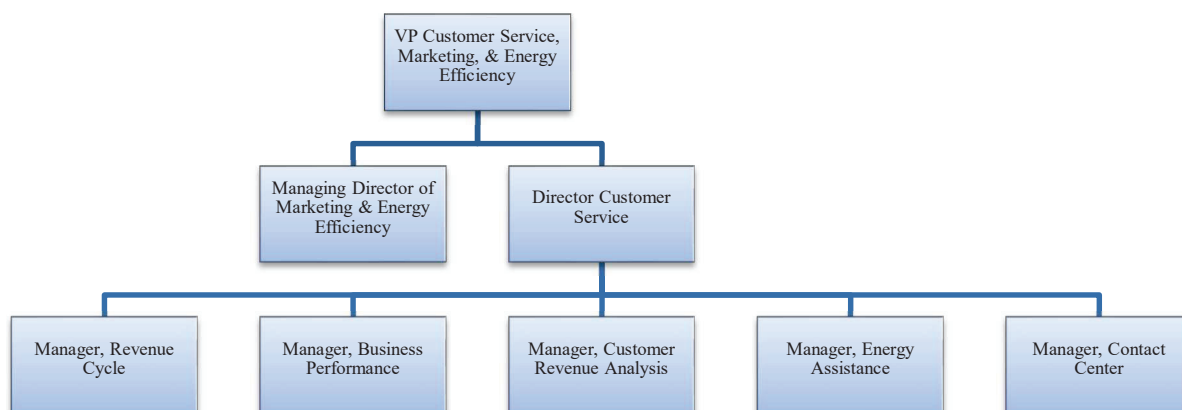
- Customer Satisfaction Measurement
- Call Center
- Credit and Collections
- Meter Reading
- Revenue Protection
- Customer Complaints and Resolution
- Retail Office Ops. & Payment Processing
- Billing and Customer Care System
- Field & Meter Services
- Linda's Law/Customer Safety & Welfare

B. Findings

1. Customer Organization and Staffing

The Customer Service organization has responsibility for providing customer service to NJNG's customers. During audit field work, the Director of Customer Service led the organization and reported to the Vice President of Operations, who in turn reported to the Vice President of Energy Delivery. Local Union 1820 of the International Brotherhood of Electrical Workers, AFL-CIO represents Customer Service employees.³⁴⁸ The chart below illustrates the Customer Service organization structure as of October 2023.³⁴⁹ This team has responsibility for overseeing customer billing and payment services, engaging with residential, commercial, and industrial customers, handling delinquent gas accounts, managing enrollment and billing for Energy Choice customers and third-party suppliers, delivering energy assistance services, and overseeing the Comfort Partners Program.

NJNG Customer Service Organization



NJNG reclassified the head of customer service position down to the director level in 2018, after promotion of the former Vice President of Customer Service. In late 2023, NJNG restored the executive level position, titling it Vice President for Customer Service, Marketing, and Energy Efficiency and placing the role directly under the NJNG Senior Vice President and Chief Operating Officer.

Meter reading and meter-related field services fall under a different line of authority, headed by a Director of Field Operations reporting to the NJNG Senior Vice President and Chief Operating Officer. The Meter Shop and Storeroom fall under a Director of Energy Delivery Support who reports to the Vice President of Energy Delivery.

The next two tables summarize NJNG year-end staffing levels for the Customer Service functions including Call Center, Business Offices, Billing, Credit & Collection, Remittance Processing, and Meter-related Field Staffing including Meter Reading, Meter Exchanges, Revenue Protection, and Meter Shop:³⁵⁰ NJNG Customer Service and field staffing levels peaked in 2022, with the increase coming at a time when the staff supported deployment of NJR's Enterprise eXperience Transformation ("Project NEXT"). NJNG also increased contractor call center staffing during 2022.

In 2019, NJR embarked on Project NEXT to replace its existing JD Edwards World IT platform, which provides systems to support customer care, finance, regulatory reporting, and work order management, with a goal of completing the deployment before Oracle's extended support period for that platform ends in 2025. Project NEXT is proceeding through a multi-year development effort that has added and will continue to add systems and technologies to modernize business processes and increase security of business and customer information.

NJNG Customer Service Staffing

Group	2018	2019	2020	2021	2022
Director	1	1	1	1	1
Call Center ¹	54	54	57	66	65
Call Center ²	9	15	18	15	17
Billing	11	11	10	10	12
Credit/Collection	12	13	12	13	12
Business Offices	9	9	9	9	9
Remittance Processing	4	4	4	5	5
Gas Transportation	5	5	4	5	3
<i>Total Staffing</i>	<i>105</i>	<i>112</i>	<i>115</i>	<i>124</i>	<i>124</i>
<i>Customers</i>	<i>543,823</i>	<i>552,177</i>	<i>559,633</i>	<i>566,618</i>	<i>572,572</i>
<i>Staffing per 100K Customers</i>	<i>19</i>	<i>20</i>	<i>21</i>	<i>22</i>	<i>22</i>

¹ In-house² Outsourced**NJNG Meter-Related Field Staffing**

Function	2018	2019	2020	2021	2022
Meter Exchanges	0	19	19	37	36
Meter Shop	12	11	11	13	13
Meter Reading	63	65	64	67	68
Revenue Protection	1	1	1	1	1
Total Field & Meter Staffing	76	96	95	118	118
<i>Customers</i>	<i>543,823</i>	<i>552,177</i>	<i>559,633</i>	<i>566,618</i>	<i>572,572</i>
<i>Staffing per 100K Customers</i>	<i>14</i>	<i>17</i>	<i>17</i>	<i>21</i>	<i>21</i>

NJNG operates one call center in Wall, New Jersey staffed at the end of 2022 with 65 company Customer Service Representatives (CSRs) and 17 contractors. NJNG contracts with [REDACTED], whose third-party call center is in Texas, to provide 10 to 20 additional off-site CSRs to supplement day-to-day operations.

Customers may pay in person at one of four company-operated walk-in locations in Wall, Lakewood, Rockaway, and Asbury Park. Customers can also pay bills at Western Union qualified payment locations throughout the state. In 2022, NJNG received 5.96 million payments of which only 0.3 percent came at one of four walk-in locations.³⁵¹

NJNG's Meter Shop organization operates from Lakewood, New Jersey. Meter Readers and Utility Service personnel work out of locations in Wall, Lakewood, Manahawkin, Atlantic Highlands, and Rockaway.

2. Regulations

New Jersey Administrative Code Title 14 (N.J.A.C) and New Jersey Statutes Annotated Title 48 (N.J.S.A.) provide guidance in matters concerning application for service, meter reading and meter testing, billing, collections, service visits, and business offices available to customers. In 2022, the NJ BPU, with input from the public and other stakeholders, codified amendments to Chapter 3 of Title 14, which applies to all utilities under its jurisdiction. The following table summarizes key regulations governing utility customer service operations in New Jersey:

14:3-3.2	Applications for service may be made in-person, by mail, website, email, fax, or telephone. Service should be initiated within two business days or on a mutually agreed upon date.
14:3-3.3	Customers shall be given a copy of the "Customer Bill of Rights" no later than the first bill or 30 days after initiation of service.
14:3-3.4	As a condition of service, NJNG may require a security deposit equal to two times the average monthly bill (for the previous 12 months), including the monthly service charge. A security deposit or additional deposit may be required for delinquent accounts (bills not paid within 30 days of due date) except for Winter Termination Program eligible customers seeking protection during heating season. The customer will be billed for the deposit and allowed at least 20 days for payment.
14:3-3.5	After one year, a residential account in good standing may be eligible for a refund of the deposit, two years for a commercial account. Security deposits for closed accounts will be refunded following final bill settlement.
14:3-3.8	Service appointments will be available to customers in a four-hour window.
14:3-3A.1	Service can be suspended or curtailed to make necessary repairs, for tampering or fraud, or for non-payment. Service cannot be suspended or curtailed outside the hours of 8am through 4pm, Monday through Thursday or before a state holiday, except for safety concerns. Service will be discontinued within 48-hours following a customer request.
14:3-3A.2	Service may be discontinued for non-payment for arrearages greater than \$200 or if the account is more than three months in arrears, after the utility has completed all notice requirements and confirmed that no payment has been received. Notification regarding service reconnection should be provided in person at the premises or through a sealed note left behind at the premises. The utility shall accept customers offers of full or reasonable payment at the time of disconnection without suspending service.
14:3-3A.2	Customers who are eligible for the Winter Termination program (November 15 through March 15) cannot be disconnected if temperatures are projected to fall below 32 degrees, if the account is in dispute, or if the customer qualifies for a medical waiver.
14:3-3A.3	A notice for service disconnection can be sent after allowing the customer 20 days to pay the bill (based on postmark or bill mailing date) by first class mail apart from the bill. From November 15 through March 15 the notice will be accompanied by a Winter Termination Program fact sheet.
14:3-3A.4	Utility should make good faith efforts to determine which of their residential customers are 65 years or older to notify these customers by telephone in addition to mailed notices. Utilities shall solicit information from residential customers quarterly, at a minimum, to determine the presence of any life-sustaining equipment on the premise. Utilities shall develop outreach plans to educate the public regarding medical certification procedures.
14:3-3A.5	Utilities should not discontinue service during the period from November 15 through March 15 if customers are eligible for protection under the Winter Termination Program. Customers disconnected for non-payment and not reconnected by November 16 and who are eligible for protection under the Winter Termination Program shall be required to make a down payment of up to 25 percent of the outstanding balance, be notified of enrollment in a budget billing plan, and make good-faith payments if they have the ability.
14:3-3A.9	Utility service should be restored within 12 hours following proper application and payment of all charges due.
N.J.A.C. 14:3-5.1	The utility should maintain an office within its New Jersey service territory and be accessible to customers and Board staff through a toll-free emergency number 24 hours a day, seven days a week and through a non-emergency number during normal business hours (9am to 5pm weekdays).
N.J.A.C. 14:3-7.2	Reasonable efforts should be made to obtain readings from all meters. A notice should be mailed to customers explaining the need to obtain a reading (a penalty for not) for any accounts that have been estimated for four consecutive monthly bills or two consecutive bi-monthly bills. If a low estimated bill results in an actual bill that is 25 percent greater than prior bills, the customer should be allowed to amortize the excess amount.
N.J.A.C. 14:3-7.7	Customers should not be required to pay more than 25 percent of the total outstanding account when entering into a deferred payment agreement. Agreements should be renegotiated if the customer can demonstrate a significant change in circumstances. Non-residential customers may enter into a deferred payment agreement for a period of no more than three months. Annually, at least one deferred payment plan should be available to customers.

Additionally, the Consumer Bill of Rights, established by NJ BPU order in 1986 and updated in March 2023, communicates the following rights afforded to utility customers under the Board's regulation:

- To receive safe, adequate, and proper service if a qualified applicant
- Not to pay an unreasonable deposit amount to receive service
- To a budget billing plan if a residential customer
- To at least one "deferred payment plan" per year
- To dispute a charge
- To a meter test free of charge once every 12 months
- To at least 10 days written notice before service is turned off for non-payment
- To advance notice before service suspension or turn off of service for other than non-payment
- Unless there is a safety-related emergency, a utility company may not suspend or turn off utility service outside the hours of 8:00 a.m. and 4:00 p.m., Monday through Thursday.
- Not to have service shut off or suspended, absent an emergency, on a Friday, Saturday, Sunday, state holiday eve or holiday, or if a household medical emergency exists
- To utility services from November 15 to March 15 if eligible for Winter Termination Program protection
- To receive posted or direct notice of plans to turn off service if located in a multi-tenant building
- To a diversion of service investigation if usage appears unexplainably high
- To continued utility service upon payment of charges for service received and not to receive a notice threatening turn off based on extra charges
- To a deposit return on account closure and final bill settlement
- To no late payment charge assessment on residential customer bills.

This same order requires state utilities to provide in any communication between the utility and the customer regarding an overdue utility bill information on the Winter Termination Program, Universal Service Fund, Low Income Home Energy Assistance Program, Low Income Home Water Assistance Program, and other utility assistance programs administered by a state agency.

3. Information Systems & Technology

The primary systems supporting NJNG's customer service functions include: ³⁵²

System / Technology	Description
	JD Edwards World Customer Information System
	Agent desktop – customer relationship management system
	Work Force Management System
MyAccount	Website Customer Portal
	Telephony System, Workforce Management System
	Caller ID screen pop; allow CSR to identify calling customer & number
	Interactive Voice Recognition (IVR)
	Call Recording/Speech Analytics
	Customer call-back technology
	Document Print Services & Payment Processing (Lockbox)

		Collection Agency management services
		My Account customer portal, electronic payment, paperless billing
		Meter Data Management

As noted, Project NEXT completion has been timed to precede the end of support from Oracle in 2025. The project is proceeding through a multi-year period that will witness deployment of systems and technologies to modernize business processes and increase security of company and customer information. Project NEXT implementation will occur in four basic phases:

- Enterprise Resource Planning (ERP) – Finance and Accounting (in place)
- Customer Experience (underway)
 - Customer Relationship Management (CRM): customer information, customization
 - Customer Service Transformation (CST): Agent desktop
 - Digital Experience Strategy (DES): website, customer preference center, electronic transactions, and MobileApp
- Work Force and Asset Management: Work order management, scheduling, mobile platform
- Customer Information and Billing - CIS billing and account management.

Customer Service initiatives over the past few years have focused on improving efficiency and upgrading technologies. Activities and initiatives have included³⁵³:

- Outsourcing of printing and mailing of customer bills and other customer correspondence
- As part of Project NEXT, implementation of a new agent desktop that currently serves as a front-end to the existing J.D. Edwards CIS until the [REDACTED] billing and account management system completion
- Contracting with an external vendor to provide electronic payment options on the company website and by phone through the Integrated Voice Response (“IVR”) system, with expanded available payment options that include text-to-pay
- Creating live Chat capabilities for customers through the company website
- Providing Google translate for field resources
- Instituting welcome emails to onboard customers to confirm service requests and to provide the customer bill of rights and instructions for accessing customer account and other energy-related information on the company website.

A cross-functional Customer Experience team has met periodically over the past five years to discuss customer pain points and potential improvement opportunities.

4. Performance Measurement

NJNG’s Customer Service Vision Statement states that, “We listen to our customers to deliver easy, personalized and meaningful experiences.”³⁵⁴ However, NJNG does not have an explicit customer service strategy to achieve this stated vision. Instead, the company focuses on meeting operational targets.³⁵⁵ The Business Performance organization supports Customer Service and Contact Center operations by providing:

- Web and IVR customer self-service and social media stats
- Customer experience

- Compliance and complaint handling
- Customer satisfaction research
- Performance benchmarking
- Support for Customer Service technologies and systems
- Workforce planning, scheduling, and intraday management
- Data analytics
- Process improvement project management
- Performance monitoring and reporting.

The next table lists key Customer Service performance metrics tracked by NJNG and reported quarterly or annually to the BPU under a stipulation of settlement in the 2021 rate case.³⁵⁶ The table lists NJNG goals and 2022 actual performance.

Customer Service KPIs

Metric	Goal	2022 Actual
Overall Customer Satisfaction	89%	
% Calls answered in 30 seconds	82%	77.59%
Abandoned Call Rate	< 5%	4.17%
Meters read monthly	95%	
Rebills per 1,000 customers	< 20	3.45
Customer Complaints per 1,000 customers	< 1	0.34
Service Appointments kept	99.9%	
Leaks responded to within 60 minutes	95%	

The next table lists customer service metrics that comprise components of bargaining unit employee performance incentive plans. Company, group, and individual performance targets drive the magnitude of the incentives earned.³⁵⁷ During 2022, customer service employees earned an incentive payout of 2.3 percent of base salary.³⁵⁸

Bargaining Unit Customer Service Metrics

Metric	Goal	2022 Actual
Collectors		
Points	128.5	
% of Final Notices collected/cut	55%	
BPU Complaints per 1,000 customers	0.56	0.34
Preventable Motor Vehicle Accidents per million miles driven (individual)	2.18	0
Revenue Support Clerks and Admin Clerks		
BPU Complaints per 1,000 customers	.56	0.34
Lockbox Exception Queue	99.77%	99.78%
Customer Service Representatives		
Group Metrics		
1 st Call Resolution (survey)	92%	86.4%

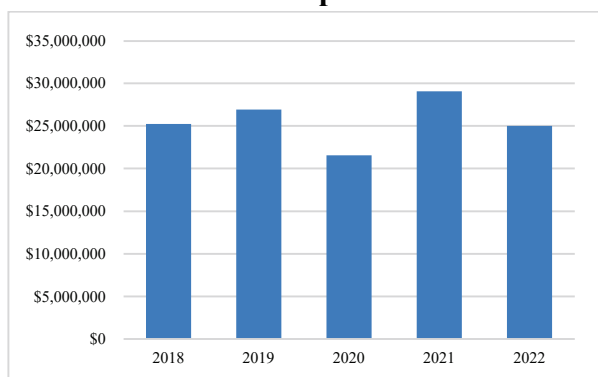
Service Level 82% answered in 30 seconds	82%	57.1%
BPU Complaints per 1,000 customers	0.56	0.34
NJRHS Retention Goal	97%	98%
Individual Customer Service Representative		
CTP Call Percentage (individual)	70%	87.1%
NJRHS Marketing Tips percentage (individual)	70%	73.1%
Quality Assurance Monitoring Score for NJNG/NJRHS	92%	93.7%

5. Costs

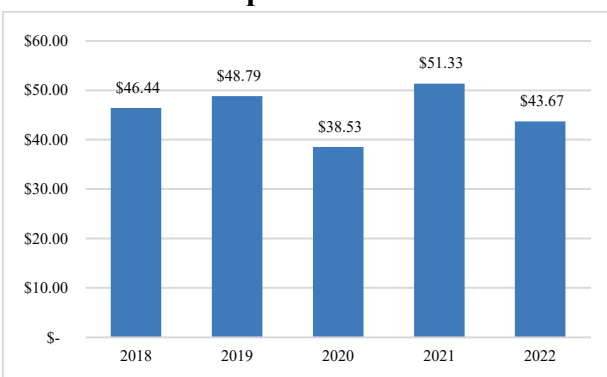
a. Total Customer Service Costs

Customer Service expenses overall have decreased by about two percent since 2018, reducing cost per customer by about \$3.46 from 2018 to 2022. The following tables show recent cost changes.

O&M Expenses



Cost per Customer



b. Customer Contact Costs

The table below shows that NJNG's Customer Contact operation and maintenance (O&M) costs³⁵⁹ increased by 43 percent from 2014 to 2022, proportional to the increase in call center full time equivalent ("FTE") resources, including employees and contractors. Call volumes, however, have increased by only one percent since 2014.

Customer Contact Costs

Year	Total Costs	Calls ¹	\$/Call	Self-Served	FTEs
2014	\$6,319,903	631,911	\$10.00		65
2015	\$6,998,507	680,113	\$10.29		74
2016		638,164			71
2017		644,084			70s
2018	\$7,663,334	693,390	\$11.05	40%	63
2019	\$8,220,917	666,972	\$12.33	45%	69
2020	\$7,500,750	584,779	\$12.83	43%	75
2021	\$8,874,819	589,430	\$15.06	44%	81
2022	\$9,046,310	639,097	\$14.15	45%	88

¹ Handled by agents

c. Credit and Collection Costs

NJNG's Credit & Collection O&M costs³⁶⁰ (excluding bad debt expenses) have decreased by 4 percent since 2014, while field services actions have decreased by 24 percent, increasing the cost per collection action by 26 percent across our study period. Net write-offs, expressed as a percentage of revenue, have increased since 2014 by 17 percent. The next table summarizes credit and collection costs.

Credit & Collection Costs

Year	O&M Cost	Disconnect Visits and Disconnects	\$ per Disconnect	% Net Write-off ¹	FTEs
2014	\$1,377,908	39,622	\$34.78	0.38%	13
2015	\$1,224,180	38,063	\$32.16	0.47%	13
2016		36,832		0.40%	12
2017		37,276		0.30%	12
2018	\$1,560,054	34,453	\$45.28	0.35%	12
2019	\$3,083,251	31,143	\$99.00	0.32%	13
2020	\$1,295,309	18,807	\$68.87	0.23%	12
2021	\$1,352,547	21,102	\$64.10	0.26%	13
2022	\$1,327,037	30,302	\$43.79	0.45%	12

¹ Net write-off as a percent of total revenue

NJNG's Payment Processing O&M costs, and cost per payment, have increased by 20 percent since 2014. The percentage of electronic payments has also increased each year since 2014. The next table summarizes payment processing costs, including NJNG business office and back-office payment processors.

Payment Processing Costs

Year	Costs		Payments Processed		Staffing		
	O&M	Per Payment	Number	Electronic	Business Office	Remittance	Total
2014	\$726,329	\$0.17	4,187,517	45%	9	4	13
2015	\$914,726	\$0.18	5,166,172	58%	9	4	13
2016			5,112,484	60%	9	4	13
2017			5,299,513	62%	9	4	13
2018	\$1,937,813	\$0.38	5,160,182	66%	9	4	13
2019	\$1,621,777	\$0.29	5,559,398	68%	9	4	13
2020	\$985,960	\$0.18	5,600,712	71%	9	4	13
2021	\$1,956,282	\$0.35	5,540,805	73%	9	5	14
2022	\$869,572	\$0.16	5,605,588	76%	9	5	14

d. Billing Costs

The next table summarizes NJNG billing O&M costs, which peaked in 2021 and have declined since.³⁶¹ Over our study period, billing O&M costs have increased by 37 percent, leading to a 26

percent increase in cost per bill. The adoption of paperless bills has increased by 72 percent since 2014.

Bill Processing Costs

Year	Total		Bills		Staff		
	Costs	\$/Bill	Bills	Paperless	Billing	Gas Transportation	Total
2014	\$3,004,337				11	4	15
2015	\$2,949,767	\$0.49	5,966,551	16.7%	11	4	15
2016			6,088,468	17.8%	11	5	16
2017			6,125,135	19.1%	11	5	16
2018	\$5,877,544	\$0.94	6,256,140	20.8%	11	5	16
2019	\$6,262,241	\$0.99	6,345,121	22.6%	11	5	16
2020	\$3,907,499	\$0.60	6,502,548	24.2%	10	4	14
2021	\$7,885,646	\$1.21	6,499,094	26.9%	11	5	16
2022	\$4,120,850	\$0.62	6,607,888	28.7%	12	2	14

e. Metering Costs

The next table summarizes NJNG's Meter Reading (O&M costs, and cost per meter read. Cost per meter read has increased by 8 percent since 2014 while the number of meters to be read has only increased by 2 percent. The level of automated meters has remained constant at 44 percent throughout the study period.³⁶²

Meter Reading Costs

Year	Costs		Meters Read	Cost/Reading	% AMR Meters
	O&M	Overtime			
2014	\$3,747,630		591,405	\$0.61	44%
2015	\$3,643,080		598,623	\$0.59	45%
2016	\$4,085,726	\$77,724	605,042	\$0.65	44%
2017	\$4,207,161	\$192,844	587,013	\$0.65	43%
2018	\$4,356,659	\$202,303	601,730	\$0.67	44%
2019	\$4,507,697	\$279,030	591,405	\$0.68	43%
2020	\$4,035,745	\$89,533	598,623	\$0.61	44%
2021	\$4,785,747	\$143,454	605,042	\$0.71	43%
2022	\$4,588,440	\$90,880	587,013	\$0.73	35%

NJNG's Meter Exchange group's O&M costs have risen by 72 percent since its establishment in 2018. Overtime expenses reached their peak in 2022, as did total O&M costs. The volume of meter exchanges has increased by 88 percent since 2018, resulting in a nine percent reduction in the cost per order worked. The Meter Exchange group aims to minimize non-field work and has maintained an average of 10.6 percent non-field work since October 2019. Additionally, the group has

successfully reduced the number of inaccessible meters (CGIs) since 2018. The following table provides a summary of the group's costs and performance.³⁶³

Meter Exchange Costs

Year	Costs		Orders		(CGIs) ¹	% Non-Field
	Total	Overtime	Number	\$/Order		
2018	\$2,029,894		13,781	\$147.30	6%	
2019	\$1,988,403	\$52,176	21,030	\$94.55	5%	
2020	\$896,784	\$38,696	17,074	\$52.52	5%	12.6%
2021	\$2,659,774	\$52,035	33,498	\$79.40	3%	9.5%
2022	\$3,487,234	\$149,717	25,953	\$134.37	4%	11.2%

¹ "Can't Get Ins"

NJNG's Meter Shop's O&M costs have increased by 54 percent since 2014, with costs peaking in 2021. Staffing has decreased by two FTEs since 2014, but overtime costs have increased. However, NJNG's meter repair costs, tracked as an employee incentive metric, have decreased by 19 percent since 2015, and most notably in 2022. The next table summarizes the group's costs and performance.³⁶⁴

Meter Shop Costs

Year	Costs			Orders per Day
	Total	Overtime	\$/Repair	
2014	\$1,016,614			
2015	\$1,020,346		\$12.92	9.0
2016	\$1,103,732	\$18,654		
2017	\$1,107,333	\$42,937	\$10.70	8.7
2018	\$1,389,284	\$112,020	\$10.87	9.5
2019	\$1,258,813	\$77,297	\$13.41	9.2
2020	\$1,180,163	\$44,817	\$14.03	9.1
2021	\$1,572,103	\$40,273	\$14.07	9.0
2022	\$1,565,457	\$42,390	\$10.48	8.7

f. Revenue Protection

NJNG spent on average of \$375 on investigation costs per case between 2014 through 2018. The cost per case peaked in 2016 and has declined since. NJNG did not report any investigation costs for 2019 through 2022, as the following table shows.³⁶⁵

Revenue Protection Costs

Year	Cases	Costs	
		Total	Per Case
2014	7	\$3,604.14	\$514.88
2015	9	\$4,979.01	\$497.90

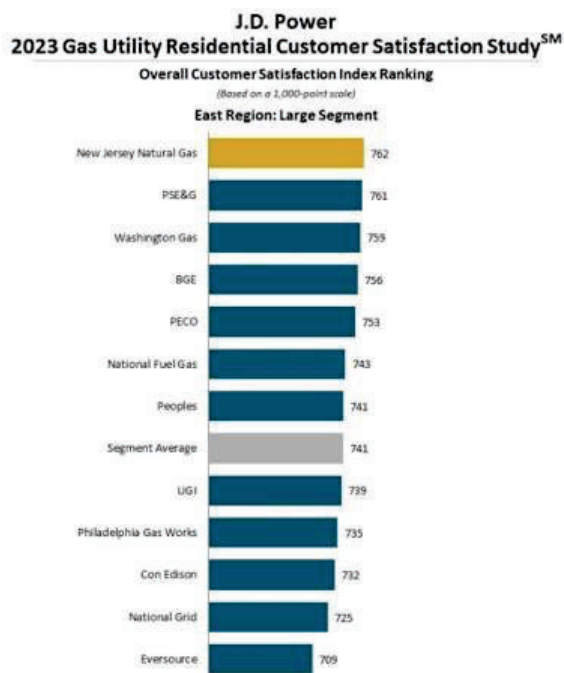
2016	21	\$15,319.62	\$696.35
2017	15	\$4,147.69	\$188.53
2018	19	\$4,842.03	\$254.84
2019	7	\$0.00	
2020		\$0.00	
2021		\$0.00	
2022		\$0.00	

6. Customer Satisfaction

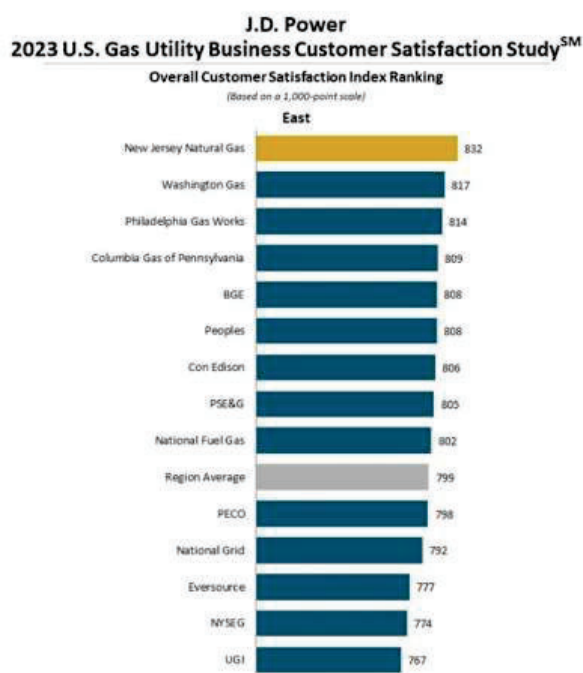
NJNG measures customer satisfaction through several survey mechanisms. The J.D. Power and Associates Customer Satisfaction Index annually compiles customer satisfaction survey results within the utility industry. This index has wide industry acceptance for measuring overall satisfaction. This index provides NJNG with the ability to benchmark performance on a national and regional basis, but is limited in terms of understanding the views of customers in a particular jurisdiction. Since 2015, NJNG residential customers rated NJNG the highest in satisfaction in the J.D. Power Gas Utility Residential Customer Satisfaction Study for large utilities in the East region, with the exception of 2022. NJNG was rated the highest in the J.D. Power 2023 Gas Utility Business Customer Satisfaction Study for large utilities in the East region. The J.D. Power 2023 Gas Utility East Region, Large Segment results are presented in the following charts.

JD Power 2023 Gas Utility Customer Satisfaction StudySM

Residential
Commercial



Source: J.D. Power 2023 Gas Utility Residential Customer Satisfaction StudySM
Charts and graphs extracted from this press release for use by the media must be accompanied by a statement identifying J.D. Power as the publisher and the study from which it originated as the source. Rankings are based on numerical scores, and not necessarily on statistical significance. No advertising or other promotional use can be made of the information in this release or J.D. Power survey results without the express prior written consent of J.D. Power.



Source: J.D. Power 2023 U.S. Gas Utility Business Customer Satisfaction StudySM
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NJNG has consistently ranked first in Residential customer satisfaction since 2014. Business customer satisfaction has been above average in all years except for 2015.³⁶⁶ The next table and charts show trends across the past ten years.

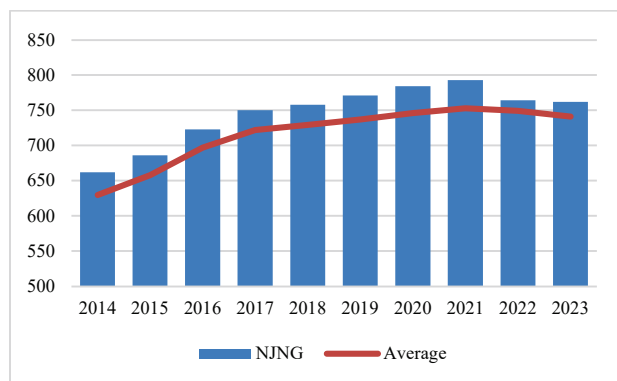
J.D. Power Customer Satisfaction Results

Year	Ranking	Residential		Ranking	Business	
	NJNG	NJNG	Avg.	NJNG	NJNG	Avg.
2014	1	662	630			
2015	1	686	658	8	666*	674
2016	1	723	697	3	777	764
2017	1	750	722	1	827	782
2018	1	758	729	10	783	781
2019	1	771	737	2	828	794
2020	1	784	746	3	832	808
2021	1	793	753	1	844	814
2022	4	764	749	2	828	799
2023	1	762	741	1	832	799

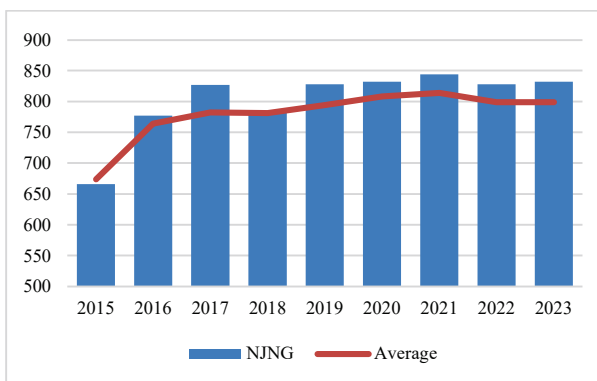
* below average

J.D. Power and Associates Gas Utility Customer SatisfactionSM

Residential



Commercial



NJNG contracts with a third party to conduct annual surveys of customer satisfaction for business and residential customers. NJNG also annually and quarterly measures its customer satisfaction using transactional surveys addressing recent contacts. These surveys ask customers to rate overall satisfaction with NJNG services provided and to indicate whether their issue or concern was resolved on the first contact. Management uses survey results to identify strengths and weaknesses in the customer experience. Overall customer satisfaction measured through these surveys remained high over the audit period, dropping slightly in 2022.³⁶⁷

Transaction Customer Satisfaction Results

	2014	2015	2016	2017	2018	2019	2020	2021	2022
Goal	94.5%	94.5%	94.5%	94.5%	94.5%	94.5%	94.5%	89%	89%
Actual ¹	94%	94%	95%	91%	91%	90%	91%	93%	88%

¹ Actual determined by averaging monthly results

Prior to 2018, NJNG relied on phone surveys to gather customer feedback and satisfaction ratings. In 2018, NJNG's vendor switched from phone to electronic surveys and expanded the rating scale from 10 to 11 points. Management indicated that customers responding by electronic survey grade harsher than those by phone survey; therefore, the company requested lowering of the goal 94.5 to 89 percent during the 2021 rate case.

A study conducted by Escalent in the summer of 2020 NJNG received a top-quartile rating for customer awareness in response to COVID-19 pandemic actions. The study offered insights and evaluations on customer expectations regarding utility responses, awareness of outreach efforts, and subsequent impact on customer relationships and satisfaction.³⁶⁸

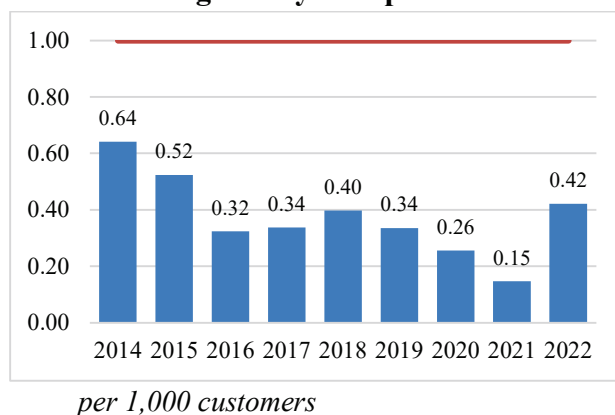
Escalent customer research also resulted in naming NJNG as a Most Trusted Brand and Customer Champion for the last seven years.

7. Customer Complaints and Resolution

We sought to determine whether the approach, resources, and activities involved in handling customer complaints and inquiries have proven effective, efficient, and in conformity with customer and regulatory expectations and requirements. We reviewed NJNG's performance in handling complaints and its ability to analyze complaints to determine root cause and effect change to business processes or organization.

NJNG's Customer & Community Relations (C&CR) team, reporting to the Director of Customer & Community Relations, has responsibility for receiving and resolving customer complaints from the BPU. A C&CR team member working within this department has responsibility for complaint receipt, resolution, customer follow-up, and formal response. Upon email notification of the receipt of a complaint in the BPU portal, the specialist logs the complaint in the CARES system, reviews the customer's concerns, and assigns the complaint to a Customer Service supervisor who reviews the complaint and investigates. Upon resolution, the supervisor updates CARES and notifies the C&CR team of the closed complaint. The results of the completed investigation are communicated to the BPU portal, upon which the case closes or a supplemental request for information initiates. The supplemental request follows the identical complaint handling process as the original inquiry.³⁶⁹

The accompanying chart shows that the number of NJNG's customer complaints to the BPU, as expressed in complaints per 1,000 customers, generally declined since 2014 and by 36 percent overall, increasing somewhat in 2022, but still well below goal.³⁷⁰ Fifty percent of complaints received in 2022 were attributed to collections while another 32 percent related to billing concerns. NJNG does not conduct root cause analysis of complaints nor does it track the time to respond to customer complaints.³⁷¹

Regulatory Complaints**8. Customer Assistance**

NJNG's Energy Assistance organization, which reports to the Director of Customer Service, has responsibility for administering NJNG's customer assistance programs. A manager and two outreach program specialists work with local and state entities to educate and inform customers of available assistance. Assistance programs administered include LIHEAP, emergency LIHEAP, USF, Fresh Start, Lifeline Credit, PAGE, NJ Shares, Gift of Warmth, Comfort Partners, and during the Pandemic, the American Rescue Plan. The organization supports Community Action Partnership ("CAP") agencies by providing information needed to process applications to qualify customers for assistance. Additionally, the group helps customers connect with the appropriate agencies and partners with assistance agencies to help promote assistance opportunities. Eligibility requirements have recently changed to allow more moderate-income customers to become eligible, in addition to the lower-income customers previously qualifying.

COVID-19 changed how the group communicated with customers, producing more email and direct mail campaigns until NJNG could resume face-to-face and public events. Management also made use of social media, newspaper advertising, videos, and the company website to promote programs.

NJNG's Energy Assistance Days have provided in-person opportunities to get information and sign up for assistance, intended to be a one-stop event to help customers get matched with the right agencies and complete applications. Customers can also get information about assistance when they call or come to a company business office. Someone from the assistance agency sets up a table in the business office to assist customers during March and June.

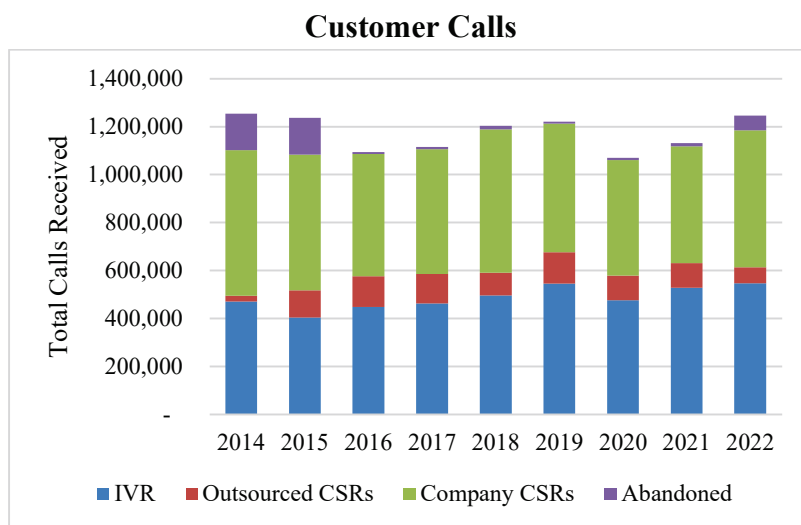
9. Call Centers and Web Access

We examined the organizations in place over the audit period to handle customer calls, including the Contact Center, contractor Call Centers, and any third-party service providers. We examined resource changes in relation to quality of service provided to customers.

The Manager of Customer Contact, who reports to the Director of Customer Service, has responsibility for the Contact Center. NJNG's Customer Contact Center handles calls related to gas leaks, new-service connections, service disconnection, billing, credit, collections, and general customer questions. The center normally takes calls from Monday through Friday from 6am to

10pm and from 6am to 6pm on Saturday and Sunday for customers inquiring about NJNG or NJRHS services. NJNG accepts emergency calls during the remaining night and weekend hours. NJNG received more than 1.2 million calls in 2022, with approximately 86 percent NJNG-related and 14 percent NJRHS-related.³⁷²

The next chart depicts audit period incoming call volumes.³⁷³ The IVR and company CSRs handle most calls received, with outsourced CSRs generally helping to minimize abandoned calls. NJNG has supplemented its call center workforce with outsourced representatives since August 2014.



Inbound call routing follows vector, skillset, and IVR programming, with gas leak calls given highest priority. Agent telephone displays show company name (“NJNG” or “NJRHS”) and whether the call concerns billing, service, or collections. If a customer has entered the account number, that will also appear on the telephone display.

NJNG implemented Virtual Hold technology in 2006. This capability routes calls to Virtual Hold if the wait time for an agent exceeds two minutes. Virtual Hold technology gives the caller the option of requesting a callback to avoid waiting in a queue. Virtual Hold keeps the place of customers choosing this option, calling them back in order as agents become available to handle the call.

An automated phone service using Integrated Voice Response (IVR) technology allows NJNG customers to access information about their accounts, pay bills, make payment arrangements, sign up for budget billing, schedule certain work orders, and stop natural gas service. NJNG’s IVR completes approximately 45 percent of calls without agent assistance.

The following table details the changes in staffing for the Contact Center over the audit period.³⁷⁴ Since 2014, staffing for both internal employees and contractors has increased by 34 and 42 percent respectively. Call Center staffing peaked in 2022, with agents added in May and December to fill vacancies and backfill positions for employees assigned to work on Project NEXT. NJNG’s call center averaged turnover rates of 25 percent during the audit period.

Contact Center Staffing

Year	Entity	Staffing	Total
2014	In-House	53	65
	Contractor	12	
2015	In-House	53	74
	Contractor	21	
2016	In-House	60	71
	Contractor	11	
2017	In-House	60	70
	Contractor	10	
2018	In-House	54	63
	Contractor	9	
2019	In-House	54	69
	Contractor	15	
2020	In-House	57	75
	Contractor	18	
2021	In-House	66	81
	Contractor	15	
2022	In-House	71	88
	Contractor	17	

NJNG's Call Center O&M costs³⁷⁵ increased by 74 percent from 2014 to 2022 as call volumes decreased slightly (0.6 percent), resulting in a 62 percent increase in cost per call during this period. Customer growth increased by 12.4 percent from 2014 to 2022, resulting in a cost per customer increase of 55 percent.³⁷⁶

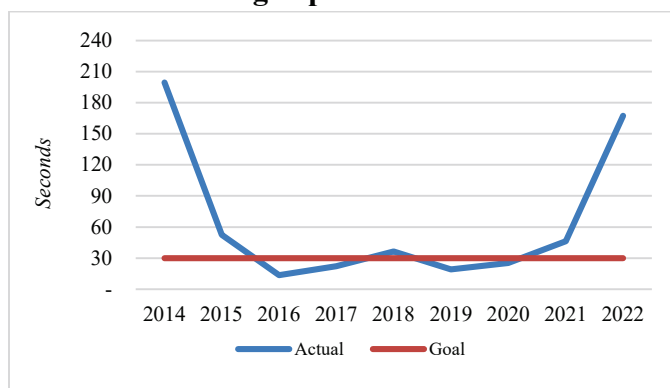
NJNG Call Center Costs

Year	O&M \$	Customers	Total Calls		Costs	
			Received	Handled ¹	/Call	/Customer
2014	\$4,901,724	509,620	1,253,709	1,102,110	\$4.45	\$9.62
2015	\$5,317,710	516,354	1,236,763	1,083,237	\$4.91	\$10.30
2016	N/A	525,548	1,093,448	1,085,911	N/A	N/A
2017	N/A	534,501	1,115,620	1,105,950	N/A	N/A
2018	\$7,347,883	543,823	1,116,459	1,102,719	\$6.66	\$13.51
2019	\$7,738,862	552,177	1,220,619	1,212,544	\$6.38	\$14.02
2020	\$6,956,620	559,633	1,069,417	1,061,096	\$6.56	\$12.43
2021	\$8,305,880	566,618	1,132,000	1,117,671	\$7.43	\$14.66
2022	\$8,517,172	572,572	1,245,975	1,185,327	\$7.19	\$14.88

¹ Handled by agents and/or technology

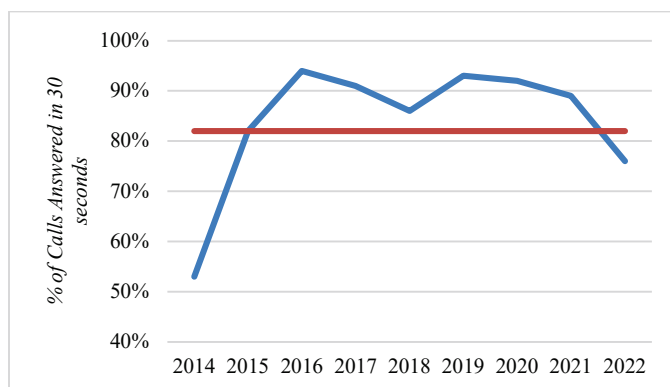
The call center has met annual targets for Average Speed of Answer (ASA) only four times in the past nine years, during 2016, 2017, 2019, and 2020, as the next chart illustrates.³⁷⁷

Average Speed of Answer



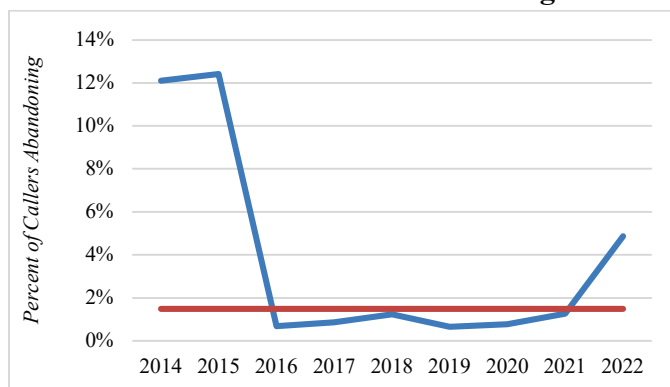
Service Level Performance (percent of calls answered within 30 seconds) improved from 2015 through 2021, when NJNG met its service level goals of answering 82 percent of calls within 30 seconds or less. A lower goal of 78 percent began to apply in 2023.³⁷⁸

Service Level Performance

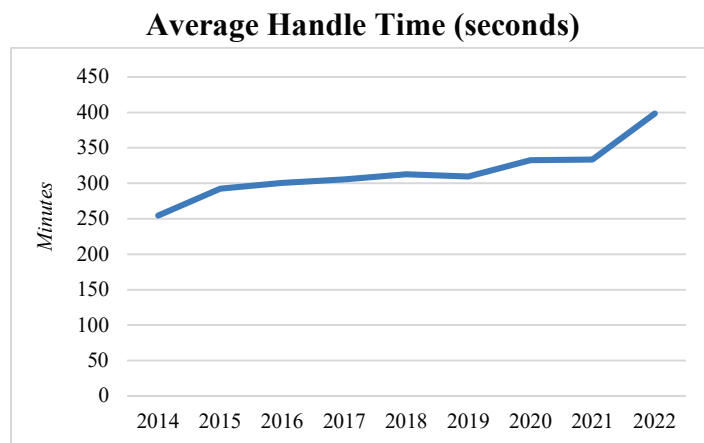


NJNG has a goal to answer 98.5 percent of calls each month. Abandoning callers remained below 1.5 percent from 2016 to 2021. NJNG did not meet its goal in 2014, 2015, and most recently in 2022, as the next chart illustrates.³⁷⁹

Percent of Callers Abandoning



NJNG's Average Handle Time (AHT) has climbed steadily since 2014, peaking in 2022, as the next chart demonstrates.³⁸⁰



NJNG's website provides customers with information and programs to help manage bills. The website provides several downloadable forms and brochures covering various energy efficiency programs. Customers may also view outage status, report streetlight outages, request energy audits, view account information, pay bills, start or stop service, and enroll in Budget Billing and other payment programs. An app enables NJNG customers to interact by mobile phone.

10. Representative Training and Performance Measurement

Management has outsourced recruitment and testing of call center representatives to a third-party staffing agency. Candidates with the highest scores undergo interviews and selection. The collective bargaining agreement guides the hiring process of internal bargaining unit candidates. Management expanded training at the close of 2022 by establishing a customer service training group encompassing all customer service functions. This initiative included the introduction of a manager and two training coordinators to the organization.

Newly hired customer service personnel, whether in the call center or business office, undergo approximately 12 weeks of classroom training. A following-week "nesting" period includes collaboration with other trainees in a closely supervised environment before assignment to a call center team. Training sessions are conducted twice a year, typically in April and December. This comprehensive training program addresses a broad range of customer call and transaction types. New agents generally require approximately a year to reach standard performance level. The company's third-party vendor also ensures that its agents receive a comparable level of training, enabling them to assist NJNG customers with a range of call types.

CSR performance reviews and discussions occur monthly. They include call quality, calls with extended hold or handle times, calls handled per hour, accuracy, and NJRHS contract sales and retention performance. In addition to monthly coaching, CSRs can view their performance scorecard real-time on a dashboard.³⁸¹ A Union Incentive Plan ties performance to compensation, with measurement at the group level in comparison to established targets.

NJNG records 100 percent of inbound customer calls, using [REDACTED] call monitoring software. Call Center supervisors evaluate three calls per month for each customer service representative on their teams.³⁸² Most call monitoring occurs remotely through the use of call recording, with supervisors encouraged to use side-by-side evaluations. Representatives with below standard performance undergo more frequent monitoring to provide information for use in coaching them. The call evaluation process occurs at various times of the month, with dates randomly chosen from weekdays, nights, and weekends.

Senior Clerks generally correct errors on customer accounts, call back customers, handle escalated customer calls, and otherwise assist CSRs as needed. Supervisors meet monthly with Senior Clerks to discuss performance and to identify the types of errors seen most often among CSRs and to discuss any complaints received from CSRs.³⁸³

Non-union staff undergo mid-year and year-end evaluation based on performance to goals set at the start of the year.³⁸⁴

11. Payment Services

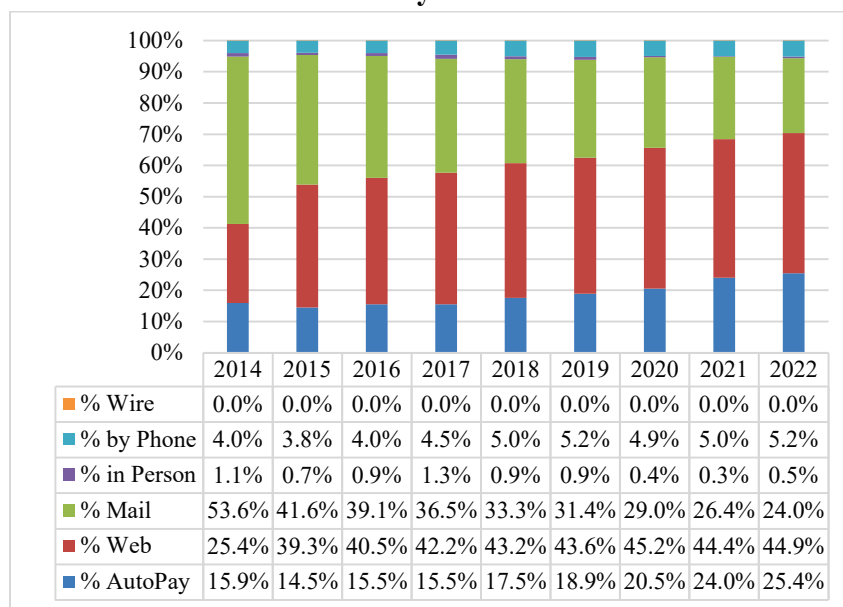
Customers can make payments by walking in to one of four NJNG Business Offices, located at NJNG Corporate Headquarters, Asbury Park, Lakewood, and Rockaway. Customers can also pay bills at Western Union qualified payment locations throughout the state.

NJNG customers can pay in cash, by check, with a credit or debit card, or through a check draft (ACH payment). Mail, phone, Internet, and in-person payment options exist. Customers may pay by credit or debit card over the phone or website, which adds a third-party convenience fee. There is no fee when paying using saved banking information or online by electronic check. CSRs can assist any customers over the phone who are having trouble making a credit or debit card payment.

The majority of NJNG customer payments arrive through the mail, with processing by NJNG's Remittance group. However, the Remittance group also receives digital payments, which have grown substantially over the audit period.

Customers can also enroll in "My Account" through a secure self-service web portal available on the web or through NJNG's mobile app. Enrollment provides options to view and pay bills, make payment arrangements, sign up for Auto Pay, switch to paperless billing (E-Bill), enroll in Budget Billing, start, stop, and transfer service, track service request status, and compare usage. Customers can pay bills online without enrolling in My Account by using NJNG's Pay Bill Now service by credit or debit card, checking account, Venmo, Apple Pay and Google Pay. The chart summarizes the distribution of customer payment types. Nearly half of customer payments in 2022 came via web or mobile app, with approximately a quarter each through mail and autopay leaving about 0.5 percent in person.³⁸⁵ NJNG, like most other businesses, has seen a significant decline in payments received through the mail over the past 10 to 15 years.

Customer Payment Methods



A significant portion of NJNG customers continued to rely on traditional methods such as mailing in their payments. However, advances in technology have enabled a substantial increase in the adoption of online and mobile payment channels. The introduction of Auto Pay has also contributed to a shift in payment behavior. The changes signify a growing preference for seamless and automated transactions.

The next table summarizes business office and payment processing costs, payments received, and staffing levels. Business Office staffing has remained constant, while payment processing staffing increased by one in 2021.³⁸⁶ NJNG's Business Office and Payment Processing O&M costs have increased by 20 percent since 2014. The number of payments processed has increased by 34 percent while the percentage of electronic payments increased by 67 percent over the same period, resulting in an 11 percent reduction in the cost per payment processed.

An outside vendor processes most mailed payments, with remittance employees handling all payment exceptions. Business office representatives receive in-person payments made at the District Offices, and they also handle other customer requests for service. Payments represent 82 percent of District Office walk-in transactions.³⁸⁷

Business Office & Payment Processing O&M Costs³⁸⁸

Year	O&M Costs	Payments Processed	% Electronic Payments	Cost per Payment Processed	Business Office Staff	Remittance Staff	Total Staff
2014	\$726,329	4,187,517	45%	\$0.17	9	4	13
2015	\$914,726	5,166,172	58%	\$0.18	9	4	13
2016	N/A	5,112,484	60%	\$0.00	9	4	13
2017	N/A	5,299,513	62%	\$0.00	9	4	13
2018	\$1,937,813	5,160,182	66%	\$0.38	9	4	13
2019	\$1,621,777	5,559,398	68%	\$0.29	9	4	13
2020	\$985,960	5,600,712	71%	\$0.18	9	4	13
2021	\$1,956,282	5,540,805	73%	\$0.35	9	5	14
2022	\$869,572	5,605,588	76%	\$0.16	9	5	14

Merchants, payment card processors and retail businesses accepting or processing American Express, Visa, Discover, MasterCard or JCB International brand credit and debit cards must be PCI-DSS (Data Security Standard) compliant. PCI-DSS version 2.0 sets a multifaceted security standard that includes requirements for security management, policies, procedures, network architecture, software design, and other critical protective measures. The PCI Security Standards Council website lists these requirements.

PCI-DSS compliance proves particularly challenging in a call center environment because representatives manually enter card member data and because networks transmit data for validation and authorization of charges. PCI DSS Requirement 3.2 prohibits the storing of any sensitive authentication data, including card validation codes and values, after authorization, even if encrypted. Call recordings of credit or debit card payment transactions contravene PCI DSS requirements, and potentially expose cardholder data to unnecessary risk. NJNG has conducted PCI risk assessments and has assessed itself as PCI compliant annually during the audit period.³⁸⁹

12. Credit and Collection

NJNG provides service under a BPU-approved tariff and rate schedules governing timing details and credit and collections policy and actions. We examined how NJNG ensures that employees execute credit and collection practices and operate in accord with public requirements. We reviewed the credit and collections organization to determine services and tasks provided by NJNG, its affiliates, and third parties. We examined staffing levels and performance over the audit period, identifying changes to the credit and collections organization and assessing collections efficiency, effectiveness, and conformity with customer and regulatory expectations and requirements.

Credit and Collections functions fall under the Revenue Cycle group of the Customer Service organization. The Revenue Cycle group has responsibility for active collections, final bills, and limited inactive collections. NJNG Field Collectors, working out of the Company's three operating divisions, perform payment collection in the field, disconnect for non-payment, and reconnect service.

NJNG selects accounts for discontinuation of service based on the current balance due, length of service, credit history, and field availability. NJNG does not terminate residential customers who have a qualified payment plan to pay off arrearages. Consistent with the Winter Termination Program, NJNG may not disconnect residential customers for non-payment from November 15 through March 15, provided they participate in an assistance program and make a good faith effort to pay.

NJNG listed about \$16.3 million of its billed revenue as in arrears at year-end 2022.³⁹⁰ NJNG established 40,885 deferred payment arrangements (“DPAs”) during 2022 and visited or disconnected about 30,000 delinquent accounts.³⁹¹

NJNG requires a deposit from those customers applying for service who do not satisfy credit requirements. The company makes a practice of waving deposit requirements for businesses and homeowners with good payment histories. Customers are asked to pay the deposit within days of their application for service. The deposit amount appears on the first bill if not paid within 5 to 44 days. NJNG refunds deposits to residential accounts after 12 months of good payment history and after 24 months to commercial accounts.

The JDE customer information system (“UCIS”) provides automated dunning capability that facilitates collection of delinquent customer payments. This functionality manages the customer notification process, initiates service orders for manual disconnection, transfers customer receivables to a vendor that manages final collection and manages the write-off of bad debt.

Following the prior management audit, NJNG implemented changes to the collections process including:³⁹²

- Curtailing mailing disconnection notices to accounts that will not be scheduled for field work.
- Implementing a new automated dialer campaign earlier in the collection cycle to increase awareness prior to sending a collector out for disconnection.
- Deploying in the call center technologies to match phone numbers with accounts to provide a “screen pop” of relevant customer information to the CSR including delinquency information.

Non-pay collection process for residential and commercial accounts begins with a reminder on the next bill and automated phone call reminders. The next chart lays out NJNG’s collection timeline beginning with the printing and mailing of the bill through inactive collections and bad debt account write-off:

NJNG Collection Timeline

Day 1:	Bill printed and mailed
Day 21:	Bill due date
Day 35	2 nd Bill printed and mailed – includes past due reminder (due 15 days)
Day 61:	Outbound dialer message and 10-day notice is mailed
Day 71:	Create disconnection order and disconnect service
Day 81:	Final bill sent (10 days following disconnection)

- Day 91 to 180: Notices sent out reminding of final past due balance.
Day 181: Inactive final bill balance written-off and account sent to third-party collection agency.

Delinquent accounts that do not qualify for protection under the Winter Termination Program (WTP) become eligible for a field visit on Day 71. Field visits can result in one of three actions: (a) service disconnection, (b) partial or full customer payment with continued service, and (c) notice left and service continued if customer not at premises. NJNG's field collectors, whose primary responsibility is to disconnect service for non-payment, talk to customers about the status of their account and attempt to collect payment. Field collectors report to the Revenue Cycle Services organization but work out of the Company's three operating divisions.

Collectors receive collection work orders on the tablets that they use to manage their work. These tablets enable collectors to communicate with customers about their accounts, to record and process payments, and to print receipts and any notices left at customer premises. Collectors can also set up deferred DPAs for customers, to spread out past due payments. At the end of each day in the field, the collectors report to a district office to turn in any cash and check payments received.

Most collectors have been with the company for many years, giving them substantial familiarity with the territory and accounts to work. Collectors work on a point system, earning points for collecting dollars. The points form the basis for the incentive bonus. Other components of the incentive include customer satisfaction and customer complaints. The metrics that NJNG uses to measure collector performance include numbers of orders completed, money collected, numbers of notices delivered, and service terminations completed.³⁹³ The Union Incentive Plan allows collectors to earn points for completion of certain actions on a past due account; *e.g.*, two points each for completing an order, leaving a notice, disconnecting for non-payment, and setting up a deferred payment plan. Collectors earn four points for collecting money. Collectors meet with supervisors as needed to discuss under-performance relative to targets. Supervisors ride-along with field collectors twice yearly to review procedures and provide feedback.³⁹⁴

During the winter moratorium NJNG does not terminate residential customers receiving assistance or having qualified for some form of assistance for non-payment. Instead, the company asks that customers agree to a deferred payment schedule to pay off any arrears. NJNG does not terminate service for non-payment if the temperature falls below freezing or on Fridays, weekends, or holiday eves.

NJNG paused collection-related disconnects March 2020 through December 2021 to help customers deal with the economic challenges brought on by COVID-19. However, NJNG continued to conduct field visits to raise awareness of available assistance and deferred payment plans. Restrictions were lifted in January 2022, while still under the winter moratorium (November 15th through March 15th). The New Jersey Legislature passed an act in March 2022 to protect customers with pending payment assistance through the end of that year. NJNG resumed normal collections in March 2023. The next table summarizes credit and collection O&M costs (excluding uncollectible costs), disconnection activity, cost per disconnect, and net write-offs as a percentage of total revenue.³⁹⁵ NJNG's Credit & Collection O&M costs have decreased slightly since 2016.

Staffing levels have decreased by one over the audit period. Net write-offs, expressed as a percentage of revenue, increased in 2022.

Credit & Collection Costs and Staffing

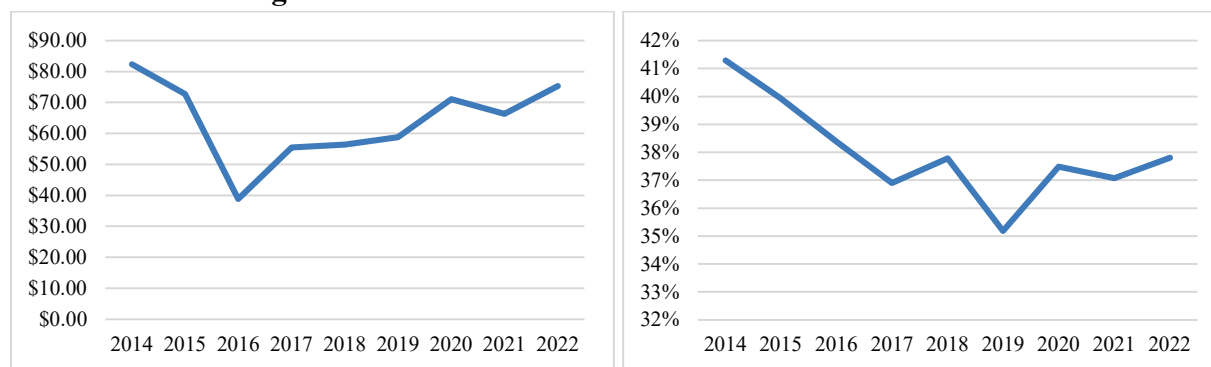
Year	O&M Cost	Disconnection Visits & Disconnects	\$/Disconnect	% Net Write- Offs ¹	Collections Staff
2014	\$1,377,908	39,622	\$34.78	0.38%	13
2015	\$1,224,180	38,063	\$32.16	0.47%	13
2016	N/A	36,832	N/A	0.40%	12
2017	N/A	37,276	N/A	0.30%	12
2018	\$3,360,054	34,453	\$97.53	0.35%	12
2019	\$3,083,251	31,143	\$99.00	0.32%	13
2020	\$1,295,309	18,807	\$68.87	0.23%	12
2021	\$356,186	21,102	\$16.88	0.26%	13
2022	\$2,827,870	30,302	\$93.32	0.45%	12

¹ Net write-off as a percent of total revenue

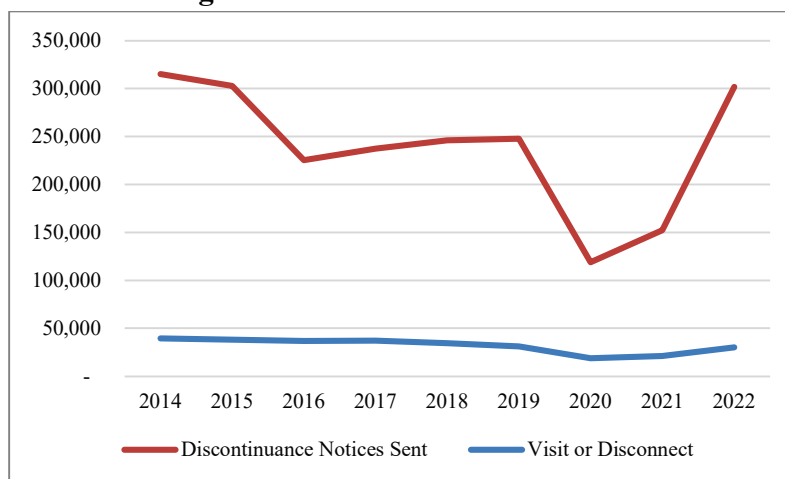
NJNG averaged about 32,000 visits and disconnections per year for non-payment during the audit period. Collection activity in 2020 fell significantly to accommodate economic conditions brought on by the pandemic. Residential collection actions remained on hold from March 2020 through March 2023, with late payment charges and collection notices, dunning, and disconnection suspended. NJNG resumed normal field visits and disconnections in the spring of 2023.

NJNG offered enhanced DPAs, allowing residential customers to extend payments out 24 months, in order to help customers deal with growing arrears. Non-residential customers could extend payments for 12 months up until January 2022 after non-residential disconnections resumed. NJNG conducted outreach and field visits to encourage customers to make payments on their past due accounts during 2020 and 2021, using automated outbound dialing campaigns, field outreach, bill inserts and messaging, email and social media, and radio, television, and billboard advertisements.

The UCIS customer information system normally provides automated dunning functionality to facilitate collection of delinquent customer payments. This functionality manages the customer notification process, initiates service orders for manual disconnection, transfers customer receivables to a third party for collections, and manages the write-off of bad debt. The next tables summarize data regarding arrearages. The average balance of customers in arrears has grown substantially over the past six years, rising from about \$60 to \$75, while the percent of customers 30, 60, and 90 days or more late in payment has increased from a low experienced in 2019.³⁹⁶

Average Arrears Balances and Numbers of Customers in Arrears

The following chart shows Credit & Collection workload trends, measured by past due accounts eligible for disconnection and non-payment services visited or disconnected, which directly affects operations costs. NJNG delivered fewer notices during the pandemic and visits and disconnects also declined during this period.³⁹⁷

Eligible versus Visits or Disconnects**13. Billing**

Accurate and timely customer accounting, like meter reading, comprises a fundamental element of the utility/customer relationship. Timeliness offers an important contributor to minimizing the billing and payment cycle, and to supporting systems of communication with and about customers. Effective systems and methods are critical to handling billing-support functions cost-effectively, recognizing the advances that technological improvements have made possible. Accuracy promotes full and proper revenue collections, while minimizing customer disputes and their associated time, cost, and customer-confidence impacts.

We examined NJNG's billing practices and procedures, payment receipt, account-crediting practices, and other customer-accounting procedures, seeking to determine whether NJNG designs and executes them efficiently and effectively. We reviewed billing processes to determine whether bills are accurate and timely. We also examined staffing levels to determine whether adequate and capable personnel carry out billing functions.

The Revenue Cycle group has responsibility for customer billing and provides input to the revenue accounting process. The group reports to the Director of Customer Service. The UCIS customer information system implemented in 1997 supports the billing and revenue accounting process. Through Project NEXT, NJNG plans to replace UCIS with the [REDACTED] by 2025.

NJNG transports gas for aggregation, large commercial, and industrial customers who have contracted for their gas supply through independent Third-Party Suppliers (“TPSs”). Three Supplier Relations Consultants, reporting to the Manager of Revenue Cycle Services, provide Energy Choice enrollment, transfer, and termination assistance for suppliers, handle billing questions, and prepare monthly volumes to update firm transportation forecasts. Suppliers exchange enrollment information with the company via Electronic Data Interchange (“EDI”). NJNG bills supply on behalf of suppliers in most cases; however, suppliers have the option of billing customers directly.

Year-end staffing levels for billing, including gas transportation, have seen a one-employee decrease over the audit period, as indicated in the following table.³⁹⁸

Revenue Cycle Staff

Year	Billing	Gas Transportation	Total
2014	11	4	15
2015	11	4	15
2016	11	5	16
2017	11	5	16
2018	11	5	16
2019	11	5	16
2020	10	4	14
2021	11	5	16
2022	12	2	14

Management reviews Revenue Support Clerk and Senior Clerk performance as needed to discuss assignment completion and provide feedback and assistance. Regular performance reviews focus on account correction, completion of payment and billing exceptions, processing of customer refunds, and resolution of unidentified customer payments.³⁹⁹

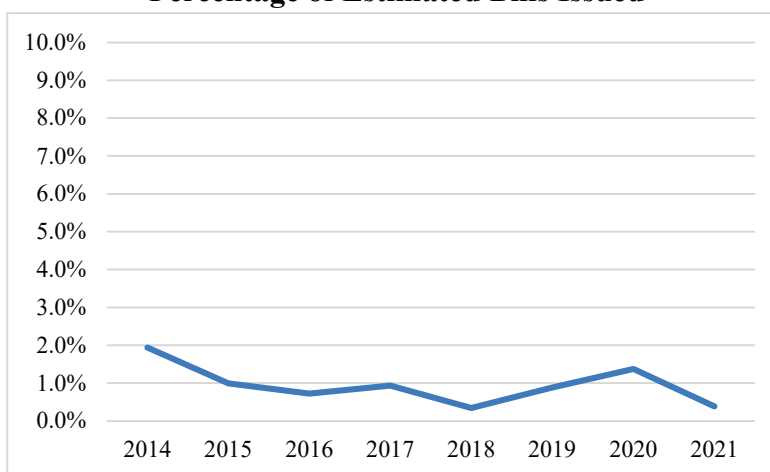
NJNG’s Billing O&M costs, and cost per bill issued, have decreased since 2014. The percentage of customers opting to receive paperless bills has increased each year. The next table summarizes billing processing costs.

Billing, Business Office & Payment Processing O&M Costs⁴⁰⁰

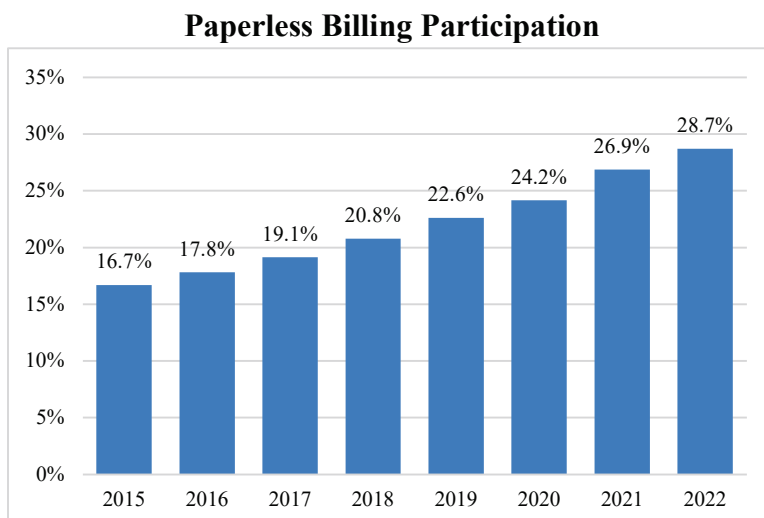
Year	O&M Costs	# Bills	% Paperless	\$ per Bill Issued
2014	\$3,004,337	N/A	N/A	\$2.10
2015	\$2,949,767	5,966,551	16.7%	\$2.10
2016	N/A	6,088,468	17.8%	N/A
2017	N/A	6,125,135	19.1%	N/A
2018	\$5,877,544	6,256,140	20.8%	\$1.68
2019	\$6,262,241	6,345,121	22.6%	\$2.10
2020	\$3,907,499	6,502,548	24.2%	\$2.10
2021	\$7,885,646	6,499,094	26.9%	\$1.39
2022	\$4,120,850	6,607,888	28.7%	\$1.26

NJNG issues bills to customers based on 20 monthly billing cycles, and each cycle ranges from approximately 25,000 to 30,000 customer accounts. Bills link to an actual or estimated meter reading. Data file uploads from the Itron system to the UCIS occur following meter reading. Nightly batch billing-cycle runs executed by the Information Technology department support bill preparation for each cycle. Computation of bills normally follows meter reading, with estimated bills prepared where meter readings have not been obtained. Those estimates use factors based on prior account usage and degree days. Various procedures add descriptive text and messaging to each bill, conduct error checks, identify inserts for inclusion with the bills, and handle any accounts requiring additional attention. PDF versions of bills, prepared for delivery, are transmitted to a third-party for addressing, sorting, printing, folding, and insertion for mailing. Bills that require further attention are redirected to the billing department for review and necessary corrections.

Estimated bills often lead to customer inquiries and complaints, particularly if the billed amounts differ significantly from the previous month. Throughout the audit period, the company has maintained the proportion of estimated bills to under two percent of the total bills issued, as seen in the following chart:⁴⁰¹

Percentage of Estimated Bills Issued

NJNG produces approximately 6.6 million customer bills each year, addressing metered natural gas service, a customer charge, and services provided by its affiliate, NJR Home Services. The adoption of paperless billing (“eBills”) has the capacity to notably reduce annual billing costs. Presently, NJNG delivers nearly 29 percent of customer bills electronically, representing a substantial rise from the 17 percent reported in 2015, as depicted in the chart below.⁴⁰²



The increase in customer adoption of electronic bills reflects a greater awareness of climate change. As people become more environmentally conscious, they recognize the positive impact of reducing paper usage. Electronic bills support sustainability by cutting down on paper consumption, lessening the reliance on physical mail, and ultimately decreasing the carbon footprint linked to traditional billing methods. This heightened environmental awareness has been key in driving the popularity of electronic bills across industries in recent times.

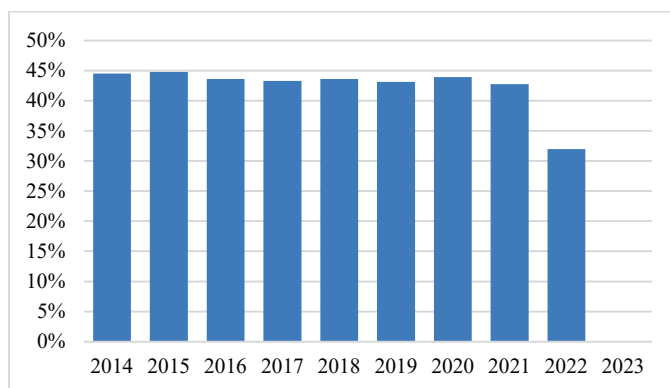
14. Metering

a. Meter Reading

NJNG has approximately 570,000 gas meters in service. NJNG assigns meter readers to each of its three divisions; *i.e.*, Ocean, Central and Northern. Management has assigned each meter to a meter reading route and each route to a revenue cycle/rendition group. Meter reader drivers conduct monthly reads of manual meters as they run their routes. Along the way, reads get picked up for any meters equipped with meter reading (“AMR”) technology along the route. About two percent of NJNG meters are located inside customer premises.⁴⁰³ The company has been relocating as many of them as possible outside as part of a standing work plan.

NJNG transitioned from bi-monthly to monthly meter reading in 2012. This transition coincided with the deployment of 275,000 AMR meters in Monmouth County.⁴⁰⁴ Redeployment of meter readers from Monmouth County enabled monthly readings throughout the service territory. NJNG has no current plans to expand AMR deployment. The next table shows the approximately 43 percent of total meters read through automation.⁴⁰⁵

Automated Meter Share of Total



Each billing cycle's meters to be read are downloaded from UCIS to Itron handhelds. An expected read date sets the target date for the meter readers to complete their reads. Meter readers return their Itron handhelds to the office at the end of the day and insert them into the Itron POD for processing and uploading of read information. After meters are read, a read data file is uploaded from Itron back to the AS400 server and into UCIS where bills are calculated.

The next table summarizes Meter Reading annual O&M and overtime costs, meters read, and cost per meter read. It also provides annual percentages of meters read through AMR and those not read.⁴⁰⁶ Meter Reading O&M costs have decreased by 13 percent from 2018 to 2022, while the number of meters read has increased by four percent, resulting in an 11 decrease in the cost per meter reading. During this same period, overtime costs decreased from a high of six percent in 2019 to two percent in 2022⁴⁰⁷. The percentage of unavailable meter readings has improved since 2014 except for 2020, when meter reading operations were impacted during the pandemic.

Meter Reading Costs

Year	Meters Read	Costs			AMR Reads	Not Read	Over-time
		O&M	Overtime	¢/Read			
2014	591,405		N/A	60¢	44%	2%	N/A
2015	598,623		N/A	61¢	45%	2%	N/A
2016	605,042		\$77,724	65¢	44%	1%	
2017	587,013		\$192,844	59¢	43%	1%	
2018	601,730	\$4,941,255	\$202,303	59¢	44%	1%	4%
2019	591,405	\$4,928,693	\$279,030	60¢	43%	1%	6%
2020	598,623	\$4,079,731	\$89,533	61¢	44%	3%	2%
2021	605,042	\$5,067,152	\$143,454	65¢	43%	1%	3%
2022	587,013	\$4,271,448	\$90,880	59¢	47%	1%	2%

Standard onboarding and training for new meter readers involves a five-day in-office program encompassing safety guidelines, meter reading techniques, customer service etiquette, general orientation, and computer-based meter read training instruction. This introductory process includes practical simulations where trainees practice meter reading, with performance and overall accuracy measured. Subsequently, trainees spend a minimum of five days in the field under the supervision

of a supervisor, quality assurance personnel, or a senior meter reader. After this period, candidates undergo an assessment to determine their readiness to work independently.⁴⁰⁸

g. Meter Exchanges & Meter Shop

Effective management of metering requires a sound organization, sufficient staffing, appropriate qualifications, training, and operating procedures. We reviewed the Meter Services organization to determine services and tasks provided by NJNG, its affiliates, or third parties. We examined staffing levels and performance over the audit period to identify the drivers of change in performance levels and cost.

NJNG's Utility Services group operates within the Field Operations organization, reporting to the Vice President of Operations, and has responsibility for system and customer generated service orders. These orders include service turn-on/off, transfer of service, shut-off for non-payment, high bill investigation, off-cycle reads, and unauthorized reconnects. Utility workers conduct the group's principal activities, using mobile data tablets. The UCIS downloads orders nightly to the mobile system. Dispatchers route orders to the appropriate work queues. NJNG also employs some limited auto-routing. Utility Workers free up first responders to concentrate on higher priority leak response orders. The job position also creates a useful skill development path between meter reader and first responder.

NJNG created a Meter Exchange group in 2018 to focus on the meter exchange program, staffing it with one supervisor and 15 technicians. Annually the group receives a list of meters to be exchanged by date, as determined by the meter testing program. Technicians also conduct meter survey work as needed.

Utility Services supervisors and manager routinely conduct safety verifications of work activities in the field. A critical controls checklist guides rating of employees on various safety practices, including use of PPE, vehicle usage, field practices, physical security, work zone traffic control, and addressing hazards and unsafe work environments.

NJNG's Manager of Meter Shop and Storeroom, reporting to the Director of Energy Delivery Support, has responsibility for procurement, installation, test, and maintenance of NJNG's meters. Prior to shipment, meter manufacturers calibrate all new meters in accordance with ANSI requirements.

An annual statistical sample test procedure, filed with the BPU, applies for residential and network meters. Approximately 1,500 meters per year undergo testing under this program. Meter sample testing divides meters into homogeneous groups or lots by manufacturer type. Sample size determination uses the population of meters in the lot. NJNG then randomly samples meters within each lot to reach sample size requirements. NJNG deems meters testing outside standards as defective and makes customer-account adjustments according to state regulatory rules. NJNG also manages all customer requested meter tests, including witness testing, with BPU staff in observation of the tests.

The group relies on a statistical testing plan to determine if the meters received meet its meter specifications, BPU standards, and ANSI limits. In accordance with BPU regulations, NJNG tests

installed gas meters routinely for accuracy. An annual statistical sample test procedure, filed with the BPU, applies for residential and network meters. Meter sample testing divides meters into homogeneous groups or lots by manufacturer type. Sample size determination uses the population of meters in the lot. NJNG then randomly samples meters within each lot to reach sample size requirements. NJNG deems meters testing outside standards as defective and makes customer-account adjustments according to state regulatory rules.

All large meters serving commercial and industrial customers undergo removal and testing every ten years per regulations. Approximately 1,500 meters per year undergo testing under this program.

NJNG also manages all customer requested meter tests, including witness testing, with BPU staff in observation of the tests. Quarterly reports to the BPU provide meter testing results from the statistical sampling and periodic testing programs.⁴⁰⁹ Management completes both testing programs each year with minimal carry-over.

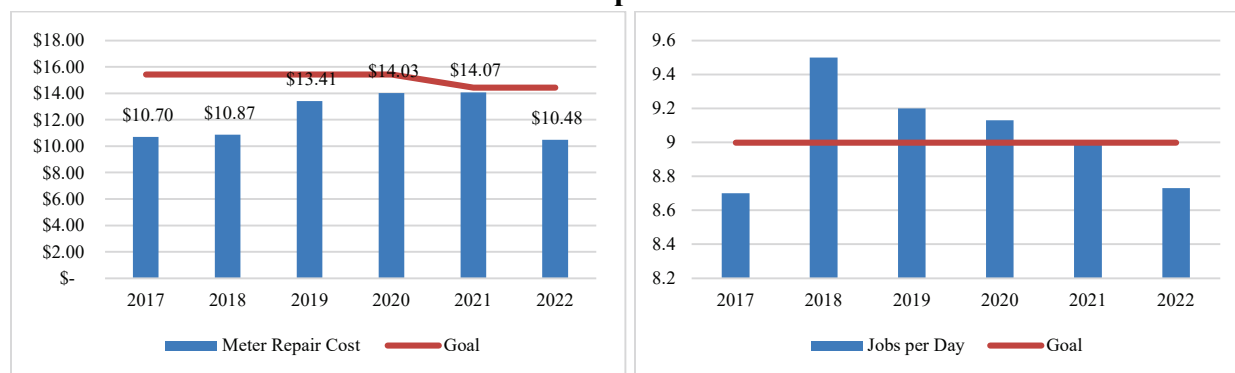
The Meter Shop receives a three-year new business forecast from marketing each May. The meter forecast is increased to accommodate the expected number of replacement meters and then Purchasing negotiates and orders the meters. Upon arrival, new meters are received, vendor test results are verified, and meter shop technicians test about ten percent of each type of new meter received. Any rejects are returned to the manufacturer.

Nine employees staff the meter shop, including five meter repair technicians, three instrumentation repair technicians, and one clerk. Staffing levels within meter-related field functions have increased 55 percent over these years with the biggest gain seen in the creation of the Utility Services meter exchange group in 2019. Meter Shop and Meter Reading have increased 8 percent over these same years.

Meter-Related Field Staffing

Function	2018	2019	2020	2021	2022
Meter Exchanges	0	19	19	37	36
Meter Shop	12	11	11	13	13
Meter Reading	63	65	64	67	68
Revenue Protection	1	1	1	1	1
Field & Meter Staffing	76	96	95	118	118
Customers	543,823	552,177	559,633	566,618	572,572
Staffing per 100K Customers	14	17	17	21	21

The Meter Shop tracks performance through two efficiency measures – jobs completed per day and meter repair cost. These metrics form the basis for the meter shop’s bargaining unit incentive pay program. Performance has been measured consistently since 2017. Meter Shop has managed its cost per repair under goal since 2017. Productivity met the goal for four of six years during this period. The next two charts summarize these metrics.⁴¹⁰

Meter Repair Metrics

The next table summarizes meter shop O&M costs.

Meter Shop O&M Costs

Year	Total	Overtime	Meter Repair	Orders per Day
2014	\$1,016,614			
2015	\$1,020,346		\$12.92	9
2016	\$1,103,732	\$18,654		
2017	\$1,107,333	\$42,937	\$10.70	8.7
2018	\$1,389,284	\$112,020	\$10.87	9.5
2019	\$1,258,813	\$77,297	\$13.41	9.2
2020	\$1,180,163	\$44,817	\$14.03	9.1
2021	\$1,572,103	\$40,273	\$14.07	9
2022	\$1,565,457	\$42,390	\$10.48	8.7

NJNG's Meter Shop O&M costs have risen 54 percent from 2014 to 2022. However, NJNG's meter repair cost, an employee incentive metric, has decreased by 19 percent over the same period. NJNG has a goal to complete nine orders per day and has largely met this goal since 2015.

Meter Exchange Costs

Year	Total	Service Orders	\$/Order	% Can't Get In (CGI)
2018	\$2,029,894	73,358	\$27.67	6%
2019	\$1,988,403	78,926	\$25.19	5%
2020	\$896,784	53,506	\$16.76	5%
2021	\$2,659,774	68,582	\$38.78	3%
2022	\$3,487,234	70,476	\$49.48	4%

NJNG's Utility Services meter exchange group's O&M costs have risen 72 percent since it was formed in 2018, leading to a similar increase in cost per order worked. Since 2018, NJNG has reduced the percentage of "can't get ins" by eight percent.

h. Revenue Protection

Historically, utilities have depended on meter readers and other field staff to detect meter tampering and diversion. NJNG employs this approach, providing training to all new meter readers on recognizing potential theft situations and the proper procedures for reporting suspicions. Incentives are offered to non-salaried employees who report potential theft or tampering, with a \$50 reward granted upon confirmation of the theft. Additionally, employees receive an extra 10 percent incentive for participating in theft recoveries exceeding \$500 and up to \$2,500. Reported cases are tracked using NJNG's Theft of Service Report Form 733 which provides a record of each incident from the initial tip through investigation.⁴¹¹

The Director of Security and Business Continuity oversees NJNG's theft of service process, encompassing investigation, billing, collection of theft, documentation, and testimony. Approximately 25 percent of this individual's time is dedicated to conducting theft of service activities. A standard operating procedure documents responsibilities and provides guidelines for reporting, coordination of investigation, accounting, prosecution, record keeping and reporting, and employee incentives.⁴¹²

NJNG employs bill inserts and its website to inform customers and the public about gas diversion and theft of service. Each meter installation features a warning sticker aimed at deterring tampering and theft. All new customers receive informational materials that explain the consequences of tampering and theft, along with information about the toll-free hotline available to report suspicious incidents. Callers are prompted to leave detailed messages as recorded messages or to contact an investigator directly. All calls are documented and investigated by the Supervisor of System Security. Moreover, the Theft of Service hotline number is prominently displayed on the back of every bill.

Between 2014 and 2022, management initiated 88 investigations, confirming 87 cases of theft, and resulting in eight prosecutions. The table below provides information on the cases, investigation costs, and incentives disbursed. On average, management spent \$375 per case throughout the audit period. Recoveries were not monitored.⁴¹³ While the number of confirmed cases reached its highest point in 2016, a notable decline in tips received from the hotline or employees between 2019 and 2022 occurred. However, as of September 2023, there has been a resurgence in tips, with security receiving 31 suspected theft of service reports, primarily originating from the field. In summary, the data indicates a consistent commitment to investigating theft of service cases, coupled with a notable confirmation rate.

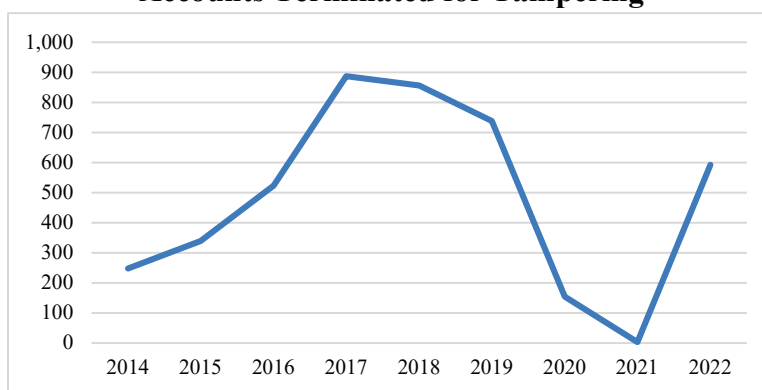
Theft-of-Services Cases

Year	Cases From Tips	Confirmed Cases	Cases Prosecuted	Investigation Costs	Employee Incentives
2014	7	7	4	\$3,604.14	\$150
2015	10	9	1	\$4,979.01	\$858
2016	22	21	1	\$15,319.62	\$689
2017	22	15	1	\$4,147.69	\$1,937
2018	19	19	1	\$4,842.03	\$543

2019	7	7	0	\$0.00	\$1,099
2020	1	0	0	\$0.00	
2021	0	0	0	\$0.00	\$100
2022	0	9	0	\$0.00	\$300
2023 (Sept)	31	14	0		\$150
Total	88	87	8	\$32,893	\$5,675

N.J. Administrative Code 14:3-3A.1 gives utilities authority to suspend or cease service in response to tampering with any utility facility. Data tracked and reported from 2014 to 2022 highlight a peak in such incidents, particularly from 2017 to 2019. Notably, during the pandemic, significantly fewer accounts were terminated for tampering.⁴¹⁴

Accounts Terminated for Tampering



15. Linda's Law Compliance and Customer Safety and Welfare

In 2018, a resident in Newark, NJ, who relied on life-sustaining supplemental oxygen, tragically passed away after their utility service was shut off. Responding to this incident, New Jersey enacted stricter requirements to prevent electric and gas utilities from disconnecting service to customers who can verify their dependence on life-sustaining medical equipment. These regulations, along with updated protocols by the BPU for "medical customers," took effect in late 2020. Utilities now must request from every residential customer information to determine if they should be designated as a medical customer. The requirements explicitly prohibit the termination of service for any designated medical customer whose health would worsen due to a loss of utility service. Additionally, the requirements extend the period before discontinuation of service for non-medical customers due to nonpayment from 60 days to 90 days.

We reviewed NJNG's procedures for identifying customers warranting medical customer designation and for ensuring NJNG's employees, training materials, and customer systems have all been appropriately enhanced. Prior to Linda's Law, NJNG already employed protections for customers who rely on life-sustaining medical equipment or have a health concern that would worsen due to discontinuing service. Customer accounts are noted in the UCIS to indicate the presence of a certified medical condition that exempts the account from service termination.

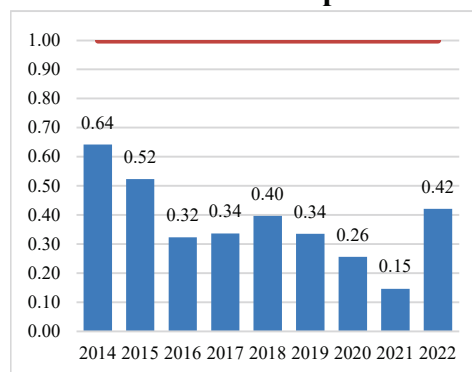
NJNG conducts regular outreach to enhance customer awareness regarding medical exemptions, incorporating relevant information in customer pamphlets and on the public website. Customers have the option to obtain a 90-day protection period by providing a written statement from a licensed medical authority, and the certification form for initial requests or renewals can be conveniently downloaded from the website. Completed forms can be submitted via email or in person at a business office. Customer Service Representatives undergo training to ensure they can assist customers throughout this process.

C. Conclusions

1. NJNG's regulatory complaint rate increased in 2022 but remains well below the Board's directive. (See Recommendation #1)

As part of the stipulation of settlement in its prior rate case, NJNG committed to keep regulatory complaints to no more than 1 per 1,000 customers per year.⁴¹⁵ The accompanying chart shows that the number of NJNG customer complaints to the BPU has decreased steadily from 2014. Regulatory complaint rates increased in 2022, but have remained well below goal as measured by complaints per 1,000 customers. Collection-related activities account for about 50 percent of NJNG's BPU complaints.⁴¹⁶

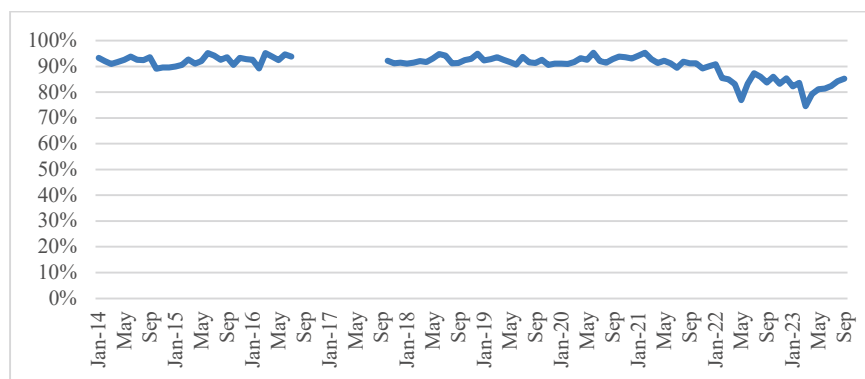
NJNG Customer Complaint Rates



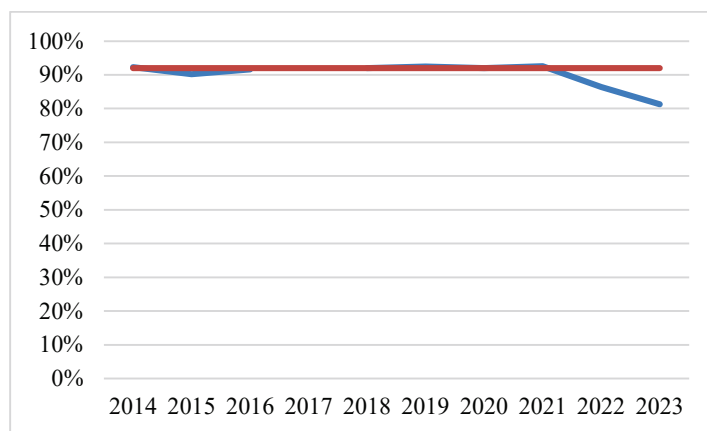
2. NJNG customer satisfaction, historically and consistently high, began dropping in 2022 and dropped again in 2023. (See Recommendation #1)

NJNG has maintained consistently high customer satisfaction ratings, as assessed by both J.D. Powers and an external vendor. Nevertheless, transactionally-based satisfaction levels started declining in February 2022, hitting 77 percent in May 2022, the lowest level in eight years. Some recovery in satisfaction came through latter 2022, but ratings dipped again to 75 percent in March 2023. The subsequent chart illustrates the monthly satisfaction ratings over the audit period. Data for the August 2016 to October 2017 period was not available.

Management attributes the 2022 decline in satisfaction to the release of the CSR front-end, called [REDACTED]. The second decline in 2023 is attributed to the deployment of the new customer portal. Since March 2023, satisfaction levels are trending up again

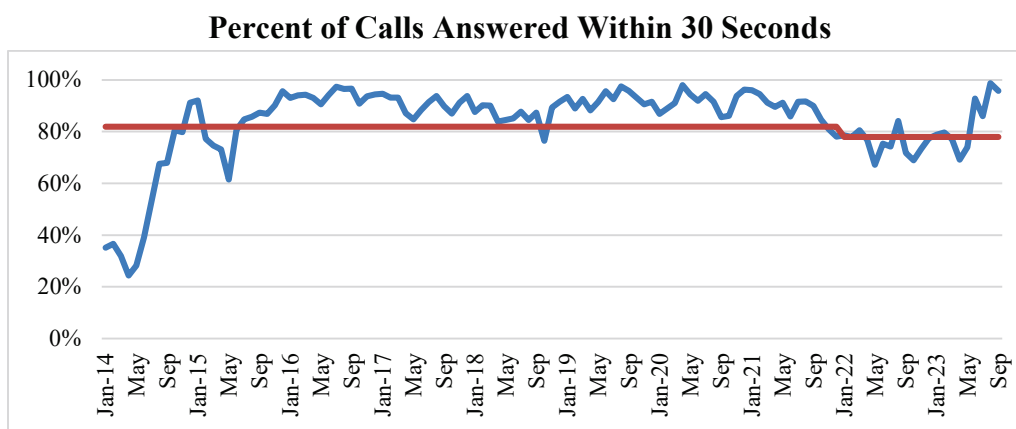
Overall Customer Satisfaction**3. First Call Resolution performance declined in 2022 and 2023. (See Recommendation #1)**

Recent NJNG contact surveys ask customers to identify whether their issues were resolved on the first call. From 2014 to 2021, First Call Resolution (FCR) performance remained consistently above 90 percent. However, FCR performance declined nearly 10 percent from 2021 to 2023, as the following chart shows. FCR provides a strong indicator of customer satisfaction, and the drop in FCR performance over this period parallels NJNG's drop in overall customer satisfaction and rise in customer complaints (refer to Conclusions 1 and 2 above).

First Call Resolution**4. NJNG's Call Center has not been consistently staffed to meet service level objectives and call center performance goals. (See Recommendation #1)**

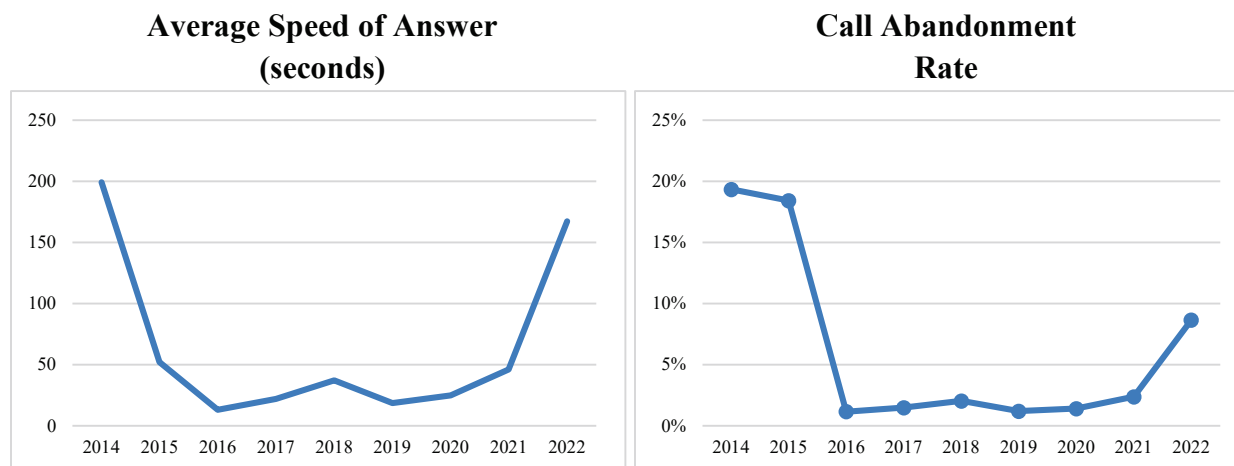
Forecasting incoming call volumes to ascertain the necessary staffing levels stands comprises a crucial function within call-center operations. Labor costs constitute the primary driver of operating expenses, making accurately determining the right staffing numbers paramount in ensuring service quality and cost-effectiveness. A workforce management system automates workload forecasting, calculates staffing needs, generates schedules, and monitors daily staffing and service levels in order to streamline this process. Management utilizes the workforce management system to observe trends, track developments, and align changes in call volume with intra-day staffing adjustments.

NJNG successfully maintained adequate staffing levels in its customer call centers between late 2015 and 2021, helping to ensure the fulfillment of service level objectives. It consistently met its service level target of answering 82 percent of calls within 30 seconds. However, in 2022, the call center only achieved this target in two out of 12 months, even after management reduced the goal to 78 percent in January. Service level performance experienced a notable improvement starting from June 2023, coinciding with an increase in staffing levels in the call center. The following chart illustrates NJNG's call center service level performance across the audit period.

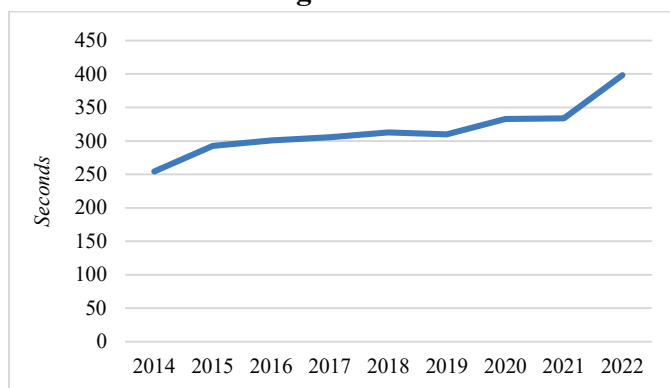


A shared understanding of service level objectives, accurate forecasts, appropriate scheduling of resources, seamless processes, and real-time communication for addressing intra-day adjustments best promote efficient day-to-day call center management.

The company enhanced its call answering performance between 2014 and 2021. The next charts depict improvements in average speed of answer and call abandonment rate. However, average speed of answer and abandonment rate have both deteriorated starting in 2022, correlated with a notable rise in average talk time.⁴¹⁷ Management attributes this increase in talk time to the adjustment period associated with the implementation of the new [REDACTED] Customer Relationship Management (CRM) system.



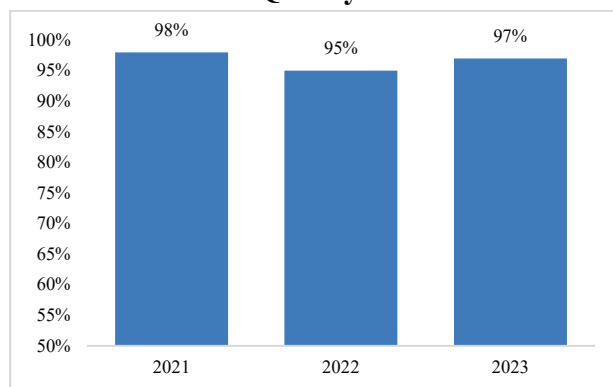
Average Talk Time



5. For the past three years, NJNG CSRs have consistently received high call quality ratings from supervisors.

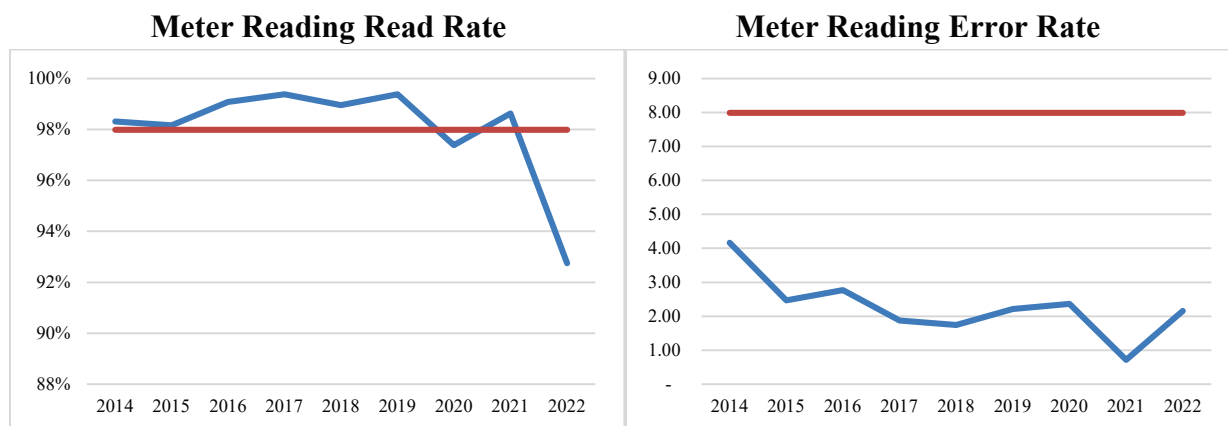
Call center supervisors assess one to three calls per month for each Customer Service Representative (CSR). Evaluations take place at different times of the month, randomly selected from weekdays, nights, and weekends. The subsequent table demonstrates that customer calls monitored in 2021, 2022, and 2023 consistently garnered high-quality ratings, as determined by supervisors during call quality assessments.⁴¹⁸

Call Center Quality Performance



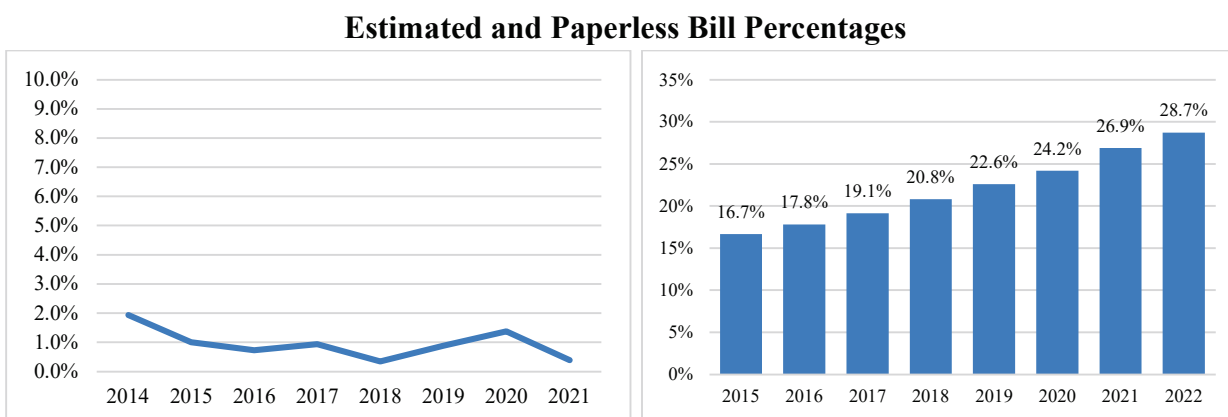
6. Meter reading performance has improved since 2014.

NJNG's meter reading performance, as measured by the percentage of meters read and errors, has improved over the audit period, as illustrated in the following two charts. Read rate performance dipped below goal in 2020 but otherwise exceeded NJNG's targets. Meter reading accuracy remains high during the audit period, as defined by errors per 10,000 meters read, and well under target.⁴¹⁹

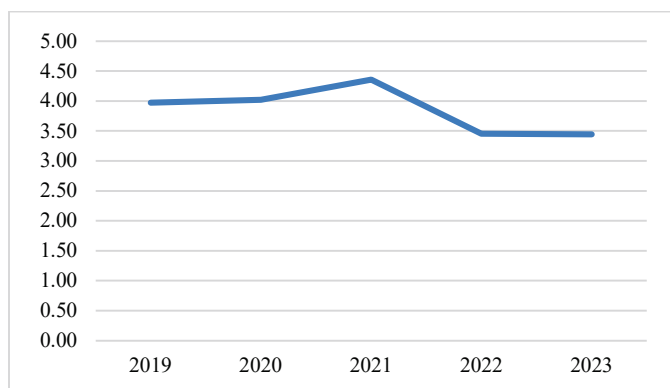


7. Billing performance has remained stable over the audit period.

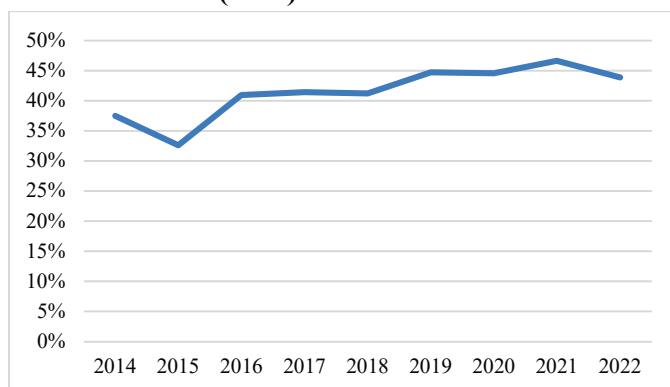
Estimated bills can create significant customer dissatisfaction. NJNG's percentage of estimated bills has remained below two percent during the audit period. NJNG has at the same time increased customer participation in paperless billing, nearly doubling participation.



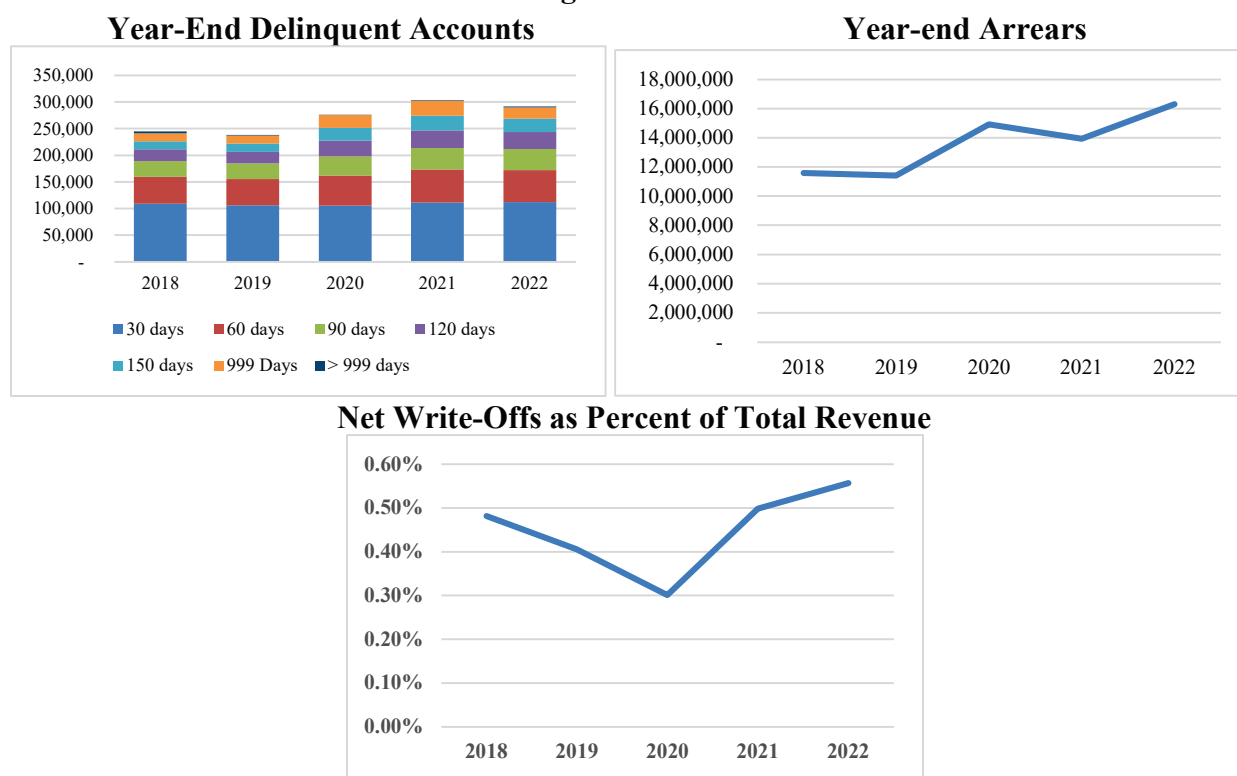
NJNG has also maintained a low percentage of bills that have required cancelling and rebilling per 1,000 bills), as the following chart indicates.⁴²⁰ A low rate of cancelled bills provides an indicator of high billing accuracy, which coincides with NJNG's high meter reading accuracy rate (as discussed above in *Conclusion #6*).

Cancel & Rebill Performance**8. Growth in customer self-service utilization since 2014 has benefited service-delivery efficiency.**

Utilities have for some time been promoting self-service options to decrease the proportion of calls needing assistance from agents. Furthermore, these self-service options are accessible 24 hours a day. NJNG provides various avenues for customers to self-serve, either through a dedicated portal on the company website or by utilizing automated phone services (IVR). These options empower customers to carry out transactions independently, without the need for assistance from a customer service representative. The following chart illustrates the growing trend of customers choosing phone-based self-service options.⁴²¹ NJNG customer self-service levels compare favorably to those of the industry.

Phone-based (IVR) Self-Service Transactions**9. NJNG's collections performance decline aligns with the economic challenges posed by the pandemic.**

Management follows a traditional utility collections process for NJNG receivables. The number of accounts "eligible" for disconnection due to non-payment far exceeds the number of field personnel available to process them. NJNG's delinquent accounts and receivables grew during 2020 and 2021, largely because of the suspension of residential collection treatment from 2020 through 2022. The number of delinquent accounts decreased slightly in 2022 but arrears have increased, as the next charts illustrates. We also found NJNG's net write-offs increasing in 2022 as seen in the third chart below.

Arrearages and Write-Offs

It is important to note that NJNG's declining collection performance coincides with the COVID-19 pandemic years. NJNG's arrearages increased during this period, as they did at other utilities, as customers faced financial difficulties and consumption patterns shifted. Deferred payment plan options, budget plans, energy assistance programs, and proactive communication with customers have mitigated the impact of arrearages. NJNG residential and commercial arrearages were down by 25 percent when comparing February 2023 levels to February 2022 levels.⁴²²

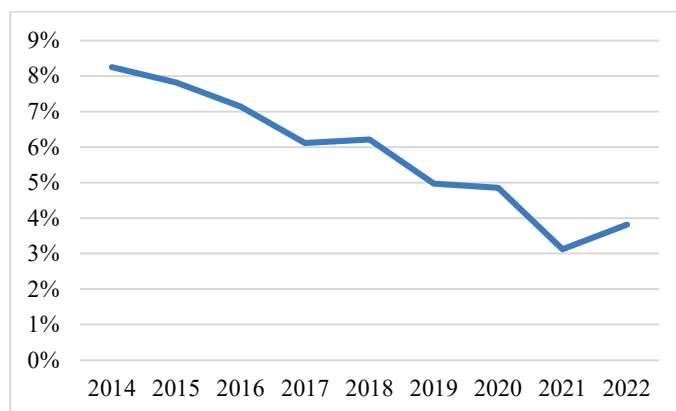
10. NJNG routinely tests meters to ensure meter accuracy.

In accordance with BPU regulations, NJNG tests gas meters routinely for accuracy. Results of testing are reported to the BPU on a quarterly and annual basis. All large meters serving commercial and industrial customers are removed and tested every ten years per regulations. Residential and small commercial meters undergo testing through a statistical sampling program based on groupings of meters defined by size, date of purchase and manufacturer. Groups in service for more than ten years must be sampled and tested. Substandard testing results of any group predicate the need to replace all meters of the group. During the audit period, NJNG met testing requirements for the periodic and statistical sampling testing programs, as required by the BPU. More meters were tested than required by the programs.⁴²³

11. Utility Services' performance has been consistently high throughout the audit period.

NJNG has reduced the percentage of "can't get in" (CGI) orders from eight percent in 2014 to four percent in 2022⁴²⁴, representing about 3,400 fewer trips required to complete requested service work.

Percent of CGI Orders



Utilization has also remained high during the period, with productive time (in the field) averaging 89 to 90 percent over the last four years.⁴²⁵ Customers have rated NJNG field work highly over the audit period, averaging a 90 percent or higher satisfaction rating annually.⁴²⁶

12. NJNG customer service costs increased over the audit period.

NJNG Customer Service costs have increased by 37 percent over the audit period. Costs peaked in 2021, as NJNG prepared to implement the first phase of Project Next. Over the last five years, Call Center costs have increased by 18 percent while Revenue Cycle Services costs decreased by 30 percent. Meter Shop and Field Services costs increased by 123 percent over the same period.

D. Recommendations

1. Ensure proper staffing of call center and billing department prior to the new customer billing system deployment. (See Conclusions #1, #2, #3, and #4)

As the company gears up for the final phase of Project NEXT, it is crucial to guarantee adequate staffing levels in both the Call Center and Billing departments to support customers during the transition. The transition to the [REDACTED] customer billing system is expected to generate a surge in billing exceptions and issues, surpassing current levels under the legacy system. This increased volume, coupled with the unfamiliarity of the new system, may lead to backlogs and delays in bill issuance. These delays and potential missing bills can contribute to a rise in customer inquiries. Therefore, proper staffing is essential to manage this anticipated increase in demand and ensure a smooth transition for customers.

In 2022 and 2023, the company witnessed a decline in service level performance, average speed of answer, and abandonment rate. This trend was accompanied by a significant increase in average talk time, all occurring concurrently with the introduction of the [REDACTED] agent desktop and [REDACTED] “MyAccount” customer portal. Moreover, customer satisfaction and first contact resolution showed a decrease during the same period.

NJNG’s Customer Service organization should be prepared for the transition to the new billing system and staff accordingly to avoid a degradation in performance and ultimately customer satisfaction.

2. Review customer service business processes following the new customer billing system deployment to ensure cost efficiencies are achieved. (See Conclusion #12)

The company should conduct a thorough examination of its business processes after deploying the [REDACTED] customer billing system to confirm that the anticipated benefits and efficiencies are being realized. The operation and maintenance costs for Customer Service have increased in recent years during the phased implementation of Project Next. To enhance cost-effectiveness, efforts should be made to decrease both overtime costs and total operation and maintenance expenses. Additionally, a review of business processes is recommended to assess the potential for further automation and streamlining.

Chapter XII: Distribution and Operations Management

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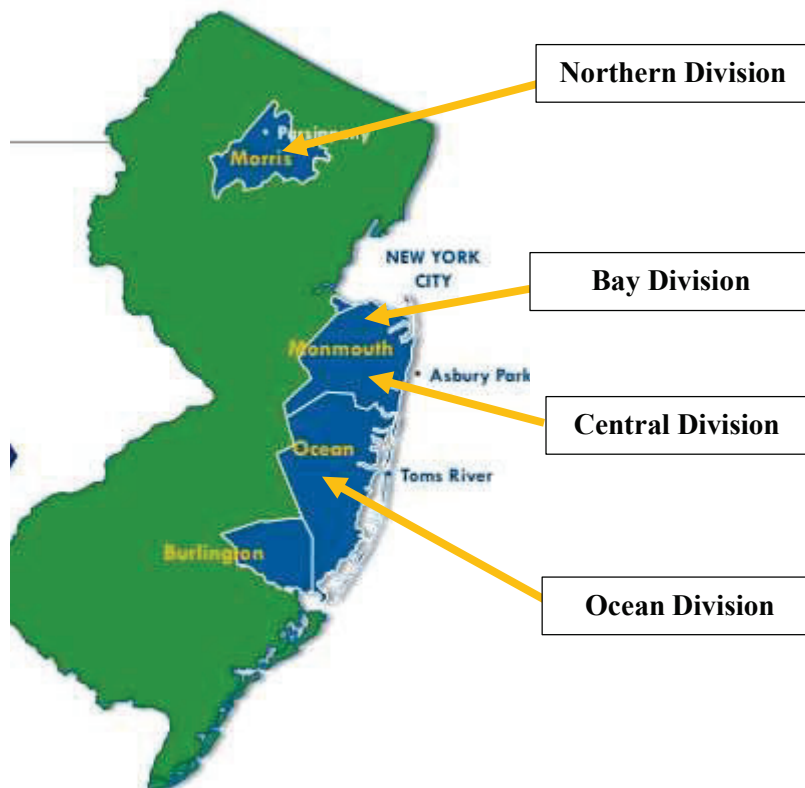
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Chapter XII: Distribution and Operations Management

A. Background

The next illustration shows the spread of NJNG's nearly 570,000 thousand Monmouth, Ocean, Morris, Middlesex, and Burlington county customers across a significant portion of the state and in a partially noncontiguous manner.⁴²⁷ NJNG serves these customers through nearly 7,700 miles of distribution and transmission system employing and 540,000 services.

NJNG Service Territory



The next table, which breaks customers down by class illustrates the strongly residential character of the company's natural gas consumers.⁴²⁸ The data shown excludes two street/yard lights and 120 off-system sales customers.

NJNG Customer Class Breakdown

Class	Count	Share
Residential	526,483	93%
Commercial	39,988	7%
Industrial	25	.005%
Total	566,496	100%

NJNG operations personnel work and are dispatched from multiple locations in the service territory, with the Energy Delivery Vice President, Engineering, System Enhancement, Gas

Control, and Central Dispatch located at facilities adjacent to the Wall Township Company headquarters.

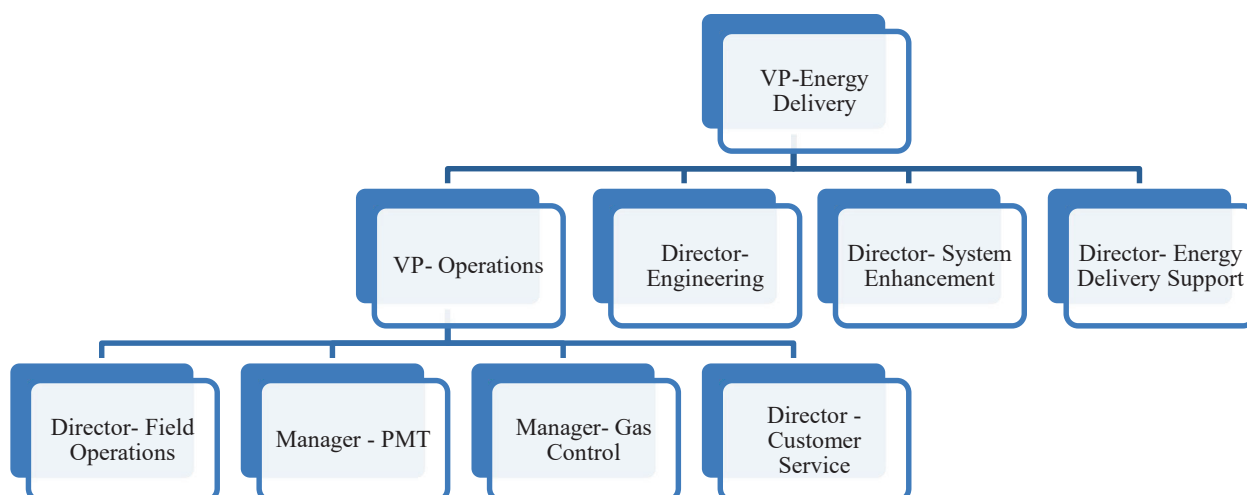
NJNG and many of its personnel engage with a fairly typical array of industry organizations and their committees, including the American Gas Association (“AGA”), the Northeast Gas Association (“NGA”), and the Society of Gas Operators (“SOGO”).⁴²⁹ NJNG also routinely participates in the AGA Best Practices workshops normally held annually.⁴³⁰

B. Findings

1. Overall Energy Delivery Organization

The next table depicts the “Energy Delivery” organization under the overall direction of the Vice President – Energy Delivery, an officer dedicated to NJNG operations.

NJNG Energy Delivery Organization



The organization at that time included somewhat more than 680 employees, 488 represented by International Brotherhood of Electrical Workers (“IBEW”) Local 1820. NJNG has also made substantial use of outside contractors for work in areas such as main and service installation, line locating, transmission line smart pigging, and support for special permits or designs.

The scope of the functions within NJNG or Energy Delivery include those traditionally viewed as most directly related to operations, *i.e.*, Engineering, Field Operations, Customer Care Operations (*e.g.*, meter reading, billing and customer inquiry representatives), Gas Control, LNG Operations, Safety, Training, Stores/Warehousing, and Fleet Services.

Gas purchasing does not fall under the executive who heads Energy Delivery. NJNG’s Gas Control organization does monitor the system and establish next day sendouts, but procurement of natural gas for delivery to customers occurs through a procurement group that reports through a separate executive *i.e.*, the Senior Vice President – Regulatory Affairs, Marketing, and Energy Efficiency. Both that executive and the Vice President – Energy Delivery report to the lead officer of NJNG,

its Senior Vice President and Chief Operating Officer.⁴³¹ The NJR Service Corporation provides a variety of support and administrative functions that typify those provided by a holding company service subsidiary or unit(s). Here those functions include, for example, financial, legal, human resources, procurement, information technology, and physical and cyber security.⁴³²

2. Gas Engineering

The NJNG Gas Engineering group operates out of the Wall Township Company Headquarters. During the 2020 Covid period essentially all gas engineering still reported on-site, although broken into three physically separate groups and work areas for safety.

The primary responsibilities of gas engineering have included:

- System Planning & Design
- Design/Work Packages for new installation and replacement work
- GIS System & Network Model and maintenance of those systems
- Contractor Scheduling and Field Inspections.

The Engineering group reports directly to the Vice President of Energy Delivery, who began with NJNG in an engineering capacity more than 30 years ago. Gas Engineering resources have grown only moderately, *e.g.*, increasing from 46 to 50 personnel over 2018 levels. Engineering resources have significant levels of experience; only five of them have less than three years of experience, with multiple retirements expected in the coming years.⁴³³

Gas Engineering operates in two groups: Systems Engineering (cost center 2220) and Distribution Engineering (cost center 2210). Systems Engineering has responsibility for design, network modeling, and geographic information systems (“GIS”) functions. Distribution Engineering handles installation contractor scheduling and field inspections.⁴³⁴

A System Enhancement group exists separately and at the same level as Gas Engineering. System Enhancement resources include some individuals with engineering titles, but management describes the distinction in their work from Gas Engineering as comprising work needed to “build” the system in Gas Engineering, while work to maintain or service the system falls usually to System Enhancement.

a. Design Work Packages

Designs and work packages for main and service installations, regulator stations, and new and replacement business originate out of Engineering. Typical work packages⁴³⁵ include work products such as:

• Work order drawing	• GIS system maps
• Work order package summary	• Tax maps
• Investment detail	• New business commitment or PSI
• Contractor summary	• Flow study
• Permits	• Service orders
• Easement/ROW agreement with drawing	• Meterset drawings
• As-builts of existing facilities for tie-ins	

The work order package summary includes the project's cost estimate.⁴³⁶ Routine estimates base costs on expected numbers of labor hours and crew size, generally assuming installation work performed by one of the two Alliance contractors. NJNG Engineering has employed a J. D. Edwards software system (offered through leading provider Oracle)⁴³⁷ deployed initially in 1994 to manage its work order and work management activities, including cost estimating. The Financial Department has established the approval levels for work order types and values involved. The system addresses all aspects of contractor work and management of inventory. The system "feeds" work completion information to another commonly used fixed asset management platform (PowerPlan).⁴³⁸ The large-scale Project NEXT program will, when completed, replace the JD Edwards system.⁴³⁹

Engineering also has cost monitoring responsibility for these projects, including routine monitoring of estimated to actual cost variance and monthly meetings with Finance and Marketing groups. These forecasting discussions address major projects and budget categories. Monthly reports track progress on projects having estimates of at least \$250,000, with written change orders required for those with costs 10 percent or more above their approved expenditure levels.⁴⁴⁰

b. System Planning and Design

NJNG employs a commonly used platform offered by [REDACTED] to model its gas system for use in planning. Two system planning engineers run and update the network model. Management updates loads in the model annually, using the [REDACTED] Gas Customer Management module ("CMM"). The CMM imports customer information system ("CIS") data into a database that uses geocoding to align customer demand information more accurately when using modeling to conduct detailed analyses of the system.

Management here makes typical uses of its network model, including:⁴⁴¹

- Updating changes to the pipe network and customer loads
- Analyzing system performance under specific conditions, such as design day temperature
- Analyzing system performance for long range planning with projected load growth
- Recommending system improvements based on analysis.

Engineering prepares an annual summary of the system planning process and makes recommendations for system improvements and reinforcements that consider: (a) actual observed system operation on the coldest days of the prior year, (b) a "design day" that reflects the day that produced the highest number of degree days (combining, for example, temperature and wind conditions for a set historical period, and (c) expected growth levels provided from Marketing. As is common in the industry, these factors produce a set of "design day" conditions projected over a five-year planning horizon. NJNG models the Northern Division separately; however, both modeling activities employ the same 65-degree design day value, calculated with consideration of actual historical weather experience.⁴⁴²

The most recent audit of this type produced a report about ten years ago. The report from that audit concluded that NJNG did not have a separate system planning organization under which it undertook an "integrated planning effort."⁴⁴³ Management examined alternatives to the use of its

engineering group to lead planning efforts. It found continuation of that approach both fairly common and sufficient in producing appropriate plans. Our review found NJNG's approach common for companies of its size. We found the organizational structure and the coordination of planning efforts within Energy Delivery sufficient to ensure development of a comprehensive long-term system plan.

The report from that last audit also found what it viewed as a high level of schedule slippage in planned projects and inconstancy produced by common additions of projects not initially planned and deletion of others that were planned.

c. Installation Contractors

Systems Engineering resources, as noted, design projects and prepare the work packages to execute them. Many projects involve substantial work by contractors, particularly by the two Alliance contractors, whose agreements and work the *Contractor Performance - Main and Service Installation* Chapter of this report addresses. A significant number (in the range of 60 to 65) of contractor crews have typically worked at the same time during NJNG's peak construction season, with a third of them in Morris County and the remainder in Monmouth and Ocean Counties. Distribution Engineering resources have responsibility for scheduling their work and for overseeing performance of that work in the field. Resources assigned to this Contractor Construction section of Engineering have remained stable, at 18 or 19 in recent years.⁴⁴⁴ Two dedicated Contract Coordinators undertake day-to-day scheduling, with the other resources (Construction Coordinators) assigned to field oversight and quality inspections. Some of them also coordinate large new business projects and developments. Field oversight and inspection operate under written Job Site Overview and Preparing Inspection Records procedures.⁴⁴⁵ We reviewed inspection forms used.⁴⁴⁶ Recent years have witnessed a number of practice and methods enhancements, with examples including:⁴⁴⁷

- 2016 adoption of a contractor re-inspection or post construction audit ("Re-Dig") program
- 2017 introduction of Locusview digital inspection data collection
- 2018 initiation of a root cause analysis and lessons learned program
- 2021 introduction of a formalized contractor field training program.

Frequent BPU field inspections (some 125-130 per year) also provide direct examination of NJNG activities, with most of them addressing contractor installations.⁴⁴⁸ The Alliance contractors (whose work this report's *Contractor Performance - Main and Service Installation* Chapter addresses in detail) complete most of the NJNG main and service installations along with most "routine" replacement installations and system reinforcements and looping projects. Besides main/service capital installations, the Alliance contractors also support NJNG O&M work activities. For example, if an NJNG crew needs assistance, such as backhoe support on an after-hours leak, that support may come from an Alliance contractor.⁴⁴⁹

Engineering uses a commercially available [REDACTED] product originally deployed in 2008 when NJNG migrated to a "smart" GIS system with intelligence. NJNG plans to migrate to a newer [REDACTED] version, but that migration does not have a firm date. The GIS system is mainly only with services only shown by a proxy showing a service to the center of the property. Service information is still available from service cards which are also in an electronic record form. The GIS system

and records are available to laptops in the field. A review of several sample GIS records found them understandable and comparable to other distribution operating companies.⁴⁵⁰

3. Gas Operations

NJNG's Vice President – Operations, who reports to the lead NJNG officer (the Vice President – Energy Delivery) directs NJNG gas operations. The Vice President – Operations has four direct reports:

- Director-Field Operations
- Director-Customer Service
- Manager-PMT
- Manager-Gas Control.

a. Field Operations

The Director-Field Operations heads an organization divided generally into the three geographically oriented Divisions (North, Central, Ocean, and Bay). Within each Division, field resources dispatch from multiple locations. The Director – Field Operations has considerable experience, possessing an HVAC/appliance repair background, starting with NJNG in 1993 as a First Responder, and serving as the group's director since 2018.

The primary Field Operations functional groups and their principal responsibilities are:

- Distribution Operations: performing construction and maintenance, repairing underground leaks, completing street valve inspections, and making new service installations
- First Response: responding to leak and odor calls, conducting required leak surveys, addressing high bill complaints, and performing some above-grade customer utility work, such as meter-set leaks and inspections
- Meter Reading: performing monthly meter readings
- Meter Exchange: performing meter changes and customer equipment relights as part of the required meter test program.

Two of the three NOPV's NJNG received during the review period were associated with operations responsibilities, involving meter sets.

b. Distribution Operations

The employee count for the groups making up Distribution Operations has been relatively stable since 2018.⁴⁵¹ Distribution Operations crews get work assignments through computer dispatch from Central Dispatch through mobile terminals. Each field supervisor normally has responsibility for seven crews.

NJNG frequently makes use of two-person crews with members having titles such as Gas Mechanic and Crew Leader.⁴⁵² The primary types of work include:

- Leak repairs
- Valve inspections and maintenance
- Service retirements for building demolitions

- Service relocations.

C&R Services is a small construction group started in 1997 with similar titles to the Operations group, but primarily for the purpose of “construct & renew” services, similar work to the Alliance contractors.

Distribution Operations Employee Count

Group	2018	2021
2130- Central Div Ops	49	52
2110 – Northern Div Ops	16	16
2150 – Ocean Div Ops	44	44
2020 – C&R Services	19	19

Overtime as a percentage of base pay hours for these groups has dropped somewhat, as would be expected with the elimination of all cast iron and bare steel by 2021.⁴⁵³

Overtime Hours

Group	2018	2021
2130- Central Div Ops	18.0%	14.1%
2110 – Northern Div Ops	18.1%	16.5%
2150 – Ocean Div Ops	21.3%	17.1%
2020 – C&R Services	24.6%	20.9%

Average leak repair time has comprised the principal productivity measure for tracking Distribution Group field performance. Numbers of services worked per day has served as the corresponding measure for the C&R group. Management also tracks percentage of work not in the field for both groups.⁴⁵⁴

Main leak repairs have decreased over time, with leaks remaining fairly steady in number. About half of service leaks result from excavation damages, and thus are not material nor age dependent. The next table shows leak repair data taken from the DOT Annual Distribution Report.⁴⁵⁵

Leaks Repaired

Year	Mains		Services	
	Total	Excavator	Total	Excavator
2015	441	87	773	389
2016	454	78	640	310
2017	486	51	903	340
2018	507	43	912	386
2019	359	47	735	352
2020	255	39	719	432
2021	261	31	678	378

The next table shows NJNG's Grade 3 leak repairs and Grade 2 & 3 fiscal year backlogs. The last audit of this type listed backlog reduction as an area warranting improvement. The more recent backlogs are at levels we consider low by comparison to our experience with other natural gas distributors, demonstrating sufficient progress in addressing that prior audit issue.⁴⁵⁶ Fewer new leaks and NJNG's stable field workforce size have supported making reductions in Grade 2 and Grade 3 backlogs and shorter durations for leak repairs. NJNG works to perform same or next day repairs on all Grade 3 leaks.⁴⁵⁷

Grade 3 Leaks Repaired and Grade 2 & 3 Y/E Backlogs

Category	Repaired/Cleared Grade 3 leaks				
	2018	2019	2020	2021	2022
Main	51	56	30	42	29
Service	134	122	68	63	30
Meter/Other	247	338	139	159	89
Totals	432	516	237	264	148
Y/E Grade 3 Backlog	103	19	19	23	15
Y/E Grade 2 Backlog	112	47	58	26	25

d. First Responder Groups

One-person First Responder crews primarily respond to odor, leak, and emergency calls. Rapid response to such circumstances comprises a first order priority for operating companies. The primary types of work for First Responders include:

- First response to emergency/leak/odor call
- Walking leak survey
- Inside leak surveys of more than 2,000 special buildings per year
- Inspections of the approximately 1,500 inside meters still on the delivery system
- High bill, no heat, no pressure and other inside customer calls.

Dispatch of first responders comes from Central Dispatch through a Computer Aided Dispatch system to mobile terminals in responder vehicles. Where first responders find an underground leak, they investigate and grade it. Responders are equipped with combustible gas detectors ("CGIs") and Flame Ionization ("FI") to support safe leak investigations. First responders also have access to electronic system maps and records in the field.

NJNG also employs a "red tag" program that enables first responders to isolate any malfunctioning units or other problems that require customer corrective action, using red tags that explain the problem and corrective action. Responders can shut off gas to premises when finding safety issues with customer equipment or piping. NJNG issues automated follow-up letters after red tagging. First responders do not generally conduct repairs to customer equipment, except perhaps for relighting a pilot light or sometimes replacing a thermocouple.

The next table shows consistent first responder staffing. We have found first responders generally among the most experienced operating company personnel. Management expects retirements in the range of 10 to 12 first responder retirements in the coming years. A recent change is expected

to assist in producing first responder replacement candidates that have developed field and customer equipment experience.⁴⁵⁸ Movement of meter change work from contractor to in-house work through use of a Distribution Utility Worker position in the Meter Exchange Group provides an opportunity to give starting level work to personnel who create a pool for eventual movement to more advanced gas operations positions.⁴⁵⁹

First Responder Personnel

Division	2018	2021
Northern	15	16
Bay	20	17
Central	31	29
Ocean ¹	42	42
Total	108	104

¹ Lakewood & Manhewkin

This movement has decreased marginally as leaks have fallen in DOT Annual Reports. However, first responders also address leak and odor calls from homes and buildings, many of which do not result in finding leaks. For example, out pilot lights might ultimately prove the source of an odor reported. NJNG receives on the order of 25,000 leak/odor/emergency calls a year, approximately half of which turn out to be “no leak” or “nothing found.”⁴⁶⁰ The total calls and percentage producing a “nothing found” fall in line with industry experience. Pilot lights out and other customer piping and equipment leaks are also common, producing only a very small percentage of calls resulting in a finding of outside/gas system leaks.

Overtime as a percentage of straight time hours commonly proves higher for first responders when compared with data for other field groups. The next table confirms the same for NJNG.⁴⁶¹

Overtime Hours by First Responder Group

Division	2018	2021
Northern	16.5%	9.1%
Bay	18.5%	12.1%
Central	20.0%	13.2%
Ocean ¹	36.1%	26.7%

¹ Lakewood & Manhewkin

The next table shows performance against the two metrics NJNG uses and that others in the industry commonly track.⁴⁶² Management initially set an overall 2014 leak response time target of 24 minutes, with 99.7 percent responded to within 60 minutes. Management later tightened those targets to 21 minutes and 99.8 percent. NJNG has consistently performed well against both targets, which we found representative in the industry.

First Responder Leak/Emergency Call Performance Measures

Year	2014	2015	2016	2017	2018	2019	2020	2021
Response Time (minutes)	21.3	21.5	21.1	19.8	19.5	19.6	19.7	18.8
Percent within 60 minutes	99.9	99.8	99.9	100	100	100	100	100

Other performance metrics include On Time Service Appointments and Percentage of Non-Field Work.

e. PMT and LNG

A separate Pressure, Measurement, and Transmission (“PMT”) group reporting to the Vice President – Operations has responsibility for system gate and regulator stations and for critical valve system maintenance. The PMT group also has responsibility for operation and maintenance of the NJNG LNG plants. In all, the facilities under the PMT group comprise:

- Ten gate stations
- Approximately 250 regulator stations, of which about a third employ relief valves and the remainder with monitor regulators for overpressure protection

- Critical line valves
- Approximately ten large-volume customers requiring meter equipment or telemetry equipment calibration
- Two LNG plants.

Primary responsibilities, apart from the LNG facilities discussed separately below, include:

- Regulator station maintenance and required inspections
- Critical valve maintenance and maintenance of remote-operated valves
- Calibration of field telemetry units
- Calibration of gate station check metering equipment and large volume customer metering
- Regulator station rebuilds to address obsolete equipment (Fisher 399 regulators)
- LNG Plants.

The regulator and valve resources of the group report out of the Wm. Maude Service Center; the LNG personnel work from the Howell LNG Plant. Regulator crews normally consist of the two persons typical of the industry. Cell telephone calls and texting comprise the normal means of communications between regulator field personnel and supervision or Gas Control. Their two-way company radios now principally serve as back-up communication devices.

The Manager of this group since 2021 has more than 30 years of experience in this technical area. The PMT employee count grew from 37 employees in 2018 to 40 employees in 2021.⁴⁶³ Overtime hours as a percentage of straight time hours has fallen in a range commensurate with those of the other operations groups (15 and 19 percent).

PMT communicates closely with Gas Control/SCADA personnel that have responsibility for continuously monitoring the system. Gas Control has capability over most but not

all gate stations and many major system regulator stations. [REDACTED], Gas Control directs pressure adjustments and changes necessary to manage daily gas takes and balancing and makes seasonal pressure adjustments as well. Discussions among Gas Control, Gas Engineering and PMT seek concurrence on and provide information sharing regarding these changes.

NJNG has located its [REDACTED] primarily at gate stations and the transmission system, operating them as directed by Gas Control. Maintenance activities also require partial ROV operation by Gas Control with PMT personnel monitoring proper operation in the field during maintenance activities to ensure correct feedback about valve positioning. ROVs have occasioned increased regulatory scrutiny more recently, particularly with respect to rapid transmission line shutdown should ruptures occur.

The Howell and Stafford LNG plants underwent commissioning in the early 1970s with liquefaction added at Howell in 2016. Both can provide winter peaking and emergency service. Management uses no off system trucking for the plants. Liquefaction at Howell fills both the Howell tanks and fills trucks for LNG transport to Stafford. Both plants typically undergo multiple BPU inspections yearly, and an in-depth BPU inspection occurred in 2022. The LNG facilities come under DOT Part 193 LNG safety regulations. The plants cannot be started or operated remotely, personnel must be at the plant to operate liquefaction or vaporization.⁴⁶⁴

The PMT organization employs eight LNG mechanics and two LNG supervisors.⁴⁶⁵ [REDACTED]
[REDACTED] DOT Part 191 reporting requirements apply to the two LNG plants. The LNG portion of the PMT group prepares and has responsibility for updating the written O&M manual. Our review showed review dates for the separate manuals for each plant that conformed to the required update cycle.⁴⁶⁶

f. Gas Control

Gas Control reports to the Vice President-Operations. Gas Control operates the control room from which it monitors pressures, flows, alarms, and other system information. The Manager of Gas Control since 2021 has 15 years of gas control experience. The manager's group grew from [REDACTED]. These personnel staff the control [REDACTED]. Management employs a [REDACTED] typically described as [REDACTED].

Gas control activities operate from a secure control room, with [REDACTED] back-up rooms available for use in emergencies. Each has full control capability. NJNG makes substantial use of SCADA ("System Control And Data Acquisition") capabilities to provide information about system conditions and configurations in real time. Management tests its SCADA capabilities and systems annually. Gas Control also monitors gas supplies provided by source during the day, which is necessary to balance designated and actual quantities and their sources. This function also ensures that sufficient volumes exist to support needs on a currently flowing basis, and as scheduled for immediately following days.⁴⁶⁷

Gas Control rooms have more recently come under increased regulatory scrutiny, for example through DOT Part 192.631 control room management safety regulations. Cybersecurity has comprised a particularly important focus of that scrutiny. Gas control rooms normally have the ability remotely to control gas system valves and pressures. Manipulation of incoming data also comprises a threat.

Gas Control monitors the following gate station data points:

- Inlet/outlet pressures
- Metering/outlet temperature
- Flow rate (orifice or pulse)
- Differential pressure
- Control setpoints (if applicable at location)
- Control valve positions (if applicable at location)
- Filter differential pressure (if applicable at location)
- Pilot position (if applicable at location)
- Heater (bath temperature, heater outlet temperature, pilot status) (if applicable at location)
- RTU information
 - UPS battery voltage
 - AC power status
 - Any Generators present
 - Router reset commands (Cell and MPLS).

Gas Control has responsibility for the required DOT 192.631 written Control Room Management Plan. We found the current plan version, dated December 3, 2022, satisfactory.⁴⁶⁹ We did not, however, find required plan review and update cycles noted in the table of contents. Plans in the industry commonly provide such highlighting, given the criticality for ensuring regular review and change to plans where appropriate. Management reports that a 2022 BPU inspection, which focused on the CRM Plan, found no violations and made no recommendations.

4. System Enhancement

While Engineering primarily has responsibility to design and build the NJNG infrastructure, System Enhancement's primary responsibility is to service and maintain the system once it is built. Major areas of responsibility include:

- Caretaker of the Transmission IMP and Distribution DIMP plans
- Utility mark-out program for NJNG
- Caretaker of the NJNG SOME (Standards, Operating, Maintenance, Emergency) Manual
- Caretaker of the Public Safety Awareness program manual
- Transmission main re-assessment (Smart Pigging) program
- Cathodic Protection/Corrosion Control
- Annual DOT Report (Distribution & Transmission) preparation and filing, DOT Incident Reports
- Point group along with Process & Materials Committee to monitor any new regulations and ensure they are reflected in the appropriate Plan if implemented.

The System Enhancement group has been stable in size. The headcount was 21 employees in 2018 and 21 in 2021⁴⁷⁰, although in the interview it was noted some additional personnel were added more recently in the damage prevention area.

The Director of the group has some 40 years' experience, and has a corrosion control background.

a. Transmission Main Integrity program

NJNG has approximately 251 miles of transmission main with the oldest from the 1960's. Transmission main is not defined by pressure; under the DOT 192 there are several possible criteria, but the most applicable for NJNG is a main that "...has an MAOP of 20 percent or more of SMYS". SMYS is Specified Minimum Yield Strength, and is basically the strength of the steel pipe.

Simplistically, transmission implies a high operating pressure resulting in a moderate or high stress on the pipe depending on pressure, pipe diameter, wall thickness, steel strength, and other factors.

There has been increased regulatory focus on transmission mains because at transmission operating stress levels, failures tend to be a rupture rather than just a leak. As such, there has been

a DOT/PHMSA requirement for a written Transmission Integrity Management (“IMP”) program for any transmission operator, and the requirements for those IMP programs is quite rigorous.

Some of the requirements center around identifying and classifying High Consequence Areas (“HCAs”) and performing periodic recertifications of the lines. HCAs are areas in proximity of the transmission line with a threshold building density or specific types of public buildings near which a line rupture would have severe consequences, *e.g.*, schools or churches. NJNG has taken a conservative approach that has identified all its transmission lines in HCAs.

Another requirement is periodic recertification of the transmission line, basically a 10-year recertification for a new transmission line, and a seven-year recertification thereafter. There are different allowable methods for recertification, but the one considered most reliable is an In Line Inspection (“ILI”) also called the smart pig run. All NJNG’s transmission lines are compatible with ILIs, although some of the earlier ones needed retrofitting with the necessary facilities.

System Enhancement has responsibility for the written Integrity Management Plan, keeping it up-to-date, and ensuring any modification originating from NJNG’s operations or new regulations are properly reflected. System Enhancement also has the responsibility to identify which sections require recertification each year, and coordinating the recertification by coordinating Gas Control, Field Operations, and Engineering since a smart pig run is normally run or moved with gas flow in the segment. System Enhancement is also responsible for securing the smart pig service vendor for the run.

Liberty’s review of NJNG’s IMP written program found it to be complete including documented annual review dates.

NJNG’s 2021 DOT Transmission Report⁴⁷¹ indicated 42 miles of transmission main smart pigged in 2021. Two anomalies were identified on that run for excavation, but no repairs were required. Finding anomalies on a pig run requiring a closer examination is not uncommon.

Transmission IMP Plans normally get close regulatory scrutiny. The fact that no written BPU/PHMSA recommendations or NOPV’s were issued during the review period for NJNG’s IMP Program would also demonstrate it met requirements.

b. Utility Mark-out or Damage Prevention Program

Damage prevention and utility locating are extremely important and will be covered in detail in the *Contractor Performance - - Underground Locating* Chapter of this report.

c. Caretaker of the NJNG SOME (Standards, Operating, Maintenance, Emergency) Manual

One requirement of the DOT 192 pipeline safety code is that operators must have and follow a written O&M plan (192.605). System Enhancement is the caretaker of not only the required SOME manual, but also the required Distribution Integrity Management Plan (“DIMP”), the required Pipeline Public Safety Awareness Program/Plan, and the required Damage Prevention Program. As caretaker, System Enhancement has to make sure each plan or program is up-to-date and

reviewed at required intervals, although certain actions or responsibilities under the various programs may fall to others such as field forces for required valve inspections or leak survey.

There is normally an annual review by the BPU as the PHMSA audit and enforcement agent using the PHMSA Form 2- Gas Distribution Inspection Form. Often this annual audit includes an audit of the SOME written plan based on a standard PHMSA audit checklist or protocol but not always. Sometimes the audit may be targeted to another required Plan such as Public Awareness or Damage Prevention.

While Liberty reviewed all the Plans, it was not a detailed review; issues at a detailed level usually surface in regulatory reviews. As there were no BPU written recommendations or NOPV's for Plan violations during the review period, Liberty would conclude the Plans discussed above all passed regulatory review.

Liberty examined whether the required Plans met the mandated regulatory review cycle. Most Plans required by 192 Code require review "at intervals not exceeding 15 months, but at least once each calendar year."⁴⁷² Plans requiring an annual review include:

- Pipeline Safety Public Communications Plan
- SOME-O&M Plan
- Distribution Integrity Management Plan
- Transmission Integrity Management Plan.

Those we examined showed review dates consistent with required cycles. The Operator Qualification ("OQ") Plan does not have a mandated review cycle. NJNG's last apparent review occurred in 2017.

Some plans fall outside the responsibility of System Enhancement, with local groups accountable for maintaining them. Two of them include the LNG O&M Written Plan and the Control Room Management Plan. The LNG group prepares and maintains the LNG O&M plan, which requires a two-year review cycle per the DOT Part 193 code). The separate Howell and Stafford plans underwent documented reviews as required. The Gas Control group prepares and maintains the control room plan. This plan focuses on personnel monitoring and actions affecting the gas system, *e.g.*, remotely adjusting pressure settings and operating valves, as opposed to a work dispatch or customer call center activities. No mandated review cycle exists for this plan, the current version of which shows a 2022 revision date.

d. Cathodic Protection/Corrosion Control

The cathodic protection/corrosion control group resides within the System Enhancement section. NJNG's 2021 DOT Transmission System Annual Report indicated all 250.8 miles of transmission consisting of cathodically protected steel pipe. NJNG's 2021 DOT Distribution System Annual Report reported only one mile of coated/non-cathodically protected steel pipe, classifying the 2,929 miles of steel main and 65,868 steel services as coated/cathodically protected. A number of DOT Code 192 requirements address cathodic protection, including:

- Each cathodic protection rectifier checks at least every two months
- Each protected steel main tests at least annually

- Checking of short sections of steel main and individual services on a 10 percent sampling basis
- Investigation and correction of deficient system issues and cathodic protection problems.

NJNG protects all transmission systems cathodically using rectifiers. A mix of sacrificial anodes and rectifiers cathodically protect its steel distribution mains. Management provides for most corrosion control testing in-house, while employing outside consultants for some special or difficult problems. System Enhancement resources include seven corrosion testers. All have at least NACE Level 1 certification, engineers have NACE Level 2 certification, and the Director holds NACE Level 3 certification. NACE International, established initially in 1943 as the National Association of Corrosion Engineers, is a global leader in developing corrosion prevention and control standards, certification and education. NACE certification satisfies the DOT 192 requirement for tests carried out by or under the direction of a qualified pipeline corrosion control person. Testers also periodically attend local corrosion control short courses in the area.

Testers use electronic handheld data loggers for recording tests, the [REDACTED] application for test scheduling and interface with data loggers, and JD Edwards software for housing historical test records. Test record migration will migrate to [REDACTED] upon completion of NEXT system deployment Enhancement. DOT 192 requirements cover test record maintenance, requiring maintenance for life of the pipeline involved. NJNG reports that it has observed no instances of stray DC current and one pipe segment that experiences AC voltage/interference. Management monitors that segment.

NJNG reported 88 main corrosion leaks in its 2021 DOT Distribution System Report, with the number increasing further to 107 by 2023. We found these numbers unusually high for the single mile of unprotected steel pipe it operates. Management has stated that many of those leaks have involved coating issues on older protected steel pipe, some of them caused by coating issues at joints and fittings.⁴⁷³ Our experience with corrosion leaks caused by deficient coating on lines thought to be under full cathodic protection is often very localized, making detection through normal testing uncertain. Corrosion can also occur undetected under some coatings that disbond and shield the pipe from cathodic protection.

NJNG began in 2021 a 25-year program to replace all 1,550 miles of its pre-1970's steel pipe.⁴⁷⁴ The extremely large scope of this program is forecasted to require expenditures of \$1 billion or more - a large investment for a system having only one mile of unprotected steel pipe remaining in operation across the whole system.

5. *Energy Delivery Support*

A director reporting directly to the Vice President-Energy Delivery heads the Energy Delivery Support group. The group's director has been with NJNG for more than 30 years, heading the group for more than 15 of them. This support group has responsibility for Central Dispatch, Meter Shop, Fleet Services, and Stores. The group also manages through a two-person group the Alliance agreements with the two principal contractors who perform pipe installation and related services for NJNG. The *Contractor Performance - Main and Service Installation* Chapter of this report addresses those contracts and the work performed under them. The *Customer Service* Chapter of this report addresses meters, and the *Fleet Services* Chapter addresses fleet management.

The Energy Delivery Support group's Central Dispatch function operates a work/crew dispatch center, normally from the Wall Headquarters, with renovations there causing a temporary move to the Howell training center. The main responsibilities for Central Dispatch include:

- Emergency response to leak/odor calls or damages
- Same-day utility workloads and appointments
- Generation of work orders to support field personnel
- Same-day overtime schedule setup
- High risk excavation locate tickets identification
- Various administrative tasks.

The Manager of Central Dispatch has about 25 years' experience at NJNG, with 12 in Central Dispatch. The Central Dispatch group includes 25 employees.⁴⁷⁵ The dispatch center operates on a 24/7 basis. Dispatchers work under specific shift assignments, with "swaps" permitted if they retain required coverage. Normal dispatcher staffing (excluding supervisors and support) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Overtime has remained modest in recent years, with 2021's three percent not atypical. A computer aided dispatch system permits dispatching of work assignments and work orders to field personnel electronically by cell phones. The NEXT project will replace this system with Maximo, a widely used system in the industry. A two-way company radio system also supports communications with field personnel. Communications are recorded.

Calls to NJNG's published 1-800 leak/odor phone number route on a 24/7 basis to the Customer Service phone center. Orders generated there route to Central Dispatch, which then has responsibility for rapid dispatch through a field First Responder. A positive radio communication generally follows dispatching of an odor or leak call, to ensure acknowledgement by the responder.⁴⁷⁶ Central Dispatch also employs special emergency phone numbers to take direct calls from fire or emergency personnel.

GPS tracking and the computer aided dispatch capabilities give Central Dispatch visibility on the locations of most field personnel, which becomes particularly significant in emergency situations. Central Dispatch has the ability to increase the level of responding personnel when circumstances require. For example, reports of third-party main damage generally produce more than the normal single first responder, e.g., two first responders and two distribution crews.

6. Distribution System

NJNG's distribution system consists of over 7,400 miles of main and about 540,000 services that operate in systems whose pressures range from 35 to 250 pounds per square inch measured relative to atmospheric pressure ("psig").⁴⁷⁷ NJNG does not have any propane-air peak shaving plants or any DOT 195 Hazardous Liquids pipeline facilities.⁴⁷⁸

Natural gas operators throughout the country have for many years now been engaged in replacing “leak-prone” main consisting largely of unprotected steel and cast iron facilities. Particularly for companies with very long operating histories in urban areas, these programs can have multi-decade durations. NJNG has completed removal of essentially all its cast iron main and bare steel mains and services. It has done so largely through two significant capital programs. *i.e.*, its SAFE (Safety Acceleration and Facility Enhancement) and SAFE II programs. Management reports that SAFE ran from BPU approved 2012 through completion in 2021. The next table summarizes the facilities removed since 2013.⁴⁷⁹ One mile of coated unprotected steel remaining in the 2021 Report was eliminated in 2022. As NJNG replaced these facilities, it also made substantial system additions, as the following table summarizes.⁴⁸⁰

Leak Prone Main and Service Reduction

Year	Miles of Main			Number of Services	
	Bare Unprotected Steel	Coated Unprotected Steel	Cast Iron	Bare Unprotected Steel	Coated Unprotected Steel
2013	439	26	40	32,113	2,910

Distribution Main and Services

	Mains (miles)	Services (number)
2013	7,003	484,929
2021	7,444	539,410
Total Growth	441	54,481
Avg. Growth/yr.	55	6810

The next table shows the distribution of system pressures between the northern (Morris) and southern segments of NJNG’s service territory.⁴⁸¹ The table shows the preponderance of 60 psig facilities and the much smaller system size in the northern sector of NJNG’s service territory. The NJNG system makes use of about 250 regulator stations.⁴⁸² As part of the replacement of “leak-prone” pipe over the review period, NJNG also eliminated all its low-pressure system. Management indicated that it would not normally serve a customer off any of its distribution system operating over 125 psig.⁴⁸³

Distribution Main Miles

Pressure	Morris	Other
35 psig	0	481
60 psig	1,057	5,573
100 psig	40	0
125 psig	22	118
230 psig	26	0
250 psig	0	112

The next table summarizes leak reductions as NJNG carried out its replacement program, identifying the leaks caused by excavation damage.⁴⁸⁴ Distribution system main and service leak counts from are summarized in the following table.

NJNG Leak Repair Counts

Year	Main Leaks		Service Leaks	
	Total	Excav.	Total	Excav.
2015	442	87	773	389
2016	454	78	640	310
2017	486	51	903	340
2018	507	43	912	386
2019	359	47	735	352
2020	255	39	719	432
2021	261	31	678	378
Change (#)	181	56	95	11
Change (%)	-41%	-64%	-12%	-3%

Main leaks have substantially decreased as replacement efforts continued. However, corrosion remained a significant leak cause, accounting for 88 main leaks on cathodically protected main in 2021 and 107 in 2022. The last audit of this type found a significant leak backlog compared with incomplete data from New York gas distribution companies and cited a lack of efforts to reduce it.⁴⁸⁵ The data we reviewed did not evidence a significant backlog or lack of attention to addressing it.

7. Transmission System

NJNG operates about 251 miles of gas transmission main. Gas transmission requires a separate annual DOT Report filing, the DOT PHMSA “Annual Report....Gas Transmission.”⁴⁸⁶ NJNG’s 2021 Transmission Report reflected:⁴⁸⁷

- 251 miles of steel transmission main, all cathodically protected
- Sizes from 4” to 30”
- Earliest vintage from the 1960-1969 decade
- All mileage located in what is considered a High Consequence Area (“HCA”)
- 42 miles of main reassessed during the year found no issues requiring repair
- All 251 miles of transmission piping subject to recertification through internal inspection (“smart pigging”).

8. LNG and Hydrogen Plants

NJNG operates two LNG plants to provide peaking capacity to its distribution systems. The Howell facility in Monmouth County completed commissioning in 1973, with liquefaction added in 2016. The Stafford facility in Ocean County underwent commissioning in 1972. LNG for the Stafford facility comes by truck from the Howell Plant.⁴⁸⁸ Construction of NJNG’s “Howell Green Hydrogen Project” brought to NJNG’s delivery system in 2021 a source of “green hydrogen” (*i.e.*, produced under processes powered by solar or wind produced electricity).⁴⁸⁹ Howell-produced

hydrogen gets injected into and blended in the natural gas system at a modest maximum flow rate of 1.14 mcf per hour. Injection rate limits of 15 percent of pipeline flow at the injection point set a safe blend rate.⁴⁹⁰

9. Capital Plans and Budgets

The next tables summarizes NJNG's actual capital expenditures in recent years.⁴⁹¹

Capital Expenditures

Category	Fiscal Year				
	2018	2019	2020	2021	2022
New Customer	\$44.0	\$49.6	\$56.3	\$64.4	\$53.9
System Replacement	\$15.5	\$19.9	\$19.3	\$28.8	\$26.2
System Integrity	\$50.3	\$46.3	\$44.2	\$63.4	\$40.3
Special Projects	\$85.3	\$169.4	\$168.2	\$199.0	\$102.8
Total	\$195.1	\$285.2	\$288.0	\$355.6	\$223.2
Total NJNG Capital Construction	\$207.9	\$306.7	\$300.4	\$416.8	\$242.4
Variance to Plan (negative = underrun)	(\$188.4)	(\$133.5)	(\$52.2)	\$29.3	(\$72.8)

\$ in millions

New customer connections, most of them residential services, have comprised the principal driver of NJNG growth in recent years. Management includes new customer services as a key performance indicator regularly tracked. The next table summarizes capital spending for new business. Both contractor and company crews install services; the table shows the contribution of each. Some new business requires customer contributions (*i.e.*, payments) in aid of construction (listed as "CIAC" in the table).⁴⁹²

NJNG New Business Capital Expenditures

(confidential table)



Actual new customer counts fell short of both plans for 2020 and actual new customer counts for 2019. The rate of decrease moderated substantially in 2021 and 2020, but a continued drop meant new customer additions of 20 percent lower than those of 2019. At the same time, costs per new customer service installation rose by 54 percent between 2019 and 2022. Main costs per new customer installation rose dramatically as well, increasing by 79 percent from 2019 through 2021.

A significant drop in 2022, however, put the increase from 2019 at a more modest but still substantial 20 percent.

More importantly here, however, is the size of expenditures at NJNG. Management has made substantial and increasing expenditures to support customer growth; however, combined spending on replacements, system integrity, and special projects have proven significantly more substantial, with the last of these three categories by far the largest. Special projects have included:⁴⁹³

- SAFE, completed at an actual spend of \$130 million
- SAFE II, which followed SAFE and produced at completion \$157.5 million in actual spend
- NJ RISE, which produced \$71.1 million in actual spend
- IIP, which remains in progress and has produced \$56.1 million in actual spend through the first half of 2023
- Southern Reliability Link (“SRL”), placed in service in 2021, and which produced a spend of approximately \$275 million.

Storm and system hardening and resiliency factors following 2012 Super Storm Sandy generated a significant level of spending under such special project initiatives. For example, NJ Rise and subsequent infrastructure programs have included the installation of Excess Flow Valves (“EFVs”) on services that lacked them. These devices limit the venting of high-pressure natural gas into the atmosphere following building damage or destruction, a phenomenon observed at the time of Super Storm Sandy. The in-progress current IIP Program includes retrofit installations of approximately 8,000 EFV’s at a projected cost of \$20,000,000. NJNG reported that 300,798 of its 539,410 services had EFVs as of the end of 2021.

The last audit of this type found substantial variance among projects appearing in plans from year to year, with a number dropping off and others being added across a then-cited three-year future planning period. That report cited a number of reasonably small projects, like very short pipe replacements and work on regulators. Those types of projects often result from emergent circumstances. Others depend on third parties or on customer growth. The data presented above on expenditures for new business show the uncertainty faced in planning for capital additions to support growth, both with respect to work levels and locations, for a company facing comparatively high customer growth. That factor affects the tendency for projects to emerge, disappear, or experience timing changes in capital plans. Other, much more significant changes came on very large projects that more typically extend in time or, as in at least one major case here may not reach completion due to external circumstances. The *Contractor Performance – Main & Service Installation* Chapter of this report addresses changes on some of the larger projects. Overall, we did not find changes or inconsistencies in plans across future years lacking in explanation.

The last audit also found a lack of supporting material analyzing or justifying distribution system projects or growth and need date forecasts. That audit also found a lack of integration with other planning products, citing SAFE, infrastructure replacement, DIMP and IMP. The report cited a three-year horizon for capital work planning; our work showed information across a longer, five-year horizon. We found the documentation that supports plans appropriate on an overall basis, recognizing that some companies, particularly larger ones do provide additional documentation

beyond that added by NJNG since the prior audit. The prior audit also found a lack of “progressive system diagrams showing current system to future system configuration.” We found the documentation and the information provided by management in interviews sufficient to provide a reasonable vision of future system configuration and an identification of areas most substantially affected by capital plans.

10. COVID-19 Impacts

NJNG appears to have coped well with the work-disrupting consequences of COVID-19. Office personnel from Gas Control and Engineering still reported to their office locations, in some instances with physical separation of groups to minimize transmission. NJNG reported that it did not require waivers or exceptions to any of the regulatory requirements under which it has operated during the pandemic.⁴⁹⁴ Impacts in some areas, which included customer contact activities particularly produced backlogs remediated by year-end.⁴⁹⁵

11. Regulatory Oversight

NJNG must operate in accord with a number of sets of regulatory requirements with substantial implications for operations. The various operating groups and contractors fall under several sets of safety regulations including:

- New Jersey Administrative Code – Pipeline Safety Regulations (NJAC 14:6 & 14:7)
- New Jersey Underground Facility Protection Act – line locating and one-call center
- Federal Dept of Transportation DOT/PHMSA CFR Part 192 Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, which address natural gas transmission and distribution
- Federal Dept of Transportation DOT/PHMSA CFR Part 191 Transportation of Natural and Other Gas by Pipeline; Annual, Incident, and Other Reporting, which cover reporting requirements that include annual Transmission and Distribution System reports and incident reporting
- Federal Dept of Transportation DOT/PHMSA CFR Part 193 Liquefied Natural Gas Facilities: Federal Safety Standards
- Federal Dept of Transportation DOT/PHMSA CFR Part 199 Drug and Alcohol Testing
- OSHA excavation safety and general workplace safety regulations.

Part 192 and Part 193 make PHMSA the inspection and enforcement agent, allowing PHMSA to employ state pipeline safety group inspection and enforcement resources as agent, acting under its oversight. The BPU’s Pipeline Safety group acts as PHMSA’s inspection and enforcement agent in New Jersey.⁴⁹⁶ Normal circumstances produce at least one formal audit per year of an operating agent’s O&M plans (using PHMSA Form 2- Gas Distribution Inspection Form), with targeted audits of another area potentially added or substituted. Such audits may produce, among other actions, recommendations for change or improvement or more serious “NOPVs”. Our request for access to any written reports since 2018 produced the response that there have been none, indicating an absence of significant recommendations or NOPVs.⁴⁹⁷

Under Part 191, incidents requiring a DOT Gas Incident Report (distribution or transmission) or an NOPV indicating a pipeline safety regulation violation generally represent the most serious potential issues. DOT Incident Reports usually address gas explosions, ignitions, serious bodily

injuries, or significant costs (*i.e.*, greater than \$129,300, which comprises an increase from the \$50 thousand threshold formerly used). The next table summarizes more recent year NJNG Incident Reports.⁴⁹⁸

NJNG Part 191 Gas Incident Reports to PHMSA

Date	Brief Incident Description
3/25/2015	Gas leak; weld failure; building explosion; multiple injuries including NJNG employees
9/7/2016	Gas ignition while NJNG employee removing corroded service tee
12/10/2018	3 rd party excavation damage; gas fire; damage to 3 buildings
4/26/2019	Damage to gas service; house fire; arson
4/26/2019	Contractor directionally drilling to install main hit existing main; lost gas value exceeded \$50 thousand
3/31/2021	Downed electric line arcing caused main leak; \$234 thousand in property damage and lost gas

The BPU has issued three NOPVs, and fines have resulted from BPU activities over our study period. The next table summarizes them.

BPU NOPVs

Date	NOPV	Penalty
4/12/2018	Meter set atmospheric corrosion	Both on same meter set; \$3,000 fine
	Stresses on meter set	
9/20/2019	Steel main section without corrosion protection	Same segment of 1987 main, apparently cp missed, not clear if ever protected, \$28,000 fine reduced to \$14,000
	Corrosion protection not monitored	
	Failure to follow O&M manual	
12/22/2021	Atmospheric corrosion on meter set piping	\$5,000 fine
	Meter set piping partially buried	
	Failure to follow O&M for above/buried issue	

NJNG's three NOPV compliance actions during the review period comprised 3.6 percent of the 83 statewide actions over the same period. The resulting \$22,000 in fines comprised about two percent of the \$1,091,000 statewide fines during the same period.⁴⁹⁹ CFR Part 191 also requires notification to PHMSA of a Safety-Related Condition Report. These reports are required for conditions that are sometimes considered precursors to an incident or serious leak. Most often they are related to gas transmission vs. gas distribution. NJNG reported no Safety Related Condition Reports were filed during the review period.⁵⁰⁰ Another reporting requirement for problems or occurrences is the NJ BPU required reporting of other types of incidents, such as customer outages. There are reporting requirements under N.J.A.C. 14:2, 14:3, 14:4, 14:6, and 14:7.⁵⁰¹

These types of NJBPU reports can be primarily categorized as: One-Call Incidents, Interruptions of Service, Accidents/Incidents, and Other. The following Table shows the number of NJBPU reports by year for the review period:

NJNG BPU Reports by Year

Year	Number
2014	1
2015	9
2016	4
2017	8

2018	11
2019	8
2020	11
2021	13

The following Table reflects what type of reports were made for 2021:

2021 BPU Reports by Type

Date	Type of outage or incident	Description
4/14/2021	2 buildings ~20 people evacuated	3 rd party damage; mark-out accurate
9/28/2021	82 homes evacuated	3 rd party damage; mark-out accurate
3/7/2021	20 homes evacuated	3 rd party damage; facility not marked
6/29/2021	15 people evacuated	3 rd party damage; mark-out accurate
9/9/2021	115 people & school evacuated	3 rd party damage; mark-out not accurate
12/8/2021	damage & ignition	3 rd party damage; mark-out accurate
1/6/2021	Ignited broken service	3 rd party used torch to remove gas meter
9/7/2021	Structure fire involved gas	Gas not primary fire cause
10/7/2021	Road closed/~20 people evacuated	3 rd party damage; no mark-out request
3/21/2021	40 people evacuated	3 rd party damage; mark-out accurate
3/11/2021	3 buildings ~18 people evacuated	3 rd party damage; mark-out accurate
5/6/2021	25 homes evacuated	3 rd party damage; mark-out accurate
6/24/2021	~98 homes evacuated	3 rd party damage; no mark-out request

Our review of a sample of reports from each of the years found that most addressed circumstances similar to those summarized in the previous table. The majority involved damage to NJNG facilities caused by third parties. They also generally involved accurate mark-outs or lack of a markout request.

12. Operator Qualification

Essentially all operating groups fall under the DOT Part 192 Operator Qualification requirement, except for groups like Fleet Services or the Central Dispatch groups that do not perform hands-on gas system work (e.g., operating a remote-operated valve). NJNG uses the Northeast Gas Association Operator Qualification Plan template as do a number of gas operating companies in the region.⁵⁰² NJNG administers Operator Qualification through a central training group under Energy Delivery Support, rather than decentralizing responsibility among individual operating groups. Contractors, including the pipe installation contractors and utility locating contractors, receive copies of the NJNG OQ Plan under which NJNG expects them to operate.⁵⁰³

13. Drug/Alcohol Program

NJNG's DOT required Drug/Alcohol Program for pipeline safety personnel has operated under the direction of Human Resources, the location where it resides at most gas distribution utilities. Contractors must employ their own drug/alcohol program in a manner that meets DOT requirements. NJNG has the power to secure quarterly reports on the Drug/Alcohol program from each contractor.⁵⁰⁴

14. Key Goals or Metrics

Management employs 18 groups of Key Performance Measures that get reported to senior leadership and the boards of directors. Each group includes multiple measures. The first group most often reported, “Outcome: Incident-free delivery of products and services,” includes three measures specific to NJNG gas system safety:

- Leaks per mile of system
- Average emergency response time (minutes)
- Percentage emergency response < 60 minutes.

The following table shows recent-year performance under these three measures.

**NJNG Key Performance Indicators Relative to
“Incident-free Delivery of Products and Services”**

Year	2014	2015	2016	2017	2018	2019	2020	2021
Leaks/mile	.17	.14	.12	.11	.10	.08	.07	.06
Avg response time (mins.)	21.3	21.5	21.1	19.8	19.5	19.6	19.7	18.8
Emergency response <60 mins (%)	99.9	99.8	99.9	100	100	100	100	100

Lost-And-Unaccounted-For gas (“LAUF”) comprises another metric regularly tracked. LAUF includes losses through leakage and other sources, which include, for example, meter error, supplier meter error, and theft. Low contributors elsewhere can produce a negative value, as NJNG experienced in 2022. Consistent positive values (“losses”) of less than well below two percent places (as taken from U.S. DOT Annual Distribution Reports) NJNG’s losses at levels competitive as measured by industry experience.

NJNG LAUF

Year	%	Year	%	Year	%
2014	1.1	2017	1.01	2020	1.22
2015	1.1	2018	0.92	2021	0.79
2016	1.1	2019	0.92	2022	-0.51

C. Conclusions

- 1. The Energy Delivery organization has operated under a reasonably typical structure that accounts for, reasonably categorizes, and assigns all functions necessary for planning, designing, engineering, managing, and operating NJNG’s gas system.**

Four principal groups operate under the Energy Delivery organization’s top executive - - Gas Engineering, Gas Operations, System Enhancement, and Energy Delivery Support. Leads in these areas specifically and those whose work they direct more generally appear well qualified. The resources and the costs they drive for these personnel-heavy organizations have remained stable while producing, as the following conclusions generally show, performance levels that do not provide indication of significant gaps. There are significant numbers of pending retirements, but

management has demonstrated awareness of areas of particular vulnerability and is using measures to bring in resources in the affected areas, in order to develop experience as departures loom.

2. Staffing and therefore costs have remained fairly stable, but completion of the program for removing leak-prone facilities makes it timely to conduct an analysis of future operations staffing needs. (See Recommendation #1)

Leak response and repair typically consume a large portion of a natural gas distribution utility's field resources. NJNG has not substantially reduced field resources, even as it has steadily reduced the leak prone pipeline.

3. In reviewing changes since the last audit of this type, we found planning responsibilities soundly organized and no undue level of change in system plans from year to year.

Integration of planning responsibilities through careful interaction among groups, primarily engineering, as opposed to establishment of a separate planning organization is not atypical for gas utilities of a size and scope similar to NJNG's. Our examination of planning found it exercised in a reasonably complete manner and with sufficient scope and detail. Projects continue to change from year to year, but not to a level that raised apparent concern and not under circumstances suggesting a lack of sound analysis of the changing conditions that apply. NJNG employs a typical use of historical system conditions and expected changes in load.

4. System operations data and characteristics display overall a system that NJNG operates effectively.

Leak rates are low, leak prone pipe has essentially been eliminated, a transition from low pressure operation is complete and only relatively few inside meters remain. Documentation does not evidence material or recurring problems in complying with federal safety requirements and our review of NOPVs showed the same. Leak response metrics show consistently prompt response to leak and odor calls and the conclusions reached by first responders show no reason to suspect an uncharacteristically high rate of delivery system issues or problems. Leak backlogs have dropped very substantially from the rates cited in the last audit of this type. We found effective operation of the transmission system as well.

5. The numbers and natures of incident reports and NOPVs showed no reason to question the overall sufficiency of NJNG compliance with the principal sets of regulations that apply to the operation of its system.

This issue was a principal focus of conclusions and recommendations made in the last audit of this type in examining gas operations management. Over the ensuing ten years, enhancements have occurred. A review of Part 191 Incident reports to PHMSA found incident numbers sufficiently low and their nature lacking in seriousness levels to support our conclusion that no recurrent or systemic failings have been occurring. We found no NOPVs or fines issued as a result of these incident reports. With respect to BPU activities, one recurring issue, concerning meter sets, arose. However, given that NJNG's system employs more than 560,000 meters, we found no reason to find performance in need of material improvement.

The NJNG NOPVs identified during the review period have resulted from frequent inspections and other code enforcement activities. These three NOPVs comprise an unusually low number in our experience.

6. Management has also made substantial improvement in the documentation (e.g., procedures and manuals) that prescribe and guide its methods and activities in managing gas system operations, leaving only one area that we found in need of improvement. (See Recommendation #2)

The last audit of this type found a number of gaps in the content of procedural manuals and other guidance documents. Our review of them did not find major gaps; we found them reasonably typical of those we have observed elsewhere in terms of scope, content, and clarity. Moreover, the review of incident reports and NOPVs showed no substantial or recurring failures of procedures to address required subjects and in a satisfactory manner. The last audit undertook a very detailed review of specific procedure and manual content, an exercise that, given the improvements observed and the lack of adverse findings from outside reviews and examinations, we did not find warranted.

However, we did find a need for reinforcement of recognition and reporting of the meter related BPU NOPV issues for personnel that visit or respond to buildings or residences.

7. Essential completion of NJNG's program for replacing leak prone pipe places it in an enviable position relative to many of its peers, but there is reason to investigate the causes of what appear to be anomalously high leak rates on cathodically protected steel mains. (See Recommendation #3)

NJNG has largely completed a long term and high cost program to accelerate replacement of all cast iron and bare steel pipe, while eliminating its low-pressure system at the same time. Multiple special efforts (RISE, SAFE I & II, and IIP) have substantially enhanced system safety generally and its reliability and resiliency when facing large scale circumstances, such as those brought on by major weather events.

However, NJNG's corrosion leak repairs on cathodically protected steel mains is concerning; 88 leak repairs in 2021, 107 leak repairs in 2022. NJNG also reported 110 service corrosion leak repairs in 2021.

8. The large anticipated cost of the 25-year steel pipe replacement program invites a detailed, current review of alternatives, costs, and benefits. (See Recommendation #4)

NJNG plans to replace all 1,550 miles of pre-1970 steel pipe at an expected cost of over \$1 billion. Only one mile of unprotected steel pipe remains in operation on the system. The very large cost of the program warrants additional outside review to identify risks, means for mitigating them, and the comparative costs and benefits of alternative mitigation methods. The program's long duration and high costs call for operation from the outset under a well-developed plan that will balance costs and benefits and provide for a sound means for carrying out the extensive work involved. Reliance on the long-term Alliance contracts (addressed in this report's *Contractor Performance* - - *Main and Service Installation* Chapter) underscore the importance of ensuring sufficient

installation support at an effective cost. It may be that only a specific portion of this pipe population requires planned replacement.

9. NJNG has substantially reduced its backlog of pending leaks.

Benefitted by reduction in leaks from completion of its efforts to replace high risk pipe and driven by enhanced repair efforts, NJNG has since the last audit of this type markedly reduced the numbers of leaks pending repair. Backlogs of Grade 2 and Grade 3 leaks of 112 and 103 respectively for 2018 had fallen to 26 and 23 by 2021. The objective of same-day repairs on most leaks aids in keeping backlogs at low levels.

10. NJNG has continued to meet federal IMP compliance requirements for its transmission piping.

NJNG has conservatively identified all transmission piping in High Consequence Areas, conducting required smart pigging and recertifications. NJNG has remote operated valves on its transmission system.

11. NJNG has performed at or above targets and expectations for key system safety goals.

These goals include odor and leak call average time to respond and percentage of calls responded to in 60 minutes or less.

12. NJNG has continued to control LAUF gas effectively.

NJNG's LAUF has averaged about one percent, matching the average of the 161 distribution operating companies included in DOT reports.

13. NJNG operates a sound OQ program overall, but the current plan bears an unusually old date. (See Recommendation #5)

The plan is reasonably complete and includes reasonably rigorous checking of qualifications in the field. The OQ program does not have a mandated review cycle. NJNG's plan reflects only the 2016 Rev K Northeast Gas Association Operator Qualification Plan.

14. NJNG is not operating under the current reportable incident threshold for DOT reportable incidents. (See Recommendation #6)

For Drug and alcohol program purposes, \$122,000 in damages operates as the threshold for reportable incidents and associated triggers for requiring drug and alcohol testing. NJNG uses that threshold for other required purposes but has not updated it for drug and alcohol program purposes.

D. Recommendations

1. Conduct a study of future resource needs to optimize staffing. (See Conclusion #2)

The system needs are different now that leak prone pipe has been replaced. Response times are very strong, however attention to optimizing them is in order.

2. Reinforce recognition and reporting of meter issues such as those identified as recurring through BPU NOPVs. (See Conclusion # 6)

The means and content for such reinforcement are subject to direct and simple formulation and should be periodically provided to personnel who observe meter sets for any reason. Examples of those reasons include leak surveys on service lines, meter reading, utility work at the premises, and sometimes even line locating.

3. Perform a detailed examination of the high rate of leaks on cathodically protected steel.
(See Conclusion #7)

It is not uncommon to find corrosion leaks on cathodically protected steel occasionally, particularly in the case of older vintages such as those NJNG employs. However, the number of leaks is sufficiently high to require a detailed analysis of the causes. This examination is particularly important in light of the \$1 billion or more replacement program contemplated by management. Therefore NJNG should commission the same type of expertise required to execute the next recommendation comprehensively and objectively.

4. Undertake and make available to the BPU a complete cost/benefit study addressing the 25-year plus \$1 billion-dollar total pre-1970s steel pipe replacement program. (See Conclusion #8)

Leaks on cathodically protected steel pipe are generally not common, but do exist. Moreover, the number of leaks that NJNG has experienced on them are high. We find very unusual such a large-scale, expensive program to replace such a large class of steel pipe, essentially all of it cathodically protected. Management should commission outside expertise to examine fully the causes of the leaks it has been experiencing and the full range of measures that exist for mitigating them. An investment of more than \$1 billion clearly has major implications for rates, making BPU and stakeholder visibility on the results of that examination important.

NJNG should commit to and complete that study at the earliest opportunity that will allow a well-developed and complete basis for addressing the merits of the various solutions that exist for ensuring safety at efficient and effective cost.

5. Review and update the OQ plan. (See Conclusion #13)

If management's intent is to remain current with NGA with respect to its OQ plan, a review of the plan contents is in order. Even if not, plan review more frequently should take place and be documented.

6. Change the Drug/Alcohol policy property damage trigger to the current \$122,000 DOT 191 threshold. (See Conclusion #14)

7. Assign NJNG's Manager of Gas Control as the designated member of the Northeast Gas Association Gas Control Committee.

This manager has taken part in a recent New York Facility Group gas control workshop, but would benefit significantly from participating as well in annual NGA winter gas-control drills. The NGA Gas Control Committee focuses on the Northeast region distribution operating companies and pipeline suppliers. Contacts there can prove valuable in supply events involving NJNG. The NGA annual drill normally involves a supply event in the area and tests how operators in the region can

mitigate or help other operators. Familiarity with NGA resources and other local NGA Gas Control groups can prove valuable.

Chapter XIII: Contractor Performance – Main & Service Installation
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Chapter XIII: Contractor Performance – Main & Service Installation

A. Background

This chapter addresses the management of contractors that NJNG employs to construct facilities as part of system replacement and expansion work. NJNG relies on a formal and multi-year alliance with two contractors to perform most of its construction work. This section discusses the design of the alliance contract, the motivation behind the alliance, the 2021 extension of the alliance, and the 2021 rebid process through which NJNG extended its alliance contract with the same two contractors for 10 years.

B. Findings

1. Alliance Contractors

NJNG employs two “Alliance Contractors;” J. F. Kiely Construction (“Kiely”) and Gray Supply Corporation (“Gray”) operating under similar contractual terms to perform most routine main and service installations to expand service or to replace facilities. NJNG has divided work between the two across its service area. Gray works in the Northern, Bay, and Central Divisions, and Kiely works in the Bay and Central Divisions. Both Kiely and Gray work in the Ocean Division. The scope of the agreements focuses substantially on 6” diameter and less main and service installations and replacements.

NJNG’s objectives in taking this approach have been to assure consistency in contractor work forces over time, to seek a collaborative arrangement with its providers, to produce high quality work, and to do so at fair prices.⁵⁰⁵ NJNG places substantial value on the “strategic partnership” that long-term relationships produce under its alliance approach. Management cites cost, quality, safety, and customer satisfaction as important elements of the “value” of these relationships and considers the consistent volume of work contractors can expect as a key factor. Management also believes that contractor profits that vary with performance success levels, repeated interaction and strong communication links and collaboration built over time, contribute as well.⁵⁰⁶

The contract arrangement for these alliance contracts began in 2001 with a term of 10 years.⁵⁰⁷ NJNG extended the contract for an additional 10 years. With that extended term ending, NJNG further extended it through the end of 2022, by which time management expected completion of a long-term contract under a rebidding process. That rebid process produced alliance contract refreshment with the same two contractors.

The scope of Alliance Contractor work for NJNG extends somewhat beyond new and replacement main and service installations. The two contractors also provide additional support to NJNG as needed for other capital and O&M work. Management cited its ability to call out alliance contractor resources to support NJNG crews (e.g., providing excavating equipment) dispatched for emergency leak repair or replacement work. Alliance contract terms cover such situations and provide expected maximum contractor response times. NJNG reportedly uses the Alliance Contractors for the majority of both regular and emergency installation work.⁵⁰⁸

We have found it common for gas distribution utilities to contract much if not nearly all work like that performed by the two Alliance Contractors for NJNG. Some companies perform some of this work with in-house resources, generally at levels that increase as the size of their systems increase. It is common for companies of NJNG's size to rely predominately on a fairly small number of firms with which they have long-term "partnering" agreements subjected periodically to competitive solicitations.

The next table summarizes recent year expenditures on the two capital Alliance Contractors by fiscal year (in the case of NJNG at the end of September). The 2023 entries include costs through the fiscal year's 11 months.⁵⁰⁹ The table shows expenditures exceeding \$1 billion for the period, underscoring the importance of managing them carefully.

Alliance Contractor Spend
(confidential table)



Dollars in millions

NJNG solicited bids from the two existing Alliance Contractors and four other contractors for alliance participation as the 2021 end of the alliance contract's term approached. Three of those four alternatives were as large, or larger, than Gray and Kiely and have performed substantial natural gas installations in the region. One of those three contractors moreover is one of the largest multi-region natural gas utility installers. The fourth was very small. Management eliminated two of them (the multi-region firm and the small firm) based on exceptions they took to standard NJNG terms and conditions. Management's review of the remaining alternatives to Gray and Kiely considered factors such as proposals, interviews, and reviews of safety records, key company information, and experience. NJNG determined that only Gray and Kiely met all expectations, deciding therefore to negotiate only with them.⁵¹⁰ A new alliance contract with a 10-year term resulted.

The refreshed alliance contracts will extend for roughly another decade. It was not part of our mission in performing this forward-looking audit to revisit the circumstances and decisions surrounding the entry of arrangements that have become fixed. Neither did we examine whether, in hindsight, different arrangements would or could have produced better results. We have, however, addressed the potential implications of management's contracting approach for the future.

2. Use of Time & Materials Pricing

Companies like NJNG have largely used three principal means for compensating providers who perform work like that of the two Alliance Contractors:

- Lump-Sum pricing, which provides a fixed amount of compensation based on a defined work scope, with increased compensation available when circumstances outside that scope occur
- Unit cost pricing, which provides compensation at fixed rates for each unit (*e.g.*, foot of 2” pipe installed using open trenching in a public way requiring repaving) installed, with opportunity for increased compensation when conditions not anticipated occur (*e.g.*, rock where design documents expected soil; discovery of an underground obstruction or unexpected nearby utility facilities of other providers)
- Time and Materials (“T&M”) pricing, under which contractors receive compensation for all direct (*e.g.*, labor) and indirect (*e.g.*, truck hauling, flagging) costs reasonably required to complete work and subject to review by the client.

The two NJNG Alliance Contractors have predominantly worked under T&M pricing, billing the utility for those direct costs, with allowed adders, such as labor loaders and payroll taxes, for example.

3. Alliance Contract Cost Markups

The alliance contracts also offer the two contractors an opportunity to earn a performance-based markup to give them a margin above their out-of-pocket costs. This margin, expressed as a percentage, undergoes quarterly recalculation based on performance.⁵¹¹ NJNG establishes cost targets per foot, tracking the work performed on the basis of footage. Separate targets for each division exist for installation type. This approach produces some 40 targets, five each for four areas (Northern, Central, Bay, and Ocean) and based on pipe size and types (*e.g.*, replacement versus new business).⁵¹²

Cost targets set for all work types using a Cost Containment calculation use actual performance from the previous year, with no inflation or other cost escalators introduced. Targets for the Ocean Division, where both contractors work, employ the lower of the unit costs experienced by the two in the prior year.⁵¹³ Thus, while actual costs form the basis for most elements of Alliance Contractor compensation, performance against these targets determines the profit percentage markup.

Many companies like NJNG have moved away from T&M pricing as a general approach over time, under the belief that unit cost pricing often provides for greater control of costs for work with reasonably well-defined scope. Their use of T&M pricing focuses on less common occasions (*e.g.*, for underground vaults or regulator stations) where scope uncertainty proves greater. The alliance contracts have also covered work like regulator stations, employing their normal T&M pricing basis.⁵¹⁴ NJNG’s use of targets to determine profit markups adds an efficiency inducing factor, using unit-based targets to drive those markups. The lack of an escalation factor (other than resetting targets each year using prior year performance) further encourages cost efficiency. The

██████████ has been subject to ██████████. Quarterly calculations determine where in the range the amounts fall. Those

calculations compare contractor actual costs against cost targets for work on identified “cost containment units.”

A separate financial inducement for Alliance Contractors has been available in the event that costs fell below a trigger amount based upon a series of unit costs targets. The targets have not been met at all during the review period and have therefore produced no incentive payments. The recently refreshed alliance contract adds the potential for financial penalties for failure to meet applicable targets. Measures used to calculate the incentives, each of them given a numerical weight, have included: Customer Satisfaction, Documentation, Stores & Inventory, Safety, Productivity, and Quality.⁵¹⁵

4. *Installation Contract Cost Experience*

Service installation costs have risen sharply since 2020, as the next table summarizes. The table also shows that internal NJNG crews install some services, albeit with far less frequency than do the Alliance Contractors.⁵¹⁶

Service Installation Cost Summary (confidential table)

A large black rectangular box redacting the content of the table.

COVID-19 work conditions and ensuing escalation in costs (e.g., diesel fuel and asphalt) drove significant cost increases throughout the industry. Alliance Contractors still recovered most of their costs despite the increases. They did, however, experience erosion in profit markups, because trailing costs not adjusted for escalation drove those markups. The preceding table shows continuing increases in costs despite a substantial reduction in the number of new customers, which produced a nearly two-thirds increase in unit rates. The data point to the need for careful analysis of how to optimize the balance of work between Alliance Contractor and internal crew use and of ensuring that Alliance Contractor unit costs remain competitive. Our review showed that Gray has generally invoiced almost twice as many hours as Kiely on an annual basis. ⁵¹⁷ effective rate appears to have .

Periodic solicitations of bids that include non-Alliance Contractors provide an important source of intelligence regarding competitiveness of Alliance Contractor costs. NJNG has made limited use of that approach for work similar in scope and pricing to that covered by the alliance contracts. One occasion did however produce a contract with a different firm in 2023.⁵¹⁸ That occasion arose through a project located in Morris County in NJNG’s Northern Division.⁵¹⁹ We compared the actual costs of that project with alliance agreement target prices after adjustments to make them more directly comparable. That comparison demonstrated significantly lower service installation costs under the 2023 Morris County bid prices.

The work does not appear to have generated significant additional charges. NJNG did, however, indicate that the Morris County awardee has not met the proposed schedule, with work completion expected in the first quarter of 2024. NJNG indicated no consideration for a similar bidding was planned for beyond this single 2023 solicitation. We are not aware of further, similar solicitations for comparable work under the alliance contract.⁵²⁰

Northern Division's Morris County has produced the [REDACTED] in the NJNG serving area, with main and service [REDACTED]. In the Ocean Division, [REDACTED]

The next table shows actual versus budgeted costs for the SAFE and SAFE II special infrastructure programs performed over the course of our study period. The Alliance Contractors performed most of the outside contract work on the programs. Actual costs conformed closely to budgets reviewed and approved for them. A third program, NJ RISE, showed a large underspend against budget; as technical issues prevented completion of the Long Island Beach Project. The Infrastructure Investment Program ("IIP") remains in progress.⁵²¹

Infrastructure Program Spending vs. Budget

Program	Budget (\$M)	Actual (\$M)
SAFE	\$130.0	\$130.0
SAFE II	\$157.5	\$157.5
NJ RISE	\$102.5	\$71.1
IIP	\$150.0	\$56.1

5. Oversight of Installation Contractors

NJNG Gas Engineering has responsibility for scheduling and field oversight of the Alliance Contractors.⁵²² NJNG project priorities serve as a principal driver of schedules for work performance and completion.⁵²³ Engineering Contract Coordinators routinely review work schedules with contractors but consider work efficiency in providing contractors with flexibility in completing installations.⁵²⁴

6. Work Quality

NJNG operates a formal quality inspection program for its contractors. NJNG's written SOME plan documents job site overview and contractor re-inspection programs. Inspectors use a cloud-based software application to record inspection findings.⁵²⁵ A review of a sample of completed inspection forms found them comprehensive.⁵²⁶ NJNG also conducts a post installation "re-dig" program, under which management chooses random dig locations to verify installation integrity. Contractors perform the re-digs which contractor and NJNG representatives witness.⁵²⁷ Management also reported that while not required, both alliance contractors also conduct their own safety inspections and site audits.⁵²⁸

Management noted that the BPU Pipeline Safety group performs some 125-130 installation field visits yearly.⁵²⁹ Management reported no NJNG NOPV's during our review period as resulting from contractor performance or installations.⁵³⁰

NJNG has set up a fully electronic billing and documentation system with the Alliance Contractors. The contractors submit the required T&M entries with supporting documentation detailing installation types and quantities, and providing as-built information where required. Accounting personnel review contractor submissions, compare billed amounts to as-built or other verifying documentation, compare billed amounts to original work orders to verify that billed units match or are sufficiently explained, and process payments for fully justified billings. Discrepancies noted by this process undergo review and reconciliation. Tracking of Alliance Contractor performance includes documentation timeliness and accuracy as a performance measurement category.⁵³¹

C. Conclusions

1. Overall, NJNG has appropriately balanced field work between internal and external resources.

We found the division of field work between contractors and internal employees typical for a gas distribution utility of NJNG's size. NJNG relies predominantly on its two alliance contractors for the performance of maintenance service installations. Particularly for a company of its size, a relationship approach with contractors who perform such work provides a framework that ensures the availability of qualified resources as workloads change from season to season and from year to year. Additionally, securing a commitment to support company crews when called out helps to ensure effective response to emergency and other upset conditions.

2. Reliance, however, on the very long-term relationships that exist with the Alliance Contractors with such infrequent testing of the market does not provide sufficient assurances that NJNG receives effective costs for securing performances that meet company timeliness, quality and relationship objectives. (See Recommendation #1)

Placing substantial weight on the advantages that a relationship or partnership arrangement can produce for major contractors is not uncommon. However, the length of the recently refreshed alliance contract term specifically and the relationship with the two contractors more generally here is particularly long. Kiely has performed pipeline and regulator station construction work for NJNG affiliate Adelphia Gateway LLC, an 84-mile eastern Pennsylvania interstate pipeline owned and operated by NJR Midstream. Work for affiliates increases the importance of demonstrating the arm's length and market competitive nature of work performed for NJNG.⁵³²

NJNG's legacy alliance contracts (one for Kiely, one for Gray), or the new Alliance Agreements or Contractor Services do not bar work by other providers on similar projects. Pricing, like substantive contract terms and conditions, is neither simple nor straightforward in high value, high consequence relationships like those that main and installation contracts involve. Extending an opportunity to negotiate with other offerors, which NJNG appears not to have done in connection with the recent refresh, would have produced an ability to see what progress could have been made with respect to negotiating those terms and conditions. More importantly, NJNG could then balance the risks of any term and condition noncompliance against all of the other factors

(including pricing) warranting consideration and then make a decision after all elements of the offers, including costs and standard company terms and conditions were considered together.

A segmented approach that makes decisions on the basis of single factors, such as compliance with solicitation terms and conditions can fail to produce such optimization. At least some excluded offerors in the refresh process have substantial experience in working with utilities, which would ordinarily bring flexibility in addressing all material terms and conditions, not just pricing and costs.

A more inclusionary approach to assessing complex offerings such as those received in the solicitation that led to a refreshed alliance contract would have provided more certainty that the awards made would over the long terms of the arrangement have proven more likely to produce optimum results in balancing timeliness, quality and cost, while considering the value that NJNG places on the relationship and partnership aspects involved. Specifically, it appears that management precluded multiple offerings from credible firms on the basis of offer nonacceptance of some Company standard contract terms and provisions, *i.e.*, without considering the other elements of their offer particularly costs. Notably, management did not accept the cost provisions as offered by its two long-term alliance contractors, instead choosing to negotiate them; *i.e.*, their initial offers did not meet with company acceptance as proposed initially. It is not clear why, with such negotiations still remaining, terms and conditions could not have been negotiated as well with the other competitors before making a final decision on price terms and conditions and other factors.

The introduction of solicitations open to others during the term of the alliance contracts would also allow NJNG to examine other pricing bases, such as unit prices, which we have found to have become more common for main and installation work in some circumstances.

3. NJNG has not made sufficient use of installation contractors other than its alliance partners to test and ensure the competitiveness of prices it receives from those two firms.
(See Recommendation #2)

The preceding recommendation addresses the shorter term measures available during the remaining decade or so of alliance contract term effectiveness. This recommendation focuses on longer term means to ensure optimum contracts with main and service installation contractors as well as any more immediate occasions that may arise for making sizable commitments to outside contractors.

Despite its very long term, the alliance contracts do not prohibit work with other contractors. Limiting the amount of work performed under the contracts was a subject of the recommendations of the prior management audit of NJNG. Management has the opportunity to undertake much more substantial use of other contractors at levels and in certain ways to ensure that the prices from its alliance contractors are effective. The use it has made of other contractors has proven too limited to provide a sufficiently robust test of market competitiveness or a strong enough signal to the Alliance Contractors that NJNG will use other alternatives where appropriate for price and costs or other reasons.

The 2023 Morris County bid shows the value of information that can and should be gained through consignment of a material portion of main and installation work to open solicitations. No one project can support conclusions about overall cost competitiveness, but the results of the Morris County 2023 solicitation reinforce the already clear value in more extensive use of competitive solicitations, particularly given the very large cost premium for work in NJNG's Northern Division.

4. Rising costs since the onset of the COVID-19 pandemic and the large premium for work in Morris County underscore the importance of increasing the use of competitive solicitations for main and service installation work over the many years that the alliance contracts will continue to run. (See Recommendation #2).

NJNG's new business service costs have increased significantly from 2018 to 2022 and work in Morris County produces a very substantial cost premium as compared with the rest of the service territory.

5. NJNG has an effective quality control program in place for its Alliance Contractors.

Management's activities involve inspections, documentation of their results, assigning contract consequences upon finding deficiencies, and use of post-construction "re-dig" sampling to verify proper installations. The lack of NOPVs or other consequences associated with the more than 100 field inspections that BPU personnel perform annually provides further indication of the quality of the work performed.

D. Recommendations

1. In the long term, institute a more inclusive and robust process for securing important long-term resources under contract, such as those for main and service installation. (See Conclusion #2)

NJNG should adopt a policy that clearly calls for maximizing participation of possible providers when securing outside services, particularly those as large and complex as main and service installation. Solicitations should clearly set forth all factors that will be considered in order to give offerors full knowledge of how to form their submissions. Given the multiple factors that such contracting involves and the need to balance them carefully, NJNG should avoid up front elimination of offerors that have presented a sound foundation evidencing their capability of performing quality and timely work.

The last comprehensive management audit of NJNG made recommendations regarding the alliance contractors and the bidding of installation work. The recommendations addressed limiting the amount of alliance contract construction expenditures relative to total construction spend, increasing competitive bidding activity for pipeline construction, and comparing or benchmarking competitive bids or other information to cost of work by Alliance Contractors. NJNG provided, following that management audit, information overiewing the alliance program comparison employing 2012 costs. The information provided addressed costs using in house and a traditional contracting approach in comparison to those under the alliance approach, finding the latter least cost. Apart from other limitations the study is now more than 10 years old and, in any event, does not provide the quality of information that competitive solicitations do.⁵³³

NJNG did solicit bids in refreshing the alliance contracts, but not in as robust a manner as we have seen used elsewhere or in a manner fully conforming to the recommendations of the prior management audit.

- 2. In the immediate term, as the alliance contracts continue, set substantial goals for contracting with providers other than the existing alliance contractors, ensure meeting them, and assess results in determining the level of work it continues to give it's alliance contractors across the remaining term of those agreements. (See Conclusion #3)**

Management should set annual goals for contracting minimum amounts in each substantial area on which it relies on its alliance contractors. Those goals should be higher over the first two years. We consider a goal of a quarter of the work that would otherwise be performed by the alliance contractors as appropriate for the first two years with adjustments either up or down as market knowledge expands. Those solicitations should also cover the range of all types of alliance contractor work that produce substantial costs. They should also explore the use of unit price contracts where work scope size and definition permit.

Management should carefully analyze all aspects of performance, including but not limited to costs, in seeking to validate that alliance contractor costs are competitive. Should they not prove competitive, management should either work with the alliance contractors for cost improvement or increase the contracting values with competitors. As a result of the last audit, management prepared a study of comparable costs. That study was not sufficient in comparison to actual market testing to validate the competitiveness of relationships that produce such large costs and over such a long term with such a limited group of providers.

***Chapter XIV: Contractor Performance – Underground Locating
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Chapter XIV: Contractor Performance – Underground Locating

A. Background

Excavation damage has proven the leading cause of natural gas distribution pipeline incidents nationwide. New Jersey law requires anyone digging to call 811 - New Jersey One Call (“NJOC”) at least three full business days prior to beginning work to request a mark-out of any underground facilities. Professional excavators can also request mark-outs via the Internet Ticket Processing (“ITIC”) tool on the NJOC website. NJOC, a state-regulated, non-profit organization comprised of public utilities and municipalities in the State, functions as a one-call notification system to notify owners of underground facilities before a proposed excavation. The NJOC program has played a crucial role for 30 years in helping utilities prevent service interruptions resulting from excavation damage.

The BPU oversees and enforces compliance with the “One Call Law,” enacted in October 1994. The BPU has developed and established mark-out standards, encouraged outreach and education, and pursued enforcement actions against those in violation.

Contractor mark-out technicians employ NJNG’s Geographic Information System (“GIS”), service records, and detection equipment to identify existing gas lines. Placement of flags, paint, or stakes then marks the gas lines, following New Jersey Administrative Code (“N.J.A.C.”) guidelines and NJNG mark-out standards. An electronically transmitted sketch records the details of mark-outs. Parties requesting these mark-out services have received, as mandated by the BPU starting in 2022, email notifications confirming that the facilities have been located and marked.

Utilities can effectively use contractors to provide a supplement to company resources short-term (e.g., for seasonal peak workloads), or, as with mark-outs, to secure specialized skills and services economically. Proper management of these contractor resources ensures efficient and effective compliance with established standards and procedures. Utilities must also guarantee that underground locating contractors adhere to the regulations outlined in the New Jersey One Call Law.

Company supervisors overseeing contractors should consistently adhere to clearly defined responsibilities and processes, which involves using appropriate supporting tools to enhance oversight and ensure the desired standards of quality, value, and safety.

B. Findings

1. Organization and Staffing

The System Enhancement department, led by the Director of System Enhancement, has responsibility for managing NJNG’s underground locating activities. Established in 2007 under this department, a manager and four damage prevention specialists staff the Damage Prevention and Safety Awareness group, which supervises the operations and performance of a third-party contractor that performs NJNG’s underground locating. The Damage Prevention and Safety Awareness group also provides assistance for trouble locates, monitors NJOC mark-out requests,

investigates mis-marks, addresses complaints and damages, submits damage reports, and handles inquiries from the BPU. A separate organization manages contractor invoice reconciliations.

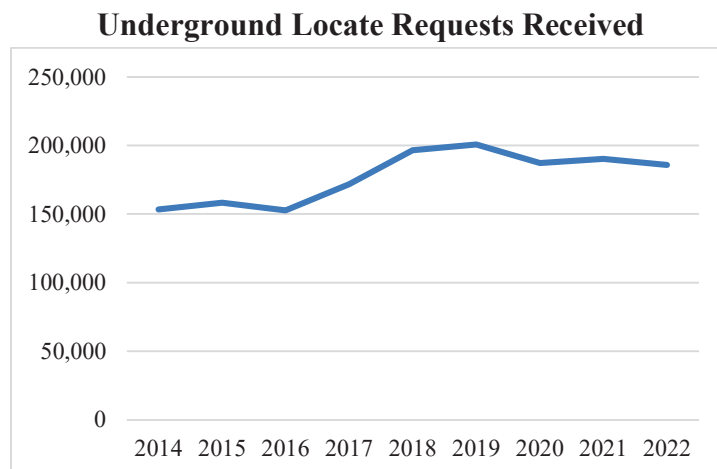
The locating contractor responsible for all mark-outs within the Company's service territory has operated under a contract that extends until December 30, 2025.⁵³⁴ Execution of this contract resulted from a formal request for proposal process managed by NJNG's Supply Chain organization. Bid evaluation criteria considered factors that included prior performance, bid price, and safety risks.⁵³⁵ The agreement specifies a fixed rate for each locate. The contract excludes payment for late mark-outs; *i.e.*, those completed after a three-day business period for regular locating requests or after two hours for emergency requests. Additionally, the contractor bears responsibility for any damage or costs resulting from incorrect or delayed mark-outs.

2. Contractor Performance

Performance measurement of underground locating contractors helps mitigate potential risks by identifying patterns of inaccuracies or unsafe practices, allowing for timely corrective actions. It also contributes to operations efficiency by minimizing disruptions and reducing repair costs associated with damage. Measurement also provides insights for continuous improvement, refining procedures, and adapting to industry changes, allowing contractors to stay current with safety guidelines and industry best practices. KPIs should focus on the effectiveness and efficiency of contractor resources including mark-out accuracy, timeliness, quality, compliance, and customer satisfaction. The data collected enables informed decision-making, influencing choices related to contractor selection, contract renewals, and procedure adjustments.

NJNG annually reports pipeline statistics, including damaged facilities and requests received for underground locating, to the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration ("PHMSA"), in accordance with PHMSA's pipeline safety regulations. Data from these reports enables tracking of trends and root causes in pipeline facility damage.

From 2014 to 2021 NJNG experienced a 21 percent growth in the number of underground locating requests as the next chart illustrates. The slight decrease observed in 2020 likely was influenced by reduction or delay in construction work during the COVID 19 pandemic.



Over the same period, NJNG's damages per 1,000 requests performance improved steadily then increased in 2020 as the next table and chart shows. This effectiveness metric comprises an established industry benchmark; it measures the rate of damages relative to the number of locates conducted. The metric provides an important indicator of overall mark-out accuracy and damage prevention performance. A reduced damages per 1,000 request rate signifies a heightened accuracy in underground mark-out activities.

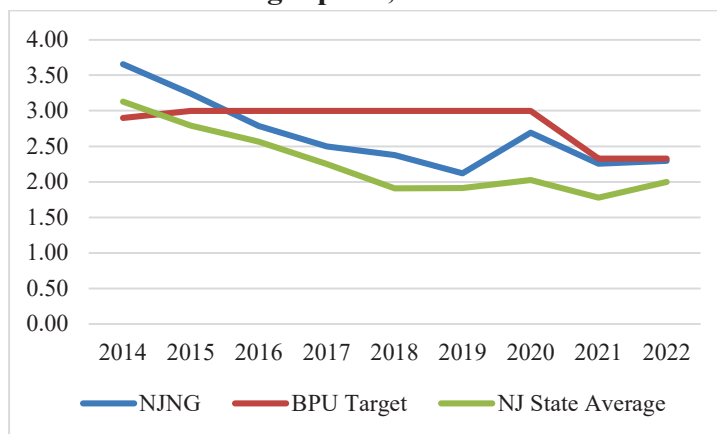
NJNG Locate Requests

Item	2014	2015	2016	2017	2018	2019	2020	2021	2022
NJNG Requests for Mark Out ⁵³⁶	153,429	158,217	152,901	171,820	196,448	200,878	187,235	190,322	185,874
NJNG Damaged Facilities	561	513	426	429	467	426	504	429	427
NJNG Damages per 1k Requests	3.66	3.24	2.79	2.49	2.50	2.12	2.69	2.25	2.30
State Damages per 1k Requests ⁵³⁷	3.1	2.8	2.6	2.2	1.9	1.9	2.0	1.8	2.0
NOPV Settlements s ⁵³⁸	\$78,000	\$57,000	\$123,000	\$39,000	\$75,000	\$9,000	\$9,000	\$111,000	\$81,000

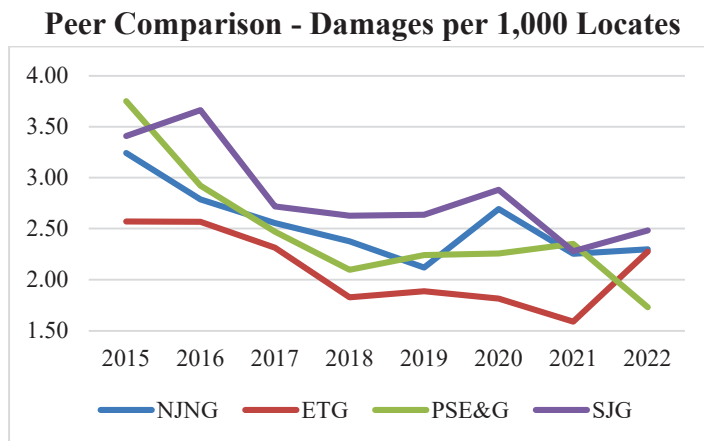
Highly accurate mark-outs prove essential in preventing damage during excavation, in ensuring worker and public safety, and in preserving infrastructure integrity. Other metrics such as response time, completion time, and incident rates have importance as well, but accuracy remains most foundational. It directly correlates with the primary goal of preventing damage and ensuring the reliability of underground infrastructure.

NJNG has consistently kept its damage rate below the annual target set by the BPU since 2016, but has reported a damage exceeding the state average, as illustrated in the next chart. NJNG compares favorably to industry damage rate trends published by the Common Ground Alliance ("CGA"), an industry consortium dedicated to reducing infrastructure facilities from excavation. Nationally, damages rose 9.34 percent from 2021 to 2022; NJNG's damage rate increased by only 2 percent during the same period.⁵³⁹

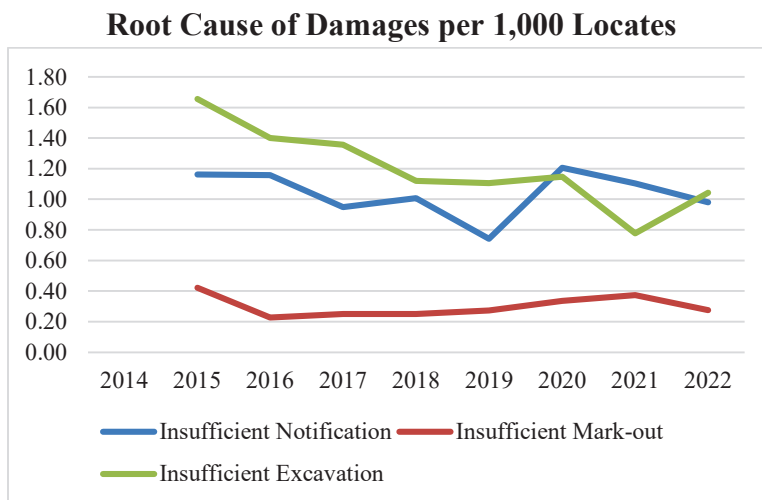
Damages per 1,000 Locates



A peer comparison with other NJ LDCs has ranked NJNG consistently in the middle; *i.e.*, second or third place in damages per 1,000 locate requests from 2015 through 2022, as the next chart shows.



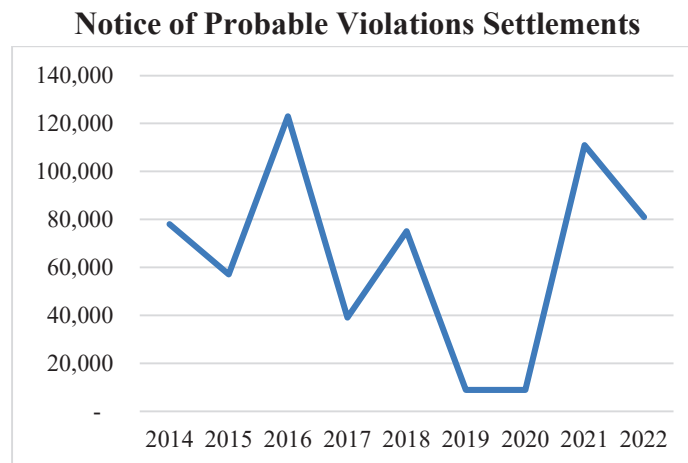
PHMSA tracks root causes of excavation damage using indices that measure three different sources of insufficiency: notification, mark-out, and excavation. Analysis of root causes for reported excavation damage reveals damages resulting from insufficient notification practices; *e.g.*, when NJOC does not receive a mark-out request or receives a request with incorrect information. This cause accounted for 43 percent of total damages. This category showed a decline from 2015 to 2019, but experienced a significant increase in 2020. Damages attributed to insufficient excavation practices accounted for 45 percent of total damages and significantly decreased through the audit period. Damages rates linked to insufficient underground locating and mark-outs, accounted for 12 percent of total damages in 2022, gradually increasing from 2016 to 2021 and then declining in 2022. The next chart summarizes this data.⁵⁴⁰



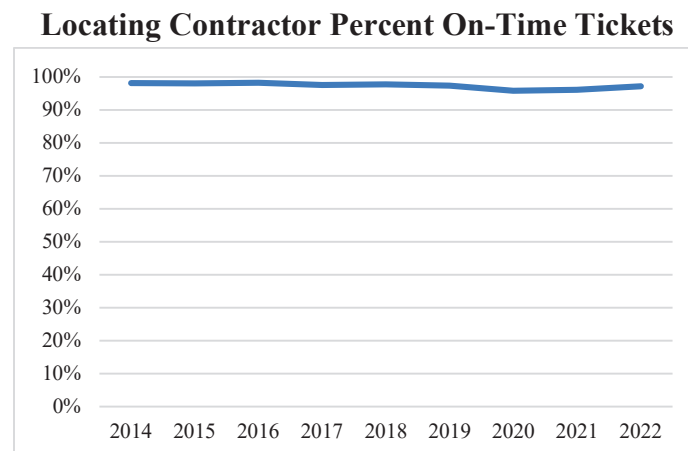
The BPU has authority to issue a Notice of Probable Violation (“NOPV”) for suspected breaches of its regulations concerning underground facilities damage prevention (see New Jersey Administrative Code Title 14, Chapter 2). Such an NOPV details the circumstances of the

suspected violation, specifies the infraction and its associated penalty, and might propose a settlement or compromise. Upon receiving feedback from the utilities, the BPU can resolve the NOPV informally or by entering into a settlement agreement approved by the Board.

NJNG has disbursed \$582,000 in settlements to address NOPVs concerning purported breaches of the BPU's Underground Facilities regulations since 2014. The underground locating vendor covers the costs of these settlements for the company. The following chart indicates peaks in NOPV settlements during 2016 and 2021, while management required minimal settlements in 2019 and 2020.⁵⁴¹



The next chart summarizes the locating contractor's on-time performance during the audit period, as measured by the number of regular tickets completed within 72 hours and emergency tickets within 2 hours.⁵⁴² NJNG's locating contractor's on-time performance has decreased by only 1 percent over the audit period, impacted slightly during the pandemic years. The Damage Prevention Group returns late tickets to the locating contractor for review and identification of corrective actions needed to meet on-time goals.



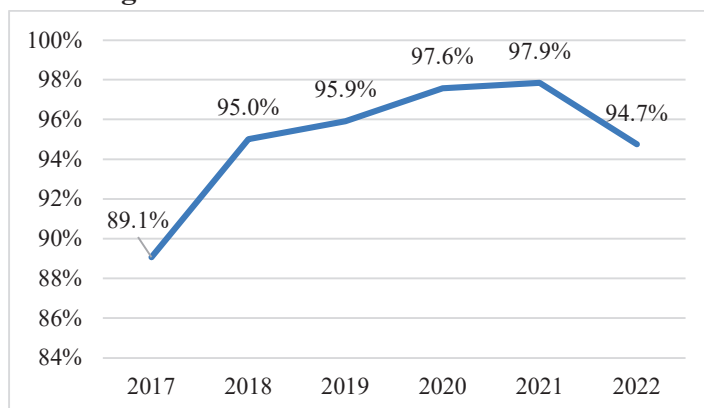
Management does not track complaints received from excavators and property-owners relating to underground locating tickets completed by the locating contractor.⁵⁴³

3. Quality Assurance

Underground facility operators like NJNG should implement a quality assurance program focused on overseeing the accurate, timely, and safe locating and marking of facilities. Such programs should address elements that include precision, punctuality, completeness, documentation, and safety protocols. Quality assurance audits play an important role in safeguarding underground facilities. NJNG's Damage Prevention procedures mandate quarterly audits of all contractor mark-out technicians and an annual assessment of the contractor's operator qualification records.

NJNG management has since 2017 assessed operator qualifications and executed field audits of locating contractor mark-outs to ensure adherence to established standards. The Damage Prevention Group has responsibility for conducting these field audits. The group aims for four audits per technician each quarter; *i.e.*, comprising one direct face-to-face observation and three unannounced audits the following day. Between 2017 and 2022, Damage Prevention Specialists carried out over 4,100 mark-out audits, averaging nearly 700 annually. The passing rates for these audits exhibited a consistent upward trend from 2017 to 2021, experiencing a marginal decline in 2022, as depicted in the next chart.⁵⁴⁴

Locating Contractor Mark-out Audits - Pass Rates



Management promptly delivers audit feedback, with recommendations for supplementary training and mentoring for technicians not meeting audit criteria. The Damage Prevention Group actively participates in contractor tailgate meetings and damages-related roundtable discussions with contractor technicians as necessary. The company retains the prerogative to mandate retraining for a technician following one attributable damage incident, and technicians accruing three damages within a year are relieved of mark-out duties.

An additional quality control measure comes through the NJNG mandate that its alliance construction contractors conduct a “verification of all natural gas facilities” before commencing excavation. In instances of absent or inaccurate markings, the alliance contractor must notify the company, triggering an investigation by Damage Prevention specialists to determine and implement corrective actions.

4. Education and Outreach

Effective communication about the 811 program comprises another essential element of a sound underground facility damage prevention strategy. Offering reminders and educating both the public and contractors about the significance of dialing 811 before excavation helps to minimize potential damages and enhance safety.

NJNG's Distribution Integrity Management Plan ("DIMP") includes a Public Awareness Communications Plan focusing on initiatives to enhance public awareness about the One Call notification system, potential hazards related to unintentional releases from pipeline facilities, and guidance on recognizing and reporting such events.⁵⁴⁵

NJNG proactively communicates with its customers, excavators, and the public on the criticality of requesting locates before initiating excavation activities. NJNG intensified its outreach efforts during the Covid 19 pandemic, disseminating more communications to customers through bill inserts and social media to reinforce the necessity of calling 811 before digging. NJNG actively fosters a connection with excavators by organizing breakfasts and providing training sessions on the NJOC process. Community outreach activities include hosting fairs at Home Depot to celebrate National 811 days, issuing press releases to promote National Safe Digging Month, distributing 811 brochures, and incorporating pipeline safety information in on-hold messaging, customer bill inserts, and public service announcements in news releases and social media. A dedicated "Call Before You Dig" webpage serves as an educational hub, offering information about 811, guidelines for homeowners and excavators, and links to resources including New Jersey One Call.

Furthermore, NJNG actively participates in the NJ Common Ground Alliance (NJCGA), a subgroup of the member-driven Common Ground Alliance. The formation of NJCGA in 2000 has provided a forum for promoting effective damage prevention practices. NJCGA hosts quarterly member meetings to share practices and encourage collaboration. Annually, during spring, NJCGA hosts safety training events to enhance awareness among stakeholders, excavators, and contractors. NJNG also supports numerous NJOC outreach events and training seminars each spring to propagate awareness and advocate for 811 and NJOC.

5. Costs

In 2022, the Company allocated [REDACTED] towards activities associated with underground locating and mark-out. As indicated in the subsequent table, costs for underground locating have risen [REDACTED].⁵⁴⁶ Concurrently, the audit period witnessed a [REDACTED] in the volume of locate requests, leading to a consistent unit cost throughout this timeframe. As the next data illustrate.

Underground Locating Unit Cost*(confidential table and chart)*

Year	Total Cost	# Locates	\$/Locate
2014			
2015			
2016			
2017			
2018			
2019			
2020			
2021			
2022			

**C. Conclusions****1. Management has acted effectively to control third-party damages.**

From 2014 to 2022, a 21 percent rise in mark-out requests occurred, but damages from third parties decreased, consistently aligning with performance benchmarks established by the BPU. Peer benchmarking shows NJNG consistently in the middle in terms of damages per 1,000 mark-outs requested. Settlements associated with NOPVs have generally decreased since 2016. Management experienced an increase in NOPVs in 2021, with performance improving in 2022.

2. Management has developed effective approaches to measure and control contractor performance and experienced effective results.

Management tracks contractor performance daily. Contractor on-time ticket performance maintained a high performance over the audit period, dipping slightly during the pandemic.

From 2017 to 2022, the quality of locating contractors, as assessed through field audits, consistently remained at a high level, with an average of 95 percent throughout this timeframe. NJNG's field audits significantly enhance contractor oversight, reinforcing both underground locating and damage prevention processes and performance.

NJNG has maintained a consistent cost per locate during the audit period, experiencing only a three percent increase from 2014 to 2022. Actual costs exhibited an annual growth rate of approximately 25 percent over the same period.

D. Recommendations

We do not have any recommendations regarding underground locating management practices.

*Chapter XV: External Relations
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Chapter XV: External Relations

A. Background

NJNG's senior officer has overall direction of regulatory affairs functions and activities, which fall under a senior NJNG executive. The organization makes use of both internal and external resources. This chapter examines the structure and level of resources, their functions and activities, costs, and means for ensuring that costs charged to NJNG are consistent with causation.

A small organization manages government affairs for NJR and its business and operations including NJNG. This chapter examines the organization involved, its resources, the use of outside services, and overall effectiveness.

A common NJR Service Company ("NJRSC") corporate communications group has responsibility, working with the affected business organizations (including those of NJNG), to design, create, disseminate and make available ongoing external and internal communications programs and unique communications programs and messaging associated with particular programs, events, issues, and other emergent circumstances. This chapter addresses the organization, staffing, cost, programs, and performance measurement of corporate communications functions and activities.

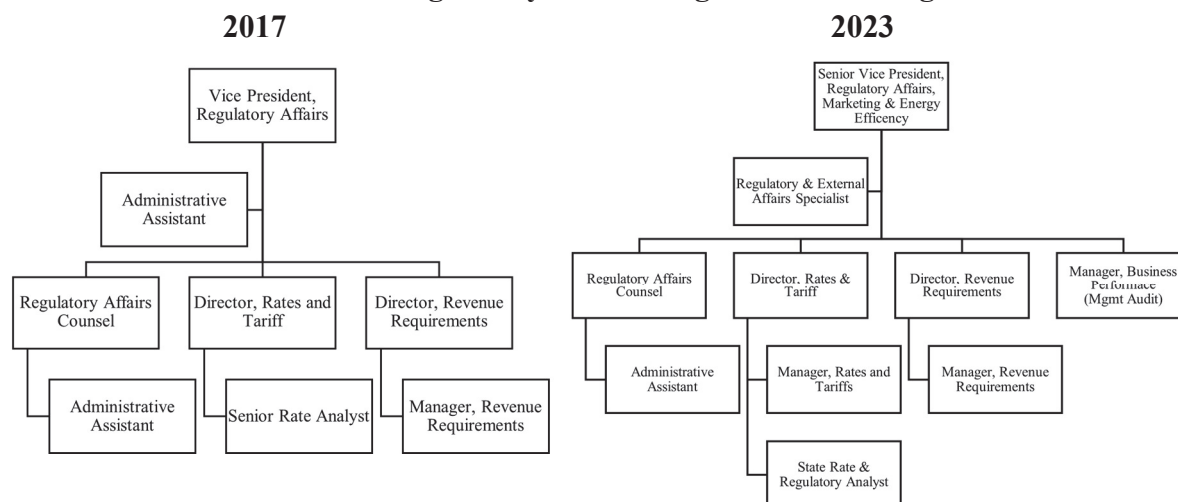
A very small investor relations group operates under the NJR Finance organization. We reviewed its organization, staffing, operations, and costs.

B. Findings

1. Regulatory Affairs

An NJNG Regulatory Affairs ("RegAffairs") organization has responsibility for state regulatory and energy policy proceedings and interactions, and coordinates interaction among the other business units and the BPU and the Division of Rate Counsel. RegAffairs has general responsibility for BPU filings, including rate requests, annual rate-related filings, and others. RegAffairs also manages NJNG's gas service tariff, and ensuring accurate rate elements in the billing system.⁵⁴⁷ RegAffairs falls under the direction of NJNG's Senior Vice President, Regulatory Affairs, Marketing and Energy Efficiency. The next two illustrations show that the organization has changed little in number since 2017. There has also been a strong level of continuity in the personnel in the organization.⁵⁴⁸

NJNG Regulatory Affairs Organization Change



The next table summarizes recent year Regulatory Affairs operating costs.⁵⁴⁹

Regulatory Affairs Operating Cost History

Component	2019	2020	2021	2022	2023	2024	Δ
Legal & Regulatory	\$5,445,209	\$4,902,572	\$5,707,297	\$5,070,385	\$6,229,544	\$2,558,850	-53%
Labor¹	\$1,602,792	\$1,489,735	\$2,049,595	\$2,256,690	\$2,195,950	\$2,244,800	40%
Dues & Fees		\$42,967	\$95,191	\$89,399	\$127,500	\$127,500	
3rd Party Services	\$346,819	\$208,242	\$213,917	\$70,888	\$624,000	\$124,000	-64%
Other²	\$168,842	\$82,530	\$67,539	\$97,435	\$297,724	\$297,892	76%
Total	\$7,563,663	\$6,726,046	\$8,133,538	\$7,584,797	\$9,474,718	\$5,353,042	-29%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology & Communications, Advertising & Marketing, Contractor Materials, Reliability, Capital Transfers, and C

The table shows stable total costs through 2022, but, the budget for 2023 shows a 25 percent increase over 2022 actual costs, followed by a 2024 budget 29 percent less than 2022 actual costs. Management explained the increase in 2023 budgeted costs over 2022 actual costs as driven primarily by costs for higher BPU and Rate Counsel assessments and rate case amortization, the expenses of this audit, and maintaining Flexnova software.⁵⁵⁰ Flexnova's offerings include case management software. Management attributed the ensuing 2024 budget decrease to the end of 2015 rate case amortizations. The next table shows the large impact of BPU and Rate Counsel assessment amounts and amortization of rate case expenses on NJNG Regulatory Affairs costs.⁵⁵¹

Regulatory Affairs Cost Contributors

Contributor	2020	2021	2022
BPU/RC Assessments	\$1,471,495	\$2,020,245	\$2,176,353
Rate Case Amortization	\$3,424,830	\$3,537,024	\$2,840,200
Total	\$4,896,325	\$5,557,268	\$5,016,554

The next table summarizes external Regulatory Affairs costs.⁵⁵²

Regulatory Affairs Department External Costs
(confidential table)



The next table summarizes 2019-2021 outside legal costs for regulatory matters.⁵⁵³ We found the costs moderate for the matters involved and clear connection to issues focusing on NJNG.

NJNG Outside Legal Costs for Regulatory Matters
(confidential table)



Both NJNG and affiliates (*e.g.*, NJRES) have interests subject to regulation by federal authorities, such as the FERC; *e.g.*, interstate pipeline rates and operations regulated by the FERC. We examined the use of outside resources in matters involving pipelines whose operations and rates concern NJNG and NJRES. We found a number for which management split outside service costs between the two affiliates, frequently allocating the largest amounts, often at about 80 percent to NJNG. In some matters of common interest, management did not allocate any costs to NJRES, which reportedly chose not to “actively participate” in the proceedings. The next table summarizes the proceedings and amounts involved, which in total were not large.⁵⁵⁴

Allocations of FERC-Related Outside Costs
(confidential table)



1 through March

2. Government Affairs

An Executive Vice President, Policy and Strategic Development had overall responsibility for Government Affairs functions and activities for all NJR operations and entities in 2017. Reporting to this executive vice president, a Government Affairs Officer had day-to-day responsibility for directing government affairs activities, relying on two direct reports, a Manager, Government Affairs, and a Manager, Policy and Government Affairs. This executive vice president and the Government Affairs Officer positions no longer exist.

Overall direction of government affairs functions and activities now falls under NJR's Senior Vice President and Chief Operating Officer of Non-Utility Businesses, Strategy, and External Affairs. This new senior executive position has broader responsibilities. A Managing Director, Government Affairs, Communications, and Sustainability has day-to-day responsibility for government affairs functions and activities, still relying on two direct reports, now raised from the manager to the director level and titled as Director, Local Government and Stakeholder Engagement and Director, Policy and Government Affairs reports. The managing director, as the title suggests, has responsibility for the organizations who perform communications and

sustainability functions and activities on a centralized basis for all NJR businesses and operations, as well as for government affairs.⁵⁵⁵

The next table summarizes recent year Government Affairs operating costs.⁵⁵⁶ The table shows a sizeable drop in total costs, driven predominately by a change in labor costs. The drop does not reflect a net resource reduction. Instead, in 2023, NJR transferred cost reporting for the Managing Director's employment costs from Government Affairs to Corporate Strategy. This transfer reflects the substantial, non-government affairs responsibilities of the position, as described above. The full title of the second director is Director, Local Government and Stakeholder Engagement.

Government Affairs Operating Cost History

Component	2018	2019	2020	2021	2022	2023 B	2024 B	Δ
Legal & Regulatory					\$79,156	\$0	\$79,156	-
Labor ¹	\$506,369	\$317,984	\$174,243	\$170,105	\$194,610	\$243,559	\$233,394	-54%
Dues & Fees	\$15,669	\$22,301	\$96,808	\$40,622	\$15,234	\$26,830	\$23,280	49%
3rd Party Services			\$2,200	\$56,980	\$14,560	\$55,763	\$113,040	-
Other ²	\$102,933	\$94,118	\$87,374	\$64,906	\$106,658	\$106,355	\$147,937	44%
Total	\$624,970	\$434,403	\$360,626	\$332,612	\$410,217	\$432,507	\$596,807	-5%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology/Communications, Advertising/Marketing, Contractor Materials, and Reliability, Capitial Transfers, and Other

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There have not been substantial expenditures on federal lobbying activities. It appears that, as was true at the time of the last audit of this type, that NJR and its operating businesses, including NJNG, rely principally on American Gas Association ("AGA") participation to monitor federal legislative activities. Monitoring and participation in state legislative activities falls under Government Affairs as does engagement with Local Government officials and agencies.

The costs of outside services accounted for as government affairs costs do include some lobbying activity undertaken in conjunction with local outreach activities not considered lobbying. Examples include:⁵⁵⁸

- Southern Reliability Link ("SRL") work included local resident communication and public information services about construction and establishing a site representative to address local questions, concerns, and needs
- Rate Petition Outreach work included public information and outreach to elected officials to provide information about NJNG's 2021 NJBPU base rate case contents, bill impacts, and underlying investments

- NJ Local Government, Legislative and Regulatory Matters included some legislative and regulatory consulting or research not directly related to lobbying activities; e.g., legislation, general policy, or specific regulatory processes.

3. *Corporate Communications*

a. Organization and Staffing

NJR provides Corporate Communications services through an organization serving all its businesses and entities, including NJNG. Corporate Communications works with other functions to address their needs, with examples including work with multiple NJR business units on specific internal and external communications to advance business goals and the corporate brand, working with utility organizations (e.g., Customer Experience, Contact Center, Collections, Dispatch) to produce an effective customer experience.

The Corporate Communications function serves internal and external communications needs, which include employee communications, media relations, customer service support, regulatory communications requirements, print and digital customer communications, and graphic design. Customer communications addressed by Corporate Communications include bill inserts, monthly customer newsletters, social media, and website management. Examples of specific NJNG customer information needs addressed include safety, billing and payment, energy assistance, energy efficiency, energy savings opportunities, and philanthropic and community endeavors. In addressing the multiple functions and needs relevant to its operations, Corporate Communications seeks to promote brand consistency over all the communications channels it employs.⁵⁵⁹

Internal communications programs and activities involve participation in creation, editing, and delivery of employee communications that include:⁵⁶⁰

- Executive Communications: corporate-wide news (e.g., earnings and other corporate reports, business updates, ceremonial communications)
- Human Resources: benefits updates and enrollment information, talent management processes and schedules, organization updates, new hires and retirements, and other employee engagement items
- Information Technology: systems updates and interruptions, new tools, training available, and related subjects
- Regulatory and Legal: mandatory trainings and deadlines, public filings, policies and procedures, pipeline safety communications, and other regulatory requirements
- Facilities and Operations: workplaces and reporting policy updates and procedures.

NJR Corporate Communications operated in 2017 under a flat organization structure, under which all department employees reported to a single Director, Corporate Communications. The Director, Corporate Communications reported in 2017 to the Executive Vice President, Policy and Strategic Development, as did Government Affairs, as described in the section of this report addressing that function. The direct reports to the Director, Corporate Communications in 2017 included:

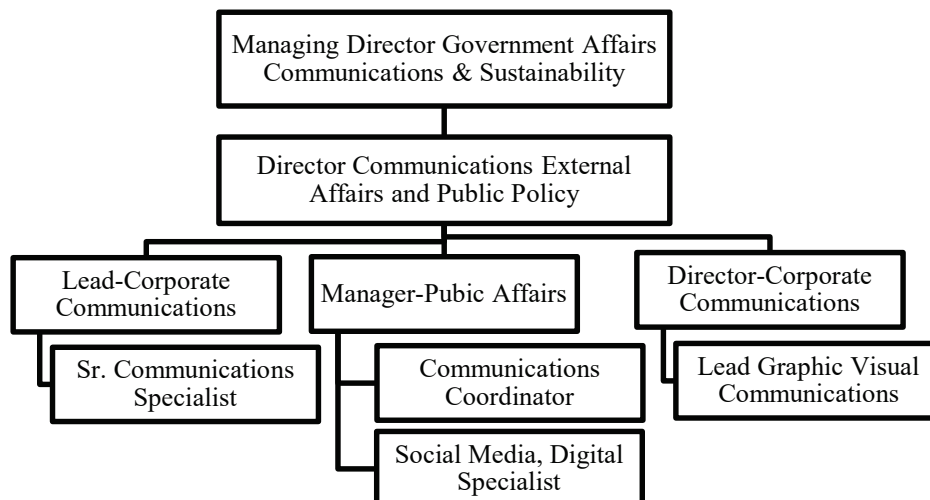
• Executive Communications Specialist	• Sr. Communications Specialist
• Sr. Publications Coordinator	• Sr. Graphic Artist
• Communications Specialist II	• Jr. Communications Specialist

By 2021, the organization structure for Corporate Communications had also changed, with Corporate Communications functions split between two positions:⁵⁶¹

- Director-Corporate Communications
 - Senior Graphic Artist
- Manager Corporate Communications
 - Senior Communications Specialist
 - Social Media Digital Communications
 - Communications Specialist.

The director and the manager positions who split corporate communications responsibilities by 2021 reported to a Director of Communications, External Affairs, and Public Policy. As that title suggests, the position in 2021 also had responsibility for external affairs and public policy. The next diagram shows the current structure and position title.⁵⁶²

Current NJR Corporate Communications Organization



NJR reports the changes from the flat 2017 organization as intended to make a more clear division of responsibilities and points of contact with the functions and organizations (*e.g.*, customer service, energy assistance, energy delivery, pipeline safety) with whom they interact.⁵⁶³ As with Government Affairs, Corporate Communications now falls under the overall direction of NJR's Senior Vice President and Chief Operating Officer of Non-Utility Businesses, Strategy, and External Affairs. Under the Senior Vice President, a Managing Director Government Affairs Communications and Sustainability directs the work of the three functions encompassed by the title. Day-to-day direction of the work of Corporate Communications falls under a Director of Communications, External Affairs and Public Policy, who has direct responsibility for Corporate Communications.⁵⁶⁴

b. Recent Operating Costs

The next table summarizes recent year Government Affairs operating costs, which have changed nominally, by a compound annual growth rate of about three percent, after annualizing 2023 budgeted costs for the first half of 2023.⁵⁶⁵

Corporate Communications Operating Cost History

Component	2019	2020	2021	2022	2023 B	Δ
Legal & Regulatory				\$3,201	\$4,627	-
Labor ¹	\$1,065,826	\$1,122,145	\$1,243,250	\$1,315,653	\$1,438,018	35%
Dues & Fees				\$4,478	\$1,454	-
Investor & BOD	\$256,452	\$191,502	\$194,655	\$137,506	\$99,469	
3 rd Party Services				\$20,000	\$0	
Other ²	\$265,231	\$175,911	\$211,878	\$175,761	\$247,044	-7%
Total	\$1,587,509	\$1,489,558	\$1,649,783	\$1,656,598	\$1,790,612	13%

Management has reported outside costs from only one provider since 2021 and for two work scopes:⁵⁶⁶

NJNG placed the Howell project into service in October 2021, billed it as the first East Coast facility to blend zero-carbon hydrogen directly into a gas distribution system.⁵⁶⁷

Branding has EDECA and other implications for New Jersey utility holding companies. Branding analyses and studies often occur in the industry. Management has reported that NJNG has not undertaken branding, name recognition or similar studies for at least the past five years.⁵⁶⁸

c. Communication Programs and Activities

Typical NJNG-related communications activities have included:⁵⁶⁹

- Executive Support: Assistance to executives for participation in public forums, such as event participation, speaking engagements, and media interviews
- Customer Communications: Facilitating required NJNG customer communications, print and digital communications that include bill inserts, monthly customer newsletters, social media communications and website management, and support for response to customer inquiries
- Program Support: working closely with NJNG departments, i.e. among others, to create, edit and coordinate the dissemination of digital and print materials (e.g., press releases, social media content, direct stakeholder communications, marketing materials and advertising) to promote programs, projects, and initiatives in a broad range of areas (e.g., pipeline safety, energy efficiency, energy assistance, energy delivery)
- Media Relations: serving as points of contact and company spokespersons for NJNG-related inquiries.

We examined a wide variety of releases, advertisements, customer notices, bill inserts, and other materials. They reflected sufficiently broad and regular coverage of matters of interest to the company's customers and stakeholders.⁵⁷⁰

It is not clear that management regularly employs any metrics or KPIs to judge the effectiveness of its communications activities. A number of them exist in the business world, with one recent

summary listing. Forbes recently published a list of some that a panel of experts consider particularly important, for example:⁵⁷¹

- Share Of Voice: measures how much a brand is talked about compared to competitors in an industry (e.g., home heating); assists in evaluating communication tactics and customer brand recognition
- Uplift: measures the effects of a communications campaign on awareness and perception
- Media Mentions: measures the number of mentions over time to track social media visibility and engagement
- Website Traffic: measures of traffic volumes by category, link, time period
- Branded Searches: number landing on a site through search by name, rather than generic phrases
- Keyword searches: measures searches by company-specific keywords
- Audience Engagement: measures percent of comments, likes, and shares to a post or content item
- Social Shares: reflects message impact
- Return On Effort: measures messaging impact/results against the number of hours and other efforts involved
- Message Pull-Through: measures how well key messages are “pulled through” earned media coverage; e.g., common language
- Backlink Quality: examines website links with an anchor text from trusted, respected sources
- Customer Social Media Engagement: measures frequency with which customers share or comment on posts.

Similarly, a series of performance indicators relevant to assessing internal communications (to employees) exists. It includes measures such as

- Employee awareness and feedback
- Open, read and click rates
- Page visits and logins
- Peak times of staff intranet use
- Corporate video views
- Mobile usage levels
- Platform adoption rates
- Employee advocacy
- Employee turnover
- Event and benefit sign-ups
- Media outreach and digital trends
- Speed and effectiveness of crisis communications.

d. Stakeholder Groups

NJNG makes use of two types of external groups. First, two Citizen Advisory Panels (“CAPs”) meet quarterly to address activities at two manufactured gas plant sites (Toms River and Long Branch). Management makes presentations about project status and NJNG’s Remediation Team takes input from panel members about concerns and alternatives. Second, Customer Service gathers input from stakeholders on operational issues. The next list shows the subjects queried:⁵⁷²

- Corporate Citizenship: social issues that resonate most; awareness of community support efforts; willingness to volunteer
- Credit card payments: views of credit card payment and fees
- Energy Assistance: familiarity with and reasons for not using programs and Energy Assistance Days; awareness of human services resources
- SAVEGREEN website design: percentages using websites and/or FAQ pages; what banner and images resonate; clarity of rebate and finance visual advertisements
- Survey Design: what motivates participation, length, frequency, and format preferences; views on companies who use surveys
- Welcome Email Series: preference for similar/different imaging across e-mails; understanding of wording preference for descriptive, direct, or creative subject lines
- Customer Newsletter: frequency of reading; topics of interest; preferences in reading; age as a factor; why some do not read
- How to Read Your Bill Video: whether informative or not; likes and dislikes; ideas for future concepts
- Pipeline Safety: changing awareness of underground pipelines and familiarity with 811/ "Call before you dig;" preferences for receiving safety communications; improvement in ability to detect a natural gas leak
- Social Media: general customer activity and following of NJNG; familiarity with "Digger" campaign safety messaging; ideas for content
- Tech Use: Smart devices and voice assistant: technology fluency; capabilities used; willingness to interact with NJNG; most popular reasons to interact
- Conservation: knowledge of NJ Energy Master Plan, how "energy conscious" customers perceive themselves; whether home energy audits performed, familiarity with dual fuel heating and electric vehicles
- COVID-19: Numbers needing NJNG essential services; NJNG response; financial impact on customers
- Employee Safety: changes in perception of employee safety; areas of focus; whether NJNG Online Customer Panel "Safety and Reliability" findings mirror those of market research groups
- Customer Appliances/HVAC: Means for seeking contractors; shopping and selection; home energy audit services of most interest
- COVID-19: Changing attitudes about NJNG response; needs for, awareness of assistance programs; best ways of communicating
- Environmental Sustainability: awareness of NJNG's efforts; preferred channels and content
- Project NEXT Feedback for "My Account" Homepage: preference between survey methods, key insights from online panel survey results; desired homepage wording and imagery
- Pipeline Safety: familiarity on pipeline safety procedures, how knowledge has changed; supplementary information.

4. Investor Relations

The Investor Relations department has responsibility for disseminating NJR financial and business results and future prospects for the financial community and for reporting to management about

financial community perceptions regarding NJR. The department consists of a Director, Investor Relations. The Director formerly reported to NJR's Treasurer, but moved under the NJR CFO as of December 31, 2021. The Department's goals include development of an accurate public image, analyzing corporate activities for investors, and identifying networking and other opportunities to build and create new initiatives.⁵⁷³ Investor relations prepares quarterly investor presentations and other reports forming part of NJR communications with the financial community, along with SEC filings, quarterly press releases, and a variety of other "white papers," generally available at NJR's investor relations homepage.⁵⁷⁴

The next table shows changes in Investor Relations costs from fiscal 2019 through 2022. The table shows that staffing has remained stable and costs have grown at a rate lower than inflation.

Investor Relations Operating Cost History

Component	2019	2020	2021	2022	Change
Labor¹	\$1,354,084	\$1,521,906	\$1,356,711	\$1,592,282	18%
Dues & Fees	\$353,930	\$260,330	\$343,282	\$334,250	-6%
Investor & BOD	\$368,743	\$385,209	\$430,403	\$330,670	-10%
Insurance	\$240,242	\$237,681	\$200,339	\$19,035	-92%
3rd Party Services	\$191,524	\$208,037	\$651,505	\$66,250	-65%
Other²	\$178,638	\$58,988	\$50,523	\$33,564	-81%
Total	\$2,687,161	\$2,672,151	\$3,032,763	\$2,376,051	-12%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology & Communications, Customer Experience & Satisfaction, Advertising & Marketing, and Other

The following table lists principal outside costs of operating the Investor Relations department.⁵⁷⁵

Outside Investor Relations Costs

Item	2018	2019	2020	2021	2022
<i>Annual Meeting Expenses</i>	\$513,763	\$476,395	\$210,296	\$260,887	\$165,504
<i>Consulting - Misc</i>	\$712,356	\$341,524	\$178,037	\$681,505	\$66,250
<i>Fees - General</i>	\$135,213	\$205,455	\$94,990	\$203,214	\$182,290
<i>Listing/Stock Exchange Fees</i>	\$117,100	\$148,475	\$163,845	\$141,040	\$144,243
<i>Stock/Shareholder Expenses</i>	\$57,884		\$174,912	\$169,517	\$165,166
<i>WEB / Internet Maint Exp</i>	\$27,760	\$21,125	\$28,299	\$42,557	\$25,952
<i>Other</i>	\$80,475	\$172,054	\$10,679	\$30,540	\$14,672
Total	\$1,644,550	\$1,365,029	\$861,060	\$1,529,259	\$764,077

C. Conclusions

1. NJNG manages regulatory affairs through a dedicated organization that has remained stable in responsibilities and staffing in recent years.

Staffing has remained fairly stable, with one permanent addition and one temporary one related to support for this audit. The staffing structure is appropriate and sufficient experience in the organization exists. Assigning NJNG regulatory affairs direction to an NJNG senior vice president reporting to the most senior NJNG officer provides sound visibility on, support for, and utility control of the functions and activities performed.

2. RegAffairs costs have remained stable, excepting a series of understandable external influences.

The balance between internal and external resources has been effective, leaving NJNG regulatory affairs both directed and largely executed through internal resources. External factors, such as rate case amortizations and matters that occasionally require outside support at substantial levels (*e.g.*, rate filings or this audit) have largely driven the substantial variations that have occurred in outside RegAffairs costs.

3. The bases for allocating outside legal and other RegAffairs services appears reasonable, with the exception of the small amounts on matters that involve interstate pipelines. (See Recommendation #1)

We examined the amounts and natures of outside legal costs incurred in support of the activities of RegAffairs. They are at unsurprising levels, given the matters involved. The descriptions of the work provided demonstrated clear connection to the operations of NJNG and its regulatory needs. Small amounts, averaging well less than \$50,000 per year, however, do not appear to be allocated with sufficient relationship to causation. Benefits and risks to NJRES, not its decisions about “active” participation, should drive allocations. NJRES should not be free to decide that NJNG’s active participation will address its benefits and risks fully, just as NJNG should not do so for NJRES. Each should contribute to the costs of engaging in matters according to whether there are common benefits and risks involved. Note also that Conclusion #2 and Recommendation #1 in the chapter addressing *Legal Services* addresses the related question of common representation in proceedings where the interests of NJNG may differ from those of an affiliate.

4. A small organization that has remained consistently staffed has provided government affairs services for NJNG and the other interests of NJR.

After accounting for changes in the assignment of leadership costs among functions including but not limited to government affairs, costs have remained fairly consistent and moderate. Use of outside resources, which often have combined lobbying with communication and outreach to government representatives and stakeholders, has remained at low levels.

5. The organization responsible for government affairs operates under an appropriate structure, and appropriately addresses NJNG’s needs and interests.

A review of activities and expenditures demonstrates a clear and continuing focus on public issues affecting NJNG. The alignment of responsibilities provides reasonably clear responsibility for state, local, and stakeholder communication and engagement.

6. A stable, central Corporate Communications organization has provided an effective and efficient means for meeting NJNG internal and external communications needs.

Resources have remained fairly stable, adapting in more recent years to focus on increased social media platforms and levels of use. The organization relies strongly on internal resources, making moderate use of outside service providers.

7. We found a suitable range of internal and external regular programs, channels, and messaging, and timely response to emergent needs.

Our examinations, both directly here and in connection with communications-related activities of the NJNG-related business operations that the Corporate Communications organization supports with its activities showed a broad range of regular and special communications programs, initiatives, and special messaging appropriately focused on the utility's needs and circumstances. We found notable the CAPs associated with the two remediation sites and the efforts of Customer Services to gather input on a variety of subjects, which enhance both outbound and inbound customer and stakeholder information flow.

8. Corporate Communications, like other NJRSC groups, has not undertaken structured efforts to develop a suitably broad range of performance metrics. (See Recommendation #2)

As with a number of other corporate services that the service company provides to NJNG, a range of performance measures exist to address communications and the effectiveness and efficiency of corporate communications functions. A robust list of such measures does not exist at NJR.

9. NJR investor relations performs the functions typical of publicly traded utility holding companies, and has done so with a very small staff and stable costs.

Staffing consists of only one person and total costs, as well as those of the major categories have fallen somewhat in recent years. The external costs incurred address typical uses of outside resources to support the operations of investor resources.

D. Recommendations

1. Allocate a minimum of one third of the costs of common representation of NJNG and affiliates in matters that substantially engage common benefits and risks. (See Conclusion #3)

Regulatory Affairs and the Legal Department should together determine when participation in matters of common interest to NJNG and other affiliates may affect the benefits and risks of each, whether identically or to the same degree or not. Where they do, costs should be split evenly, absent a joint determination by Regulatory Affairs and the Legal Department that there is a material difference in nature or degree of the benefits and risks identified. In that case, one third of the costs should be allocated to the entity with lesser benefits or risks at issue. It is not appropriate to treat affiliate interests as merely incremental to those of NJNG. A one-third minimum provides a reasonable basis for apportioning the preparation, start-up, and matter administrative costs where common interests exist.

2. Conduct a focused effort to identify key success measures for Corporate Communications and develop a set of regularly measurable, measured, and analyzed metrics to ensure maximum performance effectiveness and efficiency. (See Conclusion #8)

Producing reasonably stable costs, while commendable, does not fully capture the broad range of performance metrics that define success for Corporate Communications performance. Others employ a substantial and reasonably broad set of measures. Not all will apply here, given the nature of the competitive landscape in which NJNG operates. The nature and level of competition in their industries have significance in identifying their measures of principal importance. However, even in that regard, NJNG competes as an energy source with others and in a meaningful way, even its

energy efficiency measures vie with other businesses for customer recognition and attention, making them “competitive” in a sense that adds value to communications performance metrics.

Even apart from that narrower aspect of measurement, however, it remains important for Corporate Communications to address metrics like those noted in the findings section above in ensuring that it is taking measurements of effectiveness and using them to adjust program, initiative, and messaging avenues and content for both internal and external communications. Others have found measures like those listed in the findings section useful. However, the need here is for Corporate Communications, working with those other groups, including the ones residing inside NJNG to identify those or others like them that are considered material to performance on behalf of NJNG. Then, Corporate Communications should craft a specific and comprehensive set of metrics tailored to NJNG’s needs, define specific ways of measuring them quantitatively, take those measures regularly, and assess how performance against them is trending and what those trends demonstrate with respect to performance effectiveness and efficiency.

As experience under them grows and as dialogue with the affected business operations and units grows, it should become possible as well to identify specific and measurable targets for at least most of them. There is no need to start from a blank slate, because a rich body of work about such measures is readily available and because, if needed, substantial consulting expertise in identifying the most useful measures is available.

***Chapter XVI: Supply Chain
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Chapter XVI: Supply Chain

A. Background

This section addresses supply chain activities that support the operations of NJNG. NJR's Procurement and Contract Management organization has responsibility for ensuring the receipt for goods and services, while optimizing price quality, quantity, time, risk, and any other factors involved.

B. Findings

1. Organization and Staffing

The NJR Procurement and Contract Management organization's staffing recently consisted of seven persons: a Director, Procurement and Contract Management and a group of six buyers, procurement specialists, and contract analysts. The Staff had grown from a group of five in 2017, reporting to a Manager Purchasing.⁵⁷⁶

Supply Chain Operating Cost History

Cost Component	2019	2020	2021	2022	Change
Labor ¹	\$588,083	\$652,375	\$724,594	\$801,878	36%
Dues & Fees		\$2,881	\$31,547	\$4,478	55%
3 rd Party Services	\$70,892	\$244,469	\$383,423	\$288,523	307%
Other ²	\$169,144	\$1,747	\$105,659	\$228,551	35%
Total	\$828,119	\$901,471	\$1,245,224	\$1,323,429	60%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology & Communications, and Other

The staffing change drove a labor cost increase, but the largest change came from changes in third party and other costs associated with the effect of the Project NEXT on the Procurement and Contract Management group. Project NEXT included the introduction of a new, [REDACTED] Cloud-based procurement system, which replaced an [REDACTED] JD Edwards-based procurement system in 2020. Subscription costs from [REDACTED] and support from software firms during the transition accounted for much of the 3rd party and other costs shown in the preceding table.⁵⁷⁷ Management did not employ outside services in the performance of supply chain operations during this period.⁵⁷⁸

2. Procedures and Controls

An overall NJR purchasing procedure (Purchasing Procedure 1) has applied to purchasing by all NJR entities, including NJNG. Its scope is comprehensive. It encourages competitive procurement and sets generally clear dollar limits for when bidding is required. However, the procedure is not clear on the applicability of competitive solicitations in cases where similar transactions have individual values below, but aggregated values above, set limits. The procedure also identifies by commitment value the departments to be consulted and the position level (supervisor through CEO) whose approval is required. The requirements apply to purchase requisitions and to change orders.⁵⁷⁹ No procedure requires tracking of purchases made without solicitation of competitive offers.⁵⁸⁰

Primary responsibility for managing expenditures for outside resources lies with the department whose budgets include their costs. However, NJR's Financial Planning & Analysis group reviews budgeted and actual costs for those departments, including documenting significant variances. This NJR financial group's engagement in annual budgeting includes reviewing plans and meeting with those departments on their material expenditure sources, including those that involved procurement of outside services.⁵⁸¹ NJR does not employ a group with direct responsibility for periodic review of decisions whether to use internal resources or procure them from outside, other than as an inherent part of the engagement of NJR's Financial Planning & Analysis group as described above.⁵⁸²

3. *Assessment of Service Company Effectiveness*

NJR does not employ a formal process for securing NJNG assessments of the effectiveness of service from common internal providers.⁵⁸³ However, several NJR central service providers (*i.e.*, Office Services, IT, and Legal) solicit feedback on service requests and effectiveness in meeting them, and produce summary results.⁵⁸⁴ Only the Legal surveys address costs and address levels of service and potential changes up or down.

4. *Performance Management and Metrics*

The next table summarizes annual procurements for NJNG and year-end inventory balances from 2019 through 2022.⁵⁸⁵

NJNG Material Procurements and Inventories

Year	2019	2020	2021	2023
Amount	\$23,549,706	\$31,747,019	\$14,775,960	\$30,697,555
Inventory	\$12,200,792	\$17,552,469	\$15,113,360	\$18,882,084

Management uses inventory turn ratios and cycle counts as they related to NJNG inventory to measure performance effectiveness.⁵⁸⁶

An outside firm presented a 2018 report on its conduct of an assessment of procurement planning and forecasting, strategic sourcing, and purchasing.⁵⁸⁷ The study found NJR in or at the first (lowest) stage of development in centralization, standardization and automation, and use of metrics in conducting the procurement-related aspects the consultant examined. Citing leading practices found low in adoption, the consultant postulated potential NJR-wide savings of \$2.1 million based on peer group analysis. The practices low in adoption at NJR included:

- Outline of process for purchasing key commodities or spending categories
- Automating a process for analyzing spending by buying group or category
- Varying agreement terms and conditions language by spend category
- Availability of market intelligence.

The consultant identified a series of planning process, work management, responsibility division, and performance monitoring findings. The last area specifically addressed the lack of scoreboards, standard purchasing performance reports, and supplier ratings. Management has been addressing procurement process, organization, staffing, and systems since, with a clear tie in terms of system support from work done as part of the Project NEXT. However, significant work appears to remain

as part of what management describes as a multi-year effort ongoing to improve centralization, increase headcount, align resources to business units and purchasing categories, and put into place software solutions to enhance automation. As noted, KPI development appears not to have substantially progressed.

The Procurement group does not operate under goals, objectives, and KPIs or metrics addressing the details of its operations. It does not prepare regular reports on its performance. We did not find evidence of KPIs typically used by others: *e.g.*, purchase/delivery cycle times, inventory turnover ratios, inventory levels, purchase orders created, non-usage/slow-moving inventory, or others. Its systems can generate underlying data, but it is not clear that management uses that data to report clearly or analyze meaningfully performance using metrics that gauge work levels and effectiveness in performing them.⁵⁸⁸

No internal audits of procurement or materials management have occurred since at least 2019.⁵⁸⁹

5. *Affiliate Goods and Services Transactions*

Procurements under which NJNG or the service corporation have been limited, averaging about \$28,000 per year in value from 2019 through 2022 and running at about the same level through the first half of 2023.⁵⁹⁰ Affiliate NJR Home Services invoiced NJNG during this period as well. For example, between June 2020 and December 2021, the affiliate invoiced NJNG a total of \$169,948 under 35 invoices, averaging about \$5,000 each and largely addressing HVAC equipment installation, service, and repair.⁵⁹¹

6. *Vendor and Supplier Diversity*

In all subcontracts/purchase orders of at least \$10,000 that flow down from a covered federal government contract or subcontract, the contractor and subcontractor must abide by the requirements of Federal regulations⁵⁹² apply to \$10,000 and greater purchase orders under covered federal government contracts purchase orders prohibitions against discrimination on the basis of veteran status, disability, color, religion, sex, sexual orientation, gender identity, and national origin. The New Jersey Law Against Discrimination prohibits discrimination on the basis of veteran status, disability, race, creed, color, national origin, ancestry, age, marital status, civil union status, domestic partnership status, affectional or sexual orientation, genetic information, pregnancy or breastfeeding, sex, gender identity or expression, disability or atypical hereditary cellular or blood trait.⁵⁹³

The Procurement organization, working with the Human Resources DEI group, has responsibility for NJR Supplier Diversity initiatives.⁵⁹⁴ The departments establish annual Supplier Diversity targets that set a percentage of dollar spend on non-gas purchases from providers owned by minorities, women and service-disabled veterans, striving for incremental year-over-year improvement. The goal is to increase that percentage year over year.⁵⁹⁵ Management did not identify any programs designed to build support for contractor, vendor and other outside supplier diversity goals and targets.⁵⁹⁶ Management communicates the targets and progress against them through the year under its Commitment to Stakeholders (“CTS”) process.⁵⁹⁷ That reporting consists of a one-line entry that, for 2021 was expressed as “Percentage of dollars spent on non-gas purchases from business enterprises owned by minorities, women and service-disabled veterans.” The next table summarizes performance against those goals in recent years.⁵⁹⁸

Management attributes the drop in actual performance to fewer opportunities during the COVID-19 pandemic for networking and participation in supplier diversity fairs, matchmaking and other outreach events.

Minority, Women, Veteran Procurement Goals

Year	2017	2018	2019	2020	2021	2022
Plan	5.10%	5.70%	5.75%	5.93%	5.93%	5.93%
Actual	5.80%	5.80%	5.95%	4.70%	5.51%	5.00%

7. Storerooms

NJNG holds gas carrying materials and equipment, personal protection equipment (“PPE”) for use by employees and contractors, at five storerooms dedicated to its use only and located across its territory; the next table lists them.⁵⁹⁹

NJNG Storerooms

Storeroom	Size
Lakewood	46,000 sf
Maude (Wall)	25,000 sf
Farmingdale	16,500 sf
Rockaway	16,000 sf
Atlantic Highlands	6,500 sf
Manahawkin	6,400 sf
Dover	1,500 sf

A Stores Inventory Narrative document describes controls designed to address inventory management risks that include issuance of unapproved materials, incorrect unit cost calculations, failure to detect overages of materials received at the storeroom, and incorrect material return. The document summarizes the responsibilities of departments and personnel for activities that include inspection, pricing catalogs, receipt matching, insurance provisions in vendor agreements, inventory control and adjustments, limiting overages on received materials, and reconciling inventory amounts booked.⁶⁰⁰

C. Conclusions

- 1. Organization and staffing for supply chain functions that support NJNG’s operations correspond to the generally less centralized approach that NJR has taken, but NJR is undertaking measures to change its structure to make it more optimal. (See Recommendation #1)**

Staffing and associated labor costs have grown as part of increasing centralization, consistent with 2018 findings by an outside firm. Supply chain costs have also been substantially affected by costs associated with the implementation of capabilities under Project NEXT, which includes transition to a new platform for supporting its operations and their interrelationship with the comprehensive █████ Cloud Enterprise Resource Planning platform transition largely in place, but still in some respects continuing under Project NEXT.

Management reports that Project NEXT has brought change to the systems it uses to support and manage supply chain operations. It has also been working to assess structures, responsibility division, processes, procedures, and metrics following a report from an outside consultant. The congruence of factors like these makes understandable management's observation that work on such changes continues, but it is important that they reach completion.

2. Procurement operates under a procedure that promotes competition and provides generally sound controls, with two exceptions. (See Recommendation #2)

The applicable procedure assigns clear and appropriate responsibilities for the activities necessary to procure material and equipment economically and timely. It defines the roles of the various departments involved and assigns appropriate approval authorities with clear and reasonable value limits. It also establishes clearly, except in one instance, when competitive solicitations are required. The procedure correctly recognizes the risk of separating related procurements into parts whose individual values might cause them to escape competitive solicitation requirements. However, it states only that competitive solicitation may, rather than must, be required. In addition, the procedure does not require reporting when competitive solicitation is not undertaken when the value limits that generate requirements to do so are reached.

3. The supply chain-related services that the NJRSC organization provides to NJNG are subject to some "value" assessments, but not on a regular and comprehensive basis. (See Recommendation #3)

NJNG does not "buy" services from NJR's central serving organizations, but it is important that the relationships between them remain subject to substantial NJNG engagement in assessing their quality and value. Those serving organizations work for affiliates whose needs may not be entirely in common or in parallel and in any event inherently place competing pressures on those organizations. Engaging NJNG regularly and meaningfully in assessing quality and value is important in ensuring that the serving organizations and senior leadership treat NJNG as one would expect any serving group, internal or external, to do. The surveying performed by the Legal group is especially sound and comprehensive, and should serve as a model for all service groups. In particular, its solicitation of feedback on cost effectiveness is notable.

4. The development of a reasonably comprehensive set of metrics for evaluating procurement and stores performance has been slow. (See Recommendation #1)

The last management audit of this type recommended ten years ago a formal, documented inventory management process supported by management reports. In 2019, an NJR consultant found performance monitoring informal, lacking scorecards, standard purchasing performance reports. The audit also noted metrics focusing primarily on diversity goals, rather than other goals more typically included in reasonably comprehensive performance measurement. Our requests for performance management information did not disclose a substantial set of metrics typically used or meaningful analysis of supply chain performance.

5. NJR had been increasing goals for, and producing increased levels of, diverse supplier use prior to the effects of COVID-19.

The loss of outreach opportunities during the pandemic understandably curtailed opportunities to continue NJR's record of expanding its use of diverse suppliers.

D. Recommendations

1. Complete efforts to centralize supply chain operations and develop more comprehensive management reporting against usual industry metrics. (See Conclusions #1 and #4)

We recognize the need to integrate those efforts with Project NEXT project implementation, but it is important to ensure that changes like those recommended finish at their earliest reasonable date. The resulting benefits hypothesized by the consultant retained some years ago are material. Moreover, NJR should move promptly to identify each of the industry standard measures used to manage procurement and inventory and determine how [REDACTED] Cloud-provided capabilities can support their calculation. Then, management should develop a comprehensive suite of metrics and other measures, again relying on the range in use in the industry, adopt specific annual performance goals for them, report against them regularly as the year progresses, and meaningfully report variations and their causes and means for addressing them.

Management reports that Project NEXT has brought change to the systems it uses to support and manage supply chain operations. It has also been working to assess structures, responsibility division, processes, procedures, and metrics following a report from an outside consultant. The congruence of factors like these makes understandable management's observation that work on such changes continues, but it is important that they reach completion.

2. Procurement operates under a procedure that promotes competition and provides generally sound controls, with two exceptions. (See Conclusion #2)

Management should amend its procurement procedure to state that competitive solicitation "will" instead of "may" be required to prevent unbundling related procurements from dropping below the \$50,000 and \$100,000 thresholds established. To the extent that exceptions should be made, they should be clearly defined and limited. Management should create and regularly employ a simple and direct statement explaining which reasons (whether those enumerated in the procedure or other) permit or otherwise justify not employing competitive bidding where the applicable thresholds have been reached. Importantly, the form should be required even for situations for which the procedure allows procurements without solicitations. Such forms should require review and approval from one level higher than that established by the dollar scale of the procedures Approval Matrix and acknowledgement by an NJNG officer if the utility's expected use of the material and equipment involved is expected to exceed \$25,000.

3. Require at least biennial surveying of NJNG for each NJR common serving organization that provides services supporting the utility's operations. (See Conclusion #3)

The scope and content of the survey that the Legal group uses should govern.

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Chapter XVII: Marketing and Clean Energy

A. Background

New Jersey's Electric Discount and Energy Competition Act ("EDECA"), signed into law on February 9, 1999, established the Societal Benefits Charge ("SBC") as part of the rates for the state's electric and gas utilities. The SBC funds programs designed to promote energy efficiency ("EE") and renewable energy ("RE"). The utilities collect these funds and deposit them into the New Jersey Clean Energy Trust Fund, which the state's Department of the Treasury manages. For the SAVEGREEN program, NJNG recovers its related program expenditures and a weighted average cost of capital on the unamortized balance through a tariff rider. This recovery, including interest, stretches over a period of two to ten years, depending on the specific program and incentive, as approved by the BPU.

EDECA also requires the BPU to assess and determine appropriate funding levels for EE and RE programs every four years. These programs now form part of the New Jersey Clean Energy Program ("NJCEP"). In 2003, the BPU established the Office of Clean Energy to oversee the administration of NJCEP. Since its inception, the BPU has issued multiple orders setting funding levels, program structures, and budgets for NJCEP from 2004 through 2023. Over this period, New Jersey has invested over \$2 billion in statewide energy efficiency initiatives, which have resulted in savings of 79.7 million lifetime MWh, 236 million lifetime Dtherms, and a reduction of 79 million metric tons of CO₂.⁶⁰¹

New Jersey's Governor signed the Clean Energy Act ("CEA") in 2018, as part of a statewide initiative to modernize New Jersey's energy systems. The Governor also issued Executive Order 28 to set a goal of achieving 100 percent clean energy by 2050. The CEA mandates that the state's investor-owned natural gas and electric utilities reduce customers' energy consumption by specific percentages, including an annual reduction within five years of implementing energy efficiency programs of at least 0.75 percent in natural gas use based on the average across the previous three years. Additionally, the CEA directed the BPU to develop programs ensuring universal access, particularly benefiting low-income communities. Other objectives include expanding public awareness of clean energy initiatives, creating a clearinghouse for home energy and health programs focused on low-income households, offering clean energy financing options for all customers, and simplifying program administration to enhance efficiency.

To help achieve New Jersey's clean energy goals, the BPU approved a wide-ranging set of EE programs aimed at transitioning the state to 100 percent clean energy by 2050. Administration of many of the EE programs shifted from the NJCEP to the state's utilities. In 2023, New Jersey's Governor signed Executive Orders 315, 316, and 317 to advance the state's clean energy and climate goals and set a new target of 100 percent clean electricity by 2035, transitioning homes and businesses away from fossil fuels, and reducing greenhouse gas emissions from natural gas systems. These orders will ultimately drive NJNG's future energy efficiency program plans, likely requiring more aggressive savings targets and higher participation.

B. Findings

1. Marketing and Energy Efficiency Organization and Staffing

NJNG's Marketing and Energy Efficiency organization combines responsibilities for energy efficiency programs and marketing activities. The organization develops and implements programs in compliance with the New Jersey Clean Energy Program ("NJCEP"). Energy efficiency has grown to encompass the bulk of the work of this organization, which implements energy efficiency programs, and manages reporting under BPU-approved programs. A SAVEGREEN Director, with a staff of 33, and an Energy Efficiency Marketing Manager, with a staff of 6, manage the majority of resources in Marketing and Energy Efficiency. A separate Manager has responsibility for special energy efficiency projects. The organization recently instituted a Sales Marketing cloud function as part of large-scale Project NEXT. This addition brought a suite of new enterprise and operations management capabilities. The cloud sales marketing capability promotes cost effectiveness, which NJNG has leveraged in communications with those who have signed up for energy efficiency programs. Particular benefits have come in the ability to target messaging more narrowly and to secure data on which messages customers have accessed.⁶⁰²

A Marketing Service Director, with a staff of 26, focuses largely on sales-related activities, such as those associated with conversions to natural gas and natural gas use in new construction. During 2022, Marketing Services engaged an outside firm to perform a market assessment within NJNG's service territory to update estimates for potential conversions.⁶⁰³ Marketing Services has employed new customer addition goals of 9,800 for 2020, 2021, and 2022, and 8,500 for 2023. Marketing Services has also employed margin growth goals of \$5.4 million for 2020, \$6.2 million for 2021 and 2022, and \$7.1 million for 2023.⁶⁰⁴

Branding has EDECA and other implications for New Jersey utility holding companies. Branding analyses and studies often occur in the industry. Management has reported that neither NJR nor NJNG has undertaken branding, name recognition or similar studies for at least the past five years.⁶⁰⁵

The following chart depicts the organization structure of the NJNG organization responsible for energy efficiency and marketing activities.⁶⁰⁶

NJNG Marketing and Energy Efficiency Organization



The Marketing and Energy Efficiency Managing Director leads this group of approximately 70 employees. As of October 2023, this Managing Director reports to the Vice President of Customer Service, Marketing & Energy Efficiency, who in turn reports to NJNG's Senior Vice President and Chief Operating Officer.

The position of Managing Director of Marketing and Energy Efficiency did not exist in 2017. The organization at that time fell under the direction of the Senior Vice President, Marketing, Customer Service, & Energy Efficiency, to whom three directors reported. Resources consisted of about 40 positions, aligned as follows:⁶⁰⁷

- Seven-person team of energy efficiency field auditors
- Seven-person marketing energy efficiency program administration group
- Five-person commercial sales team operating under a manager
- Five-person marketing analysis and services team
- Two-person and three-person energy efficiency operations and marketing teams
- Seven-person and four-person marketing project coordination and marketing teams
- Seven clerical assistants.

Clean Energy program growth has accounted for much of the growth since 2017. That growth has continued, as the next subsection's cost history shows.

2. Marketing and Energy Efficiency Cost History

The next table summarizes recent marketing and energy efficiency cost history.⁶⁰⁸

Marketing and Energy Efficiency Operating Cost History

Component	2019	2020	2021	2022	2023B	2024B	Δ
Labor ¹	\$3,350,407	\$2,995,713	\$2,878,376	\$3,095,423	\$3,968,028	\$4,433,553	24%
Insurance			\$849	\$849			-
3rd Party Services			\$17,842	\$47,596	\$90,324	\$36,414	51%
Dues & Fees		\$4,800					-
Other ²	-\$423,787	-\$116,521	\$388,752	\$1,044,632	\$1,116,395	\$818,995	152%
Total	\$2,926,620	\$2,883,992	\$3,285,818	\$4,188,501	\$5,174,747	\$5,288,962	45%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Tech./Comms, Advertising/Marketing, Contractor Materials, Customer Experience/Satisfaction, Other

3. Business and Economic Development

A small group under the top NJNG officer, the utility's Senior Vice President and COO, has responsibility for economic development, working with local stakeholders (e.g., chambers of commerce) on business and economic development. The group's responsibilities also include interacting with organizations to support civic, environmental, education, advocacy, volunteerism, health, human services, and affordable housing in communities served by NJNG. The group also administers NJNG charitable activities.⁶⁰⁹ The four members of this group operate under a Director, Customer & Community Relations; this director reports to the Senior Vice President and COO.⁶¹⁰ The next table summarizes this group's operating costs.⁶¹¹

Customer & Community Relations Operating Cost History

Component	2019	2020	2021	2022	2023 B	2024 B	Δ
Labor¹	\$745,805	\$716,203	\$764,030	\$735,621	\$842,320	\$743,640	0%
Corporate Citizenship		\$81,448	\$47,771	\$49,977	\$82,169	\$129,255	59%
Investor & BOD	\$83,938						-100%
Other²	\$56,756	\$81,810	\$34,697	\$92,839	\$133,559	\$143,188	152%
Total	\$886,499	\$879,462	\$846,498	\$878,436	\$1,058,048	\$1,016,083	15%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel² Includes Technology & Communications, Advertising & Marketing, and Other**4. Clean Energy Programs**

NJNG supports energy efficiency through two separate programs: NJCEP's Comfort Partners and SAVEGREEN, and assigns management of them to different organizations. The Energy Efficiency group supports SAVEGREEN programs and the Customer Service' Energy Assistance group, co-managed and funded by the state supports Comfort Partners.

The Clean Energy Act of 2018 mandated energy efficiency programs. Prior to the act, programs were largely NJCEP-driven and voluntary for each utility. Staffing has since expanded in this organization to support management of the state-managed programs that were assumed from the state and New Jersey's clean energy goals. The state's utilities proposed full transition of the Comfort Partners program in most recent 2nd Triennium plans to enable combination with the Moderate-Income Weatherization program, consolidating program design, implementation, and evaluation.

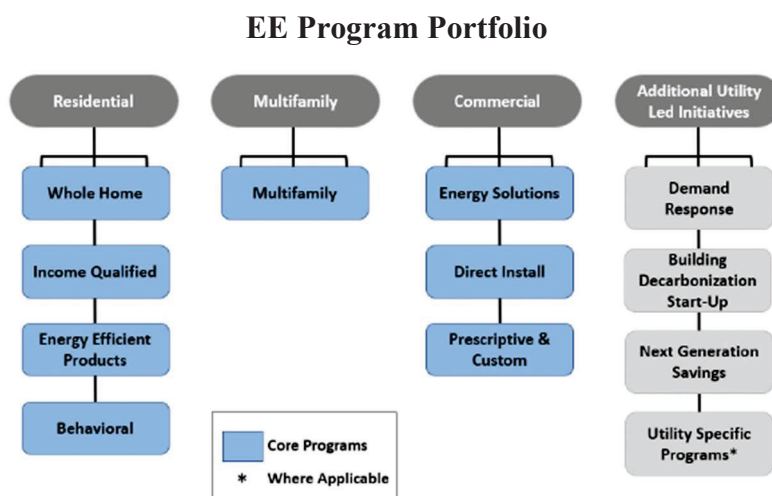
In the past NJNG operated these programs independently and provided support to them through two different organizations with separate audits, incentives, and contractors. NJNG's proposed plan would combine program administration to achieve efficiencies and the individuals responsible for managing the Comfort Partners program would be transferred from Customer Service to the Energy Efficiency organization.

NJNG's current energy efficiency programs secured approval on March 3, 2021 for the period from July 1, 2021 through June 30, 2024 (Triennium 1) at an approved SAVEGREEN 2020 program budget not to exceed \$258.94 million.⁶¹² In October 2023, the BPU ordered Triennium 2 to begin on January 1, 2025 and to conclude on June 30, 2027, directing utilities to file petitions to extend Triennium 1 programs previously extended through December 31, 2024, without changes. The BPU approved NJNG's petition to extend SAVEGREEN by six months, with a budget of \$79.93 million on April 4, 2024.

During the 1st Triennium (2021-2024), the state's utilities energy efficiency programs established core programs, transitioning programs previously offered and administered by NJCEP to the utilities. This triennium also produced expanded energy savings through additional utility-led initiatives designed to reach more low-moderate income programs, a multifamily program, and new commercial programs.

The utilities filed plans for the 2nd Triennium (January 1, 2025 through June 30, 2027) in December 2023 to further expand EE programs aimed at reducing emissions, peak demand reduction, and enhancing energy affordability. NJNG proposed a building decarbonization ("BD") program

promoting adoption of hybrid heat (natural gas and heat pump) and district geothermal heating options (central system heating multiple locations). NJNG's proposed demand response program ("DR") incentivizes customers who have an Automated Meter Reading ("AMR") device to use a smartphone application and a smart thermostat to monitor and reduce consumption during peak demand periods. Another program, the Next Generation Program, seeks to introduce to customers and contractors new technologies that can increase energy savings and reduce costs. The following diagram summarizes NJNG's EE program portfolio for the 2nd Triennium:



As required by the Act, New Jersey utilities have worked collaboratively since 2020 to design core EE programs to ensure consistency across the state. In addition, the utilities created a State-Wide Coordinator ("SWC"), selected through a competitive process, to serve as a clearinghouse for measures, energy savings, and investment in circumstances involving overlap of customers between utilities. The SWC system helps identify natural gas and electric service providers and identify energy savings and costs for allocation between utilities. Following the CEA, utilities have more responsibilities and offer more new programs to help meet clean energy goals.

5. Energy Efficiency Programs

a. SAVEGREEN Programs

NJNG offers several energy efficiency programs aimed at helping customers reduce energy consumption, save money on utility bills, and lower their environmental impact. NJNG manages all offerings under the SAVEGREEN program.⁶¹³ NJNG has refined the SAVEGREEN program several times since first offering it in 2009. Initially, the program sought to complement energy efficiency offerings of NJCEP, and later expanding through the introduction of programs offered independently from NJCEP. Most recently, the program has expanded to transition program administration from the NJCEP.

SAVEGREEN programs conduct home energy audits and provide various grants, incentives and financing alternatives designed to encourage the installation of high efficiency heating and cooling equipment and other upgrades. These measures seek to promote energy efficiency to residential, multi-family, and commercial customers while stimulating state and local economies through the

creation of jobs. NJNG recovers costs associated with the programs over a three- to ten-year period through a tariff rider mechanism, depending on the specific initiative or approval. The BPU approved a three-year SAVEGREEN program (first triennium) in March 2021. It included \$126.1 million of direct investment, \$109.4 million in financing options and \$23.4 million in operation and maintenance expenses. NJNG's SAVEGREEN Director has responsibility for overall management of the SAVEGREEN programs. SAVEGREEN programs for residential and commercial and industrial customers include:

Residential Customers:

- Whole Home Program
- Income Qualified Program
- Energy Efficiency Products Program
- Behavior Program
- Multifamily Program

Commercial & Industrial Customers:

- Engineered Solutions Program
- Prescriptive & Custom Programs
- Direct Install
- Energy Management Program

The following table summarizes these programs.

SAVEGREEN Residential Programs

Energy-Efficient Financing Options	On-bill financing for energy-efficient upgrades and improvements with low-interest loans and flexible repayment
Home Performance with Energy Star	Through HPwES, NJNG offers rebates for whole house improvements (up to \$6,000)
Energy Efficiency Products Programs	Rebates from \$100 to \$1750 for approved equipment (natural gas furnace or boiler, water heater, AC purchased with natural gas appliance), thermostat, washer/dryer.
HVAC On-Bill Repayment Program	Installation of natural gas furnace/boiler, heat pump, water heater, AC if paired with gas heat or water heater. Options for 7-year repayment (10-years for those income qualified).
Quick Home Energy Checkup (Basic)	Free in-depth home energy assessment that includes evaluating heating and air conditioning system and water heater efficiency, assessing insulation and ductwork efficiency, evaluating lighting fixtures and bulbs, and installing up to two smart thermostats purchased from NJNG Marketplace
Quick Home Energy Checkup (QHEC+)	(\$49) blower door test to identify where heated/cooled air is escaping the residence. Customers moving into or transferring in NJNG's territory may qualify for a free QHEC+
Energy Efficiency Marketplace	NJNG partners with a vendor to offer discounted energy-efficient products and services to customers through a branded online store.
Behavioral Program	Customized letters to customers comparing energy usage to similar homes in their area.

SAVEGREEN Commercial & Industrial Programs⁶¹⁴

Direct Install	Incentives include LED lighting, heating, cooling, and refrigeration and are based on the comprehensiveness of each project.

Prescriptive & Custom Energy Solutions	Rebate-based program promotes high efficiency equipment for businesses through prescriptive measures, specific equipment or projects that address lighting, appliances, heating and cooling, food service equipment and other measures.
Energy Management	For existing commercial and industrial customers designed to improve energy performance through strategic energy management strategies.
Engineered Solutions	Custom engineered programs for large public entities and non-profits designed to increase operational efficiency and reduce energy cost and carbon footprint. The program includes custom consultative services beginning with an in-depth audit and plan.

b. Comfort Partners

The Comfort Partners program comprises New Jersey's low-income energy conservation program. Its objectives include partnering with low-income customers to reduce overall energy consumption and energy bills and increase participant in-home health, safety and comfort. The program achieves these objectives through two approaches. The first includes the installation of energy-saving home improvements in customer residences. Second, a Comfort Partners representative provides conservation education to family members and refers them to other social service programs from which they might benefit. All work performed through the Comfort Partners program comes at no cost to participants.

The Program is available to households with income at or below 250 percent of the federal poverty guidelines or who are eligible to participate in one or more of the following programs:⁶¹⁵

- Temporary Assistance to Needy Families
- Supplemental Security Income
- Section 8 Housing Assistance
- SNAP
- USF, Lifeline, HEAP, PADD (if below 250 percent of federal poverty guidelines).

Customers must also use the home as the primary residence, the residence must be individually metered, and the customer must be the customer of record with a New Jersey utility.

Measures considered include efficient lighting products, hot water conservation (water heater replacement and tank temperature turn-down), inefficient refrigerator and freezer replacement, energy efficient thermostats, insulation upgrades, blower-door guided air sealing; duct sealing and repair, heating/cooling equipment repair or replacement, and other measures as needed. Removing barriers to installing energy. Efficiency measures considered on a case-by-case basis include broken window repair or replacement, wall and roof hole repair, mold remediation, gutter installation, and other health and safety measures.

Six New Jersey investor-owned electric and gas utilities jointly manage the Comfort Partners Program, collaborating on program procedures and policy decisions. However, each utility maintains flexibility to make independent decisions on contractor selection, approval of measures that exceed pre-approved spending limits, and customer outreach strategies, except in cases where electric and gas territories overlap.

6. Outreach and Education

NJNG's website offers comprehensive information on energy efficiency programs for residential and business customers, along with online tools and calculators to help assess potential savings from energy efficiency upgrades. An available, free online home energy audit helps customers better understand options and benefits. Customers can also opt to receive monthly emails with energy-saving tips, special offers, and program updates. Additionally, NJNG's Marketplace allows customers to purchase energy-efficient products, such as smart thermostats, smart home devices, fans, air purifiers, dehumidifiers, HVAC filters, weather-stripping, water heater insulation, and more. Smart thermostats account for most sales on the Marketplace.⁶¹⁶

NJNG also sends printed Home Energy Reports in the fall and winter customers who are part of the Behavioral Program group. Additionally, electronic versions become available to customers in the summer. As of June 2024, more than 270,000 NJNG customers receive Home Energy Reports.⁶¹⁷

Additionally, NJNG's Energy Efficiency and Marketing organization engages customers and other interested stakeholders in in-person outreach events and exhibits to promote SAVEGREEN energy efficiency programs and to encourage participation. These events include energy efficiency workshops, community fairs, and collaborations with local organizations. Social media advertising and video postings routinely promote events and programs. NJNG also communicates monthly via a newsletter with close to 2,000 contractors within their service territory to relay information about rebates, on-bill repayment, and direct install programs.

7. Program Performance

From 2014 to 2021, NJNG's performance in its energy efficiency programs generally met the requirements set by the BPU. During this period, NJNG met its commitment to co-manage the Comfort Partners program. NJNG successfully implemented its own SAVEGREEN programs aimed at reducing energy consumption and promoting energy efficiency across its customer base. NJNG maintained compliance with BPU requirements by submitting regular annual reports demonstrating that its programs contributed to state energy efficiency goals.

The Company faced challenges adapting to the new regulatory landscape under the Clean Energy Act of 2018. A shortened transition period between plan approval and program launch reduced preparation time and constrained coordination with other utilities. During this period, NJNG also had to adjust to new cost-benefit analysis standards and enhanced performance reporting requirements. These challenges adversely affected PY1 performance, but progress improved markedly in subsequent program years in the triennium.

The CEA specifies requirements for evaluation, measurement and verification, requiring that EE programs have a benefit-to-cost ratio greater than or equal to 1.0 at the portfolio level. Additionally, utilities must annually demonstrate compliance with plan performance targets and incentives or penalties apply based on target performance (after PY5). Additionally, a stakeholder process, established by the Board, evaluates, measures, and verifies energy usage and peak demand reductions.

An Evaluation, Measurement, and Verification (“EM&V”) Working Group was established, with a Statewide Evaluator under contract with the BPU to lead this group. NJNG selected an independent EM&V firm to review its program activity, in cooperation with the Statewide Evaluator. The first program year evaluations were published in January 2023 and remain available on New Jersey’s Clean Energy Program website.⁶¹⁸ Evaluation reports addressed the following NJNG efficiency programs:

- Moderate Income Weatherization
- HPwES
- SaveGreen
- Residential Quick Home Energy Checkup
- Residential Energy Efficiency Products
- Residential Behavioral
- Multifamily
- C&I Energy Management
- C&I Prescriptive & Custom
- C&I Engineered Solutions
- C&I Direct Install
- Multifamily

Many of these programs launched recently, and some require long lead times to generate projects, especially in the commercial and industrial customer segments. The number of participants and resulting impact in PY1 for these newer programs have proven minimal. These programs underwent abbreviated evaluations substantially aimed at preparing for full evaluation in the following years, including identifying needed data points for future evaluation.

All NJNG programs underwent evaluation. The short timeframe between the approval of the plan and the plan’s July 1, 2021 implementation date affected PY1 results, as did the work needed to coordinate with other NJ utilities. The need to set up data management systems, qualify installation contractors, hire quality control contractors, and other first year challenges also had an impact. Actual savings comparisons to program estimates resulted, with cost-effectiveness analysis primarily focused on verifying calculations that will inform PY2 evaluations.

An outside vendor, Applied Public Policy Research Institute for Study and Evaluation (“APPRISE”) evaluated the 2020 New Jersey Comfort Partners program.⁶¹⁹

The next two tables summarize NJNG’s energy efficiency program performance for the first triennium. The tables demonstrate actuals versus estimates for energy savings and program participation.

Energy Savings in Dth

Year	Energy Savings	Comfort Partners	Other Programs	Total	Target	% of Target
PY 2022	326,187	8,535		334,722	N/A	N/A
PY 2023	444,414	10,266		454,680	411,345	110.5%
PY 2024	485,970	8,382	17,653	512,005	410,483	124.7%

Program Participants

Year	Total Participants	Forecasted Participants	% Actual to Forecast
PY 2022	280,878	296,064	94.9%
PY 2023	270,952	286,169	94.7%
PY 2024	291,332	274,152	106.3%

The program participation data PY 2022 to 2024 show varied performance when comparing actual participants to forecasted numbers. The data reveal an initial challenge in meeting participation forecasts in PY 2022 and PY 2023, with participation rates falling just short of expectations. However, by PY 2024, the program reversed this trend, exceeding its forecast and achieving a participation rate of 106.3 percent.

8. Program Costs

The following table demonstrates NJNG energy efficiency program costs for PY 2022 through 2024. Combined SAVEGREEN and Comfort Partners budgets ranged from \$83 to 94 million per year across this period.

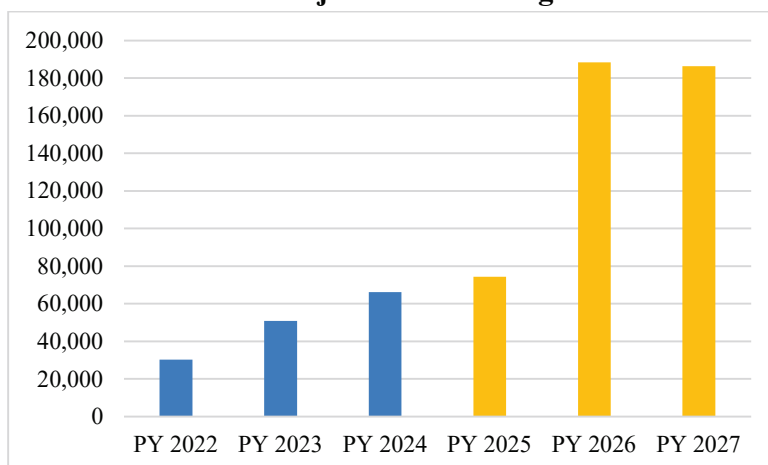
Program Participants and Total Cost

Program Year	Total Participants	Forecasted Participants	% Actual to Forecast	Total Expenditures (\$000)	Annual Budget (\$000)	% Actual to Budget
PY 2022	280,878	296,064	94.9%	30,270	83,095	36.4%
PY 2023	270,952	286,169	94.7%	50,883	89,627	56.8%
PY 2024	291,332	274,152	106.3%	66,149	94,464	68.1%

Over the three years shown, NJNG's energy efficiency program portfolio saw increasing alignment between participation and budget utilization, particularly in PY 2024 when both participation and expenditure rose. The program started with a low cost-to-budget ratio in PY 2022, suggesting potential inefficiencies or conservative spending. However, by PY 2024, the program achieved greater efficiency by balancing increased participation with higher, more appropriate spending levels, indicating better resource allocation as the program matured.

NJNG's actual costs, including both SAVEGREEN and Comfort Partners, for the first triennium and projected costs for the second triennium are depicted in the following chart.

Actual and Projected Total Program Cost



PY 2022 -- 2024: 1st triennium actual costs by year

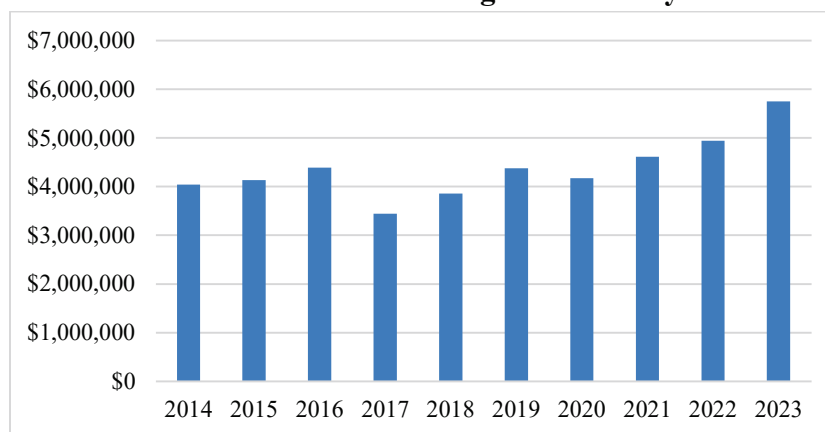
PY 2025 – 2027: 2nd triennium projected costs by year

Projected program costs in 2026 and 2027 more than double prior year spending, with NJNG assuming responsibility for prior state-run programs and program scale up to meet more aggressive goals.

The next table summarizes the FY 2024 state-level budget for the Comfort Partners program. More than \$56 million has been budgeted across the state to administer the program, targeting participation of 5,739 electric customers and 5,462 natural gas customers. The table shows NJNG's allocated budget for FY 2024 at \$6.5 million, with 89 percent dedicated to customer rebates, grants, and other incentives.⁶²⁰

FY 2024 Comfort Partners State Budget

Company	Total	Admin & Program Development	Sales, Mktg, Call Centers, Website	Training	Rebates, Grants, Other Direct Incentives	Rebate Processing, Inspections, QC
ACE	\$2,842,694	\$269,897	\$50,175	\$48,225	\$2,374,979	\$99,418
JCP&L	\$6,170,212	\$702,559	\$127,109	\$100,609	\$5,025,455	\$214,480
PSE&G- Electric	\$9,927,623	\$1,687,509	\$211,509	\$160,509	\$7,575,473	\$292,623
RECO	\$311,200	\$68,800	\$13,800	\$13,800	\$190,000	\$24,800
NJNG	\$6,481,319	\$269,972	\$130,972	\$124,305	\$5,748,598	\$207,472
Elizabethtown	\$3,790,634	\$251,197	\$66,297	\$68,682	\$3,241,776	\$162,682
PSE&G-Gas	\$23,164,457	\$3,937,522	\$493,522	\$374,522	\$17,676,104	\$682,787
SJG	\$4,289,861	\$352,047	\$80,434	\$77,697	\$3,635,786	\$143,897
TOTAL	\$56,978,000	\$7,539,503	\$1,173,818	\$968,349	\$45,468,171	\$1,828,159

NJNG Comfort Partner Program Costs By Year

The following table provides a breakdown of NJNG's Comfort Partners program costs over the audit period. Total program costs increased by 42 percent since 2014. Rebates, grants, and other incentives represent 86 percent of the total costs over this period, with 2023 costs in this category slightly above the 10-year average at 89 percent.⁶²¹

Comfort Partner Costs by Activity by Year

Year	Administration & Program Development	Sales, Call Centers, Marketing and website	Training	Rebates, Grants and Other Incentives	Rebate Processing, Inspections and Other Quality Control	Totals
2014	\$163,933	\$132,371	\$35,530	\$3,501,598	\$211,227	\$4,044,659
2015	\$168,721	\$126,764	\$42,735	\$3,615,854	\$178,837	\$4,132,912
2016	\$175,402	\$156,485	\$44,650	\$3,811,336	\$204,370	\$4,392,243
2017	\$187,133	\$115,274	\$36,242	\$2,929,578	\$172,731	\$3,440,957
2018	\$218,947	\$169,091	\$67,723	\$3,274,245	\$124,769	\$3,854,774
2019	\$245,308	\$182,032	\$68,903	\$3,350,635	\$128,771	\$4,374,814
2020	\$292,753	\$112,249	\$72,817	\$3,572,951	\$121,840	\$4,172,610
2021	\$157,094	\$74,599	\$83,025	\$4,145,816	\$152,730	\$4,613,265
2022	\$203,040	\$97,744	\$103,093	\$4,375,668	\$161,514	\$4,941,059
2023	\$203,199	\$113,925	\$111,520	\$5,120,572	\$202,178	\$5,751,394

* Comfort Partners aligns with the state fiscal year which traditionally runs from July 1st to June 30th. In 2020, due to the pandemic, the 2020 fiscal year was extended to a 15-month period and 2021 to a 9-month period.

Historically, SAVEGREEN programs have been approved for specific and varying periods of time. The BPU sets program budgets for the full term of an approved program, through a proceeding. The following table summarizes approved and actual costs for SAVEGREEN programs approved during the audit period.

SAVEGREEN Program Costs by Docket

Docket	Program Period	Approved Budget (\$000)	Actual Expenses (\$000)
GR12070641	July 2013-July 2015 ²	\$8,281	\$6,467
GO14121412	Aug 2015-Dec 2018 ³	\$14,088	\$13,882
GO18030355	Jan 2019-June 2021 ⁴	\$5,220	\$1,700
Q019010040 & GO20090622 ¹	July 2021-June 2024 ⁵	\$23,457	\$5,383

¹ First Program under the Clean Energy Act

² Includes some spending prior to 2014

³ Includes a \$4 million transfer of funding to O&M based on June 29, 2016 extension of the program term

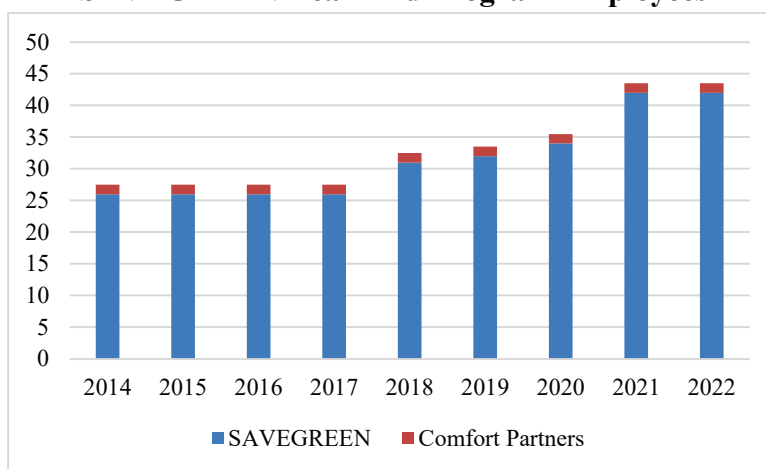
⁴ Program expenses still being incurred for some external loan processing fees.

⁵ Program expenses continuing. Reflects actuals through December 2022.

SAVEGREEN has a commitment for many of the larger commercial programs, but those commitments will be paid out over an extended period of time due to the complex nature of the projects involved.

NJNG staffing to support SAVEGREEN during the audit period increased from 26 to 42 employees (62 percent) from 2014 to 2022 while Comfort Partners' staffing remained constant at 1.5 employees.

SAVEGREEN Year-End Program Employees



SAVEGREEN staffing grew as NJNG broadened its program offerings and has taken on responsibilities for state programs to comply with the additional requirements of the CEA.

9. Accounting for Clean Energy Costs

Different processes apply to the accounting for Comfort Partners and SAVEGREEN programs. NJNG has direct responsibility for accounting, cost, and performance of the Comfort Partners program and SAVEGREEN programs.⁶²²

Contractors submit Comfort Partners bills to NJNG. An outreach support specialist checks the invoices before payment through the Oracle system. The invoice detail is also entered into the E-Track system, a newly implemented system that replaced predecessor (LEEN). E-Track (LEEN) reports are provided to the NJBPU. The costs reported include the invoice costs and an allocation of support salaries (1.5 people) and miscellaneous costs.⁶²³ The NJCEP regulatory asset account records expenses for BPU-approved programs. Annually, the BPU approves the monthly funding levels for the NJCEP for each utility, with costs recovered through the NJCEP rate. Monthly, the BPU sends the utilities the amount approved for that month. NJNG deducts the amount of its directly incurred expenses and remits the balance to the state's fiscal agent. NJNG submits annual cost recovery filings to the BPU, including estimated program costs based on the approved funding levels and estimated recoveries through the month prior to the proposed effective date of the new rate. Each cost recovery filing includes a true-up of the prior year forecasts.⁶²⁴

We examined the monthly summaries of the Comfort Partners expenses for the audit period, and found the annual amounts spanning a fairly small range of between \$3.4 million in 2017 and \$4.9 million in 2022.⁶²⁵ We also examined on a test basis the monthly report that provides the monthly funding levels from the BPU, the monthly expenses, and the resulting amount due to the state's fiscal agent.⁶²⁶

SAVEGREEN includes a portfolio of different programs. Payment flows operate similarly to Comfort Partners, with NJNG paying contractors for qualified equipment or for defined scopes of work. Invoice processing and cost accumulation occurs in dedicated SAVEGREEN accounts. An accountant dedicated to SAVEGREEN reviews the process.⁶²⁷ A SAVEGREEN regulatory asset account records SAVEGREEN expenses for BPU approved programs, based on the applicable utility program. NJNG submits annual cost recovery filings to the NJBPU, based on actual expenses incurred, forecasted expenses for the next fiscal year, and estimated recoveries through the current fiscal year. Each cost recovery filing includes a true-up of the prior year forecasts.⁶²⁸ We examined a sample of eight quarterly reports to the NJBPU. These reports mainly address program operational aspects.⁶²⁹

The Societal Benefits Charge rider recovers Comfort Partners costs. Rider F recovers SAVEGREEN costs. We conducted a walk-through of the Societal Benefits Charge filings for 2020, 2021, and 2022. All entries traced to their appropriate source, and we found the calculations accurate.⁶³⁰ We also compared the 2020 filing to the BPU order issued related to the filing, finding that the Board approved rate per therm matched.⁶³¹

10. Controls

Controls over the Comfort Partners disbursements and overall operation of the Clean Energy program include:

- Oversight by the NJBPU
- Contractor services secured through a competitive solicitation
- Contractor invoices submitted through E-Track (formerly LEEN)
- NJNG staff accountants review of invoices
- Oracle invoice payment controls.⁶³²

Three audits of the SAVEGREEN program, discussed below, are entirely dedicated to the establishment of the required controls in that program. The *Controls, SOX, Internal Audit and NYSE Listing Requirements* Chapter of this report further summarizes our examination of the effectiveness of key internal controls.

11. Internal Audits

No Comfort Partners internal audits occurred during the audit period.⁶³³ We reviewed the list of audits performed from 2014 through 2022⁶³⁴ and those planned and subsequently completed for 2023.⁶³⁵ Three SAVEGREEN audits addressed establishment of controls for the program.

The first such SAVEGREEN audit, conducted in 2021, supported management in identifying and evaluating key risks and controls prior to the implementation of the new SAVEGREEN program management software solution (“PMSS”), Nexant iEnergy Program Management (“iEPM”), and integration with a new SWC system. The audit focused on the design, development, testing and deployment of the new systems. Creation of a draft risk and control matrix (“RCM”) followed the audit, with recommended follow-up evaluations as the program matured.

Delays in implementation left Internal Audit unable to assess the design of the key controls identified in 2021. The second audit, conducted in 2022, thus evaluated the key risks and controls that the 2021 audit had addressed. Internal Audit conducted walkthroughs of key controls and IT dependencies identified within the RCM to determine either design effectiveness or the existence of temporary workarounds to mitigate the risk. Internal Audit identified 27 key security, operational and financial risks and related control requirements. It deemed 70 percent of the controls as designed effectively. The other 30 percent consisted of:

- 15 percent of controls not in place at the time of the audit, due to the timing of SWC System rollout
- 15 percent not operating effectively, due to documentation requirements.

The second audit did not consider any of these 30 percent as addressing high-risk factors.

The third audit followed up on the prior two. It tested controls previously deemed ineffective or not in place and addressed RCM update to reflect the Oracle integration and any other process changes. The findings of the audit were:⁶³⁶

- Oracle/PMSS implementation affected three key controls, all determined to have effective design
- Retesting showed three of the four controls deemed ineffective in the 2022 audit still ineffective, with management informally performing the controls but without evidence of having done so
- Internal audit planned to evaluate the design effectiveness of those three controls later in the year.

12. Budget/Actual Comparisons

Given that the amount of spending cannot exceed the amount authorized by the NJBPU, the relevance of comparing actual spending to the budget is substantially diminished. We did, however, examine the relationship between budgeted spending and actual spending for the audit period. For Comfort Partners, the percentage of budget spent ranged from 75 percent in 2021 to

97 percent in 2016.⁶³⁷ For the two SAVEGREEN programs that have completed (RGG-3 and RGG-4), the actual to budget ratio was 91 percent.⁶³⁸

C. Conclusions

1. NJNG's Marketing and Energy Efficiency organization employs a sound structure and has experienced growth consistent with the expansion of energy efficiency activities.

Staffing resource structure and levels correspond to increasing focus on energy efficiency. Marketing programs beyond energy efficiency take a largely sales-focused approach. Operating cost growth has been material, but consistent with expanding energy efficiency program scope and depth.

2. NJNG's jurisdictional programs appear to be delivering as promised in the regulatory proceedings that led to their approval.

Most recently, energy savings data from NJNG portfolio of energy efficiency programs for PY 2022 to 2024 demonstrate steady progress, with a marked increase in energy savings over time. From PY 2022 to PY 2024, total energy savings rose significantly, reflecting the growing impact of energy efficiency programs. In terms of performance against targets, both PY 2023 and PY 2024 saw substantial success, with PY 2023 surpassing its target by 10.5 percent and PY 2024 exceeding its target by an impressive 24.7 percent.

3. NJNG is fulfilling its obligation to conduct annual evaluations of each program.

The BPU's 2020 order following 2018 CEA adoption produced new cost-benefit and enhanced performance reporting requirements. The CEA mandates that energy efficiency programs achieve a benefit-to-cost ratio of at least 1.0 at the portfolio level. Utilities must also demonstrate compliance with performance targets annually, facing incentives or penalties based on their performance after the fifth program year.

NJNG engaged an independent EM&V firm to assess its program activities alongside the Statewide Evaluator. The first-year evaluations, published in January 2023, revealed that many programs were newly launched, resulting in minimal participation and impact, especially in the commercial and industrial sectors. These initial evaluations were preliminary, focusing on laying the groundwork for more comprehensive assessments in subsequent years and identifying necessary data points for future evaluations. Established programs and those transitioned from the state were also evaluated. While actual savings were compared to estimates for each program, cost-effectiveness analysis was not required for PY1 and was limited to verifying calculations for use in PY2.

4. We found the accounting for Clean Energy costs appropriate.

The reporting of costs and the recovery of those costs from customers are subject to substantial oversight by the NJBPU. Our examination of the process for accumulating, reporting and recovering Clean Energy costs revealed no issues.

5. Controls related to the recording and reporting of Clean Energy costs are adequate.

The oversight of the Clean Energy program by the NJBPU provides a significant overarching control of the process. In addition, the internal audits conducted relative to the SAVEGREEN program were dedicated to the establishment of appropriate controls for the SAVEGREEN program. The *Controls, SOX, Internal Audit and NYSE Listing Requirements* Chapter of this report describes further the testing of key controls.

6. Adequate internal audit coverage of the Clean Energy program occurred during the audit period.

There were no audits of the Comfort Partners program during the audit period, but the relative risk of that program, given the NJBPU oversight, and magnitude of the costs involved suggest that it does not rank high in the risk evaluation process utilized by Internal Audit to select audit subjects. The SAVEGREEN audits were more consultative in nature and were quite effective in establishing and conducting initial testing of key system controls.

7. Actual to budget comparisons are made and are adequate.

Actual costs must be less than the authorized budget, due to the NJBPU defined budget. The actual ratios of costs to budget are reasonable and suggest that the program is operating as intended.

D. Recommendations

We do not have any recommendations for marketing and energy efficiency areas.

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Chapter XVIII: Insurance

A. Background

NJR manages insurance matters centrally, under the overall direction of the Vice President, Corporate Risk Management, who in turn reports to NJR's CFO. This executive's responsibilities also includes assurance, security and business continuity, each headed by a director. This section addresses responsibilities for managing insurance, which falls under the vice president's fifth direct report, the Director, Risk Management. This last director also has responsibilities for a number of functions largely associated with natural gas market transactions, which fall under the Manager, Middle Office, the Manager, Contracts, and the Manager, Credit and Risk including the middle office, credit, and contracts. This section addresses the insurance responsibilities of the Corporate Risk Management group.

B. Findings

1. Organization and Staffing

A Manager, Corporate Risk, one of the four direct reports to the Director, Risk Management, has responsibility for procurement and management of insurance coverage across all NJR entities. As has been true since at least 2017, the Manager, Corporate Risk has had a single report, a Corporate Risk Analyst, who assists with invoicing. The next table summarizes recent-year operating costs for Corporate Risk group, of which the two-person insurance group forms a small part.⁶³⁹ Labor costs for Corporate Risk as a whole accounted for about three quarters of the increase. That growth came from other parts of Corporate Risk, as the staff responsible for insurance matters has remained constant at two persons.

Corporate Risk Operating Cost History

(confidential table)

Cost Component	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Budget
Labor ¹					
Insurance					
3rd Party Services					
Other ²					
Total					

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology & Communications, Dues & Fees, Building Operating Expenses, and Other

The Manager, Corporate Risk employs the services of Marsh, a leading consulting, brokerage, and claims advocacy firm, to assist in insurance procurement

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2. Insurance Coverage and Cost Trends

Insurance lines and coverages have remained largely stable since 2017. Annual reviews typically consider all coverages, exclusions, and retentions. Annual fall reviews include benchmarking, using the expertise of the outside firm that NJR has used since at least then. The only change made

for 2018 was to increase excess liability coverage amounts moderately. The next table compares rates for each line in 2017 with those anticipated for 2018.⁶⁴¹

2017-2018 Insurance Changes*(confidential table)*

Insurance Line	Year		Change	
	2017	2018	\$	%
Total				

Insurance costs continued to increase annually through 2022 at that same seven percent rate, reaching \$10.3 million. The next table shows insurance lines for which NJNG bore a share of the costs.⁶⁴²

Insurance Coverages with Costs Assigned to NJNG*(confidential table)*

Insurance Line	Carriers	Term

The next table shows the costs allocated to NJNG for insurance purchased commonly for multiple NJR business operations and for insurance specifically covering NJNG's manufactured gas plant sites.⁶⁴³ The data show that the allocation process has produced a diminishing share of total costs

to NJNG as growth in other operations has absorbed increasing shares of insurance premium costs. NJR assigns premiums for crime, and fiduciary coverage to the parent and for cyber security to the service company. Charging NJNG for these insurance costs comes through processes that allocate their total costs among NJR entities.

NJNG Direct and Allocated Insurance Costs

(confidential table)

Insurance Line	2018	2019	2020	2021	2022	Δ

The year 2023 brought a significantly greater, 13 percent increase, which brought premiums to [REDACTED]. Analysis supported by the outside firm continued to show costs for 2023 competitive with the industry and the increases proved about [REDACTED]. The next table summarizes the four lines that accounted for 92 percent of the increase between 2022 and 2023.

2022-2023 Insurance Premium Increases

(confidential table)

Insurance Line	Increase

3. Captive Insurance

Captive insurance companies have grown from a few hundred in the 1970s to more than 7,000 today. A number of utilities have employed captive insurance entities for securing protection. The members of a captive insurance entity put their own capital at risk, fund recovery to members for covered losses, and bear the gains or losses resulting from those losses and profits or losses on investments the captive makes. Captives thus operate outside the commercial insurance marketplace and involve active management of operations by members. Captives can reduce effective insurance rates, tailor solutions specific to member needs, and provide significant tailored risk and loss experience to assist members in their operations. As noted, they can also provide investment gain or loss to their members, or even to a single entity, should it establish a captive

for just its own operations. NJR had not analyzed use of a captive insurance structure through 2022, but did report, as 2023 ended, initiation of review of potential use of such a structure.⁶⁴⁴

C. Conclusions

- 1. NJR has procured insurance procurement and management services for NJNG through a small and effective organization, supported by a leading outside brokerage and consulting firm, and at low and reasonably consistent costs.**

Staffing has remained at two persons for a number of years, and costs for the insurance portion of the NJR-wide Risk Management group have remained stable.

- 2. We found costs to NJNG for insurance coverage lines typical in the industry and have shown cost trends consistent with an industry that has experienced significantly increasing costs.**

The insurance lines are typical. NJR assigns costs for insurance among those who benefit, with NJNG not charged for coverage (*e.g.*, solar) not related to its operations, charged solely for those unique to its operations (*e.g.*, pollution at its MGP sites), and allocated shares of costs for coverage of risks (*e.g.*, D&O and Workers Comp) common to all NJR operations. Our experience and the annual benchmarking of insurance performed with the assistance of NJR's broker and consultant show annual rates of increase consistent with overall commercial insurance trends.

- 3. Despite a sound annual insurance procurement that has been well-informed about market conditions, NJR does not take a sufficiently programmatic approach to risk for which commercial insurance provides an option. (See Recommendation #1)**

NJR undertakes comprehensive annual reviews of insurance coverages and the amounts of risk it retains under them, but appears to do so largely with reference to commercial market conditions and changes; *i.e.*, without periodically assessing its appetite for and tolerance of risk overall and by major category.

- 4. Completion of the examination of captive insurance underway at the drafting of this report should proceed, but consider specifically the potential impacts on NJNG insurance costs. (See Recommendation #2)**

One important programmatic measure that NJR has undertaken involves examination of the use of a captive insurance option. Captive insurance companies have become widespread. They can offer cost, risk management, and financial benefits. To the extent that they offer financial gain through investments, as do commercial and mutual insurance companies, they also present risk. To the extent that a captive would break away non-utility risks, they can, on the one hand, also present a loss of synergy with NJNG risks now covered jointly. They can also, on the other hand, remove non-utility risks from joint coverages. Care is needed in examining how a captive structure and scope of risks addressed can enhance or detract from optimum means for insuring NJNG's individual risks.

D. Recommendations

- 1. Integrate insurance planning with the risk assessment process. (See Conclusion #2)**

As noted, annual reviews take account of changes in insurance market conditions when considering extension and modification of insurance coverages. However, it is not clear how NJR integrates decisions about insurance with its corporate processes for identifying and managing risks. NJR's risk management program and activities should clearly and explicitly address the use of insurance in managing risk and insurance coverage decisions should be directly and explicitly related to key outputs of the overall risk management process.

2. Complete the examination of use of captive insurance with clear and explicit consideration of the impacts that creation of such an insurer would have on the risks borne specifically by NJNG and the costs of insuring them. (See Conclusion #4)

The study NJR has commissioned of captive insurance reflects diligence in examining means for optimizing the coverages and costs of insurance. It should proceed sufficiently to a conclusion about whether a range of options can produce net benefit. The options involved include participating NJR entities, risks covered, available member organizations, and creation of an NJR-alone entity. In examining those options, management should specifically address how the alternatives considered will likely affect NJNG risks and should directly and comprehensively compare the costs of those alternatives versus the use of commercial insurance. To the extent that the alternatives considered include NJNG participation, the examination should also address how margins produced or losses incurred through investments should be apportioned.

Each alternative identified for more detailed examination or pursuit should produce a clear and comprehensive assessment of whether it optimizes risks, costs, and benefits for NJNG and if not, how and in what magnitudes it fails to do so.

***Chapter XIX: Legal Services
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Chapter XIX: Legal Services

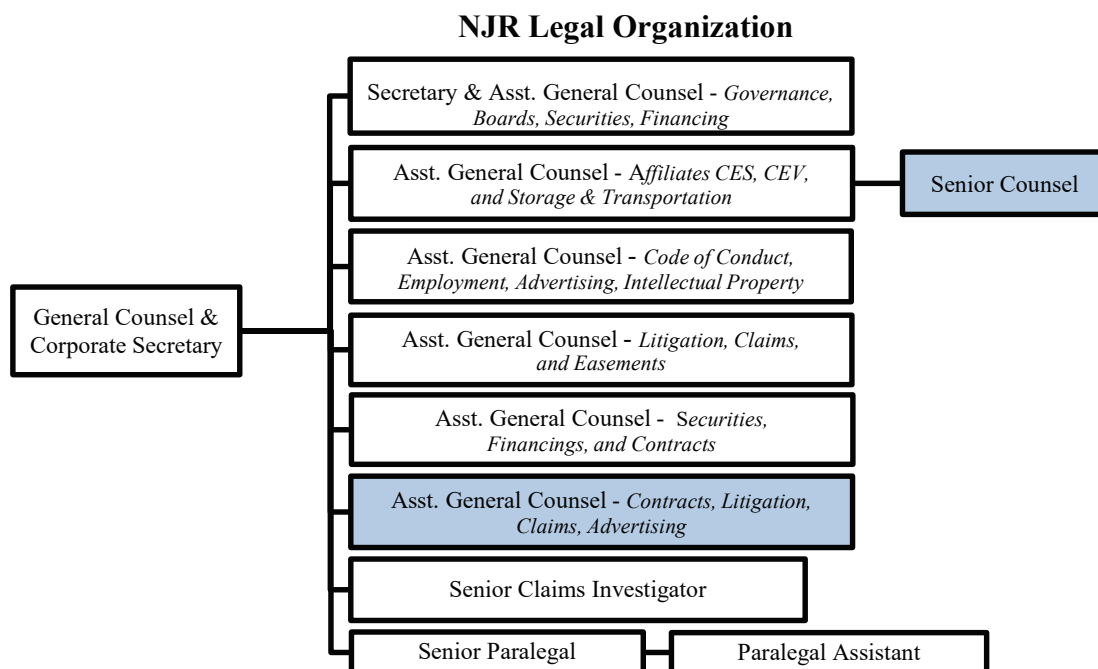
A. Background

A service company level Legal Department provides legal and claims services in common for NJR entities, including NJNG. However, regulatory matters requiring the use of legal professionals fall under direct NJNG control, through its regulatory affairs personnel. This chapter addresses the structure, alignment, and resources that make up this NJR-level legal organization, its use and management of outside counsel, the procedures, policies, and systems that support its activities, and measurements of its effectiveness.

B. Findings

1. Organization and Staffing

The next table shows the organization of the 11-person NJR central Legal Department, which also includes two administrative assistants. Subtracting the two positions highlighted in blue shows the 2017 organization, which was similarly structured save for the two fewer positions.⁶⁴⁵ The title of the chief legal officer also changed from General Counsel to General Counsel and Corporate Secretary from 2021 to 2022, then returned to the formerly used title of General Counsel.



The attorneys in the department have substantial experience, averaging about 10 years, with half of them at NJR for at least 16 years.⁶⁴⁶

The Legal Department has not for at least the past five years assigned attorneys or other department personnel to support rates and regulatory or other NJ BPU matters or responsibilities. Regulatory affairs counsel, reporting to the utility's Senior Vice President – Regulatory Affairs, have provided

that support, with all costs for doing so directly borne entirely by NJNG.⁶⁴⁷ The *External Relations* Chapter of this report describes the organization, resources, functions, and activities involved in managing regulatory affairs for NJNG.

2. Common NJNG and NJRES Legal Representations

NJNG and NJRES, both customers of a number of pipeline and storage providers, have commonly intervened on average more than 80 times per year in FERC cases involving those providers.⁶⁴⁸ Management views their common status as customers having “the same or similar geographic presence” means that they “typically have the same interests.” Each of NJNG and NJRES has a separate Assistant General Counsel generally assigned to address their legal interests. Consultation between those Assistant General Counsel and their respective managers (the Rate and Regulatory Analyst and Managing Director of Gas Supply in the case of NJNG and the Managing Director Trading and Operations in the case of NJRES) occurs where participation extends beyond mere monitoring to active participation. That consultation seeks to ensure that no conflicts bar common legal representation.

3. Legal Costs

The next table summarizes segments of recent-year legal operating costs.⁶⁴⁹ The Service Company portion includes essentially all labor costs of the service company-level Legal Department. The organization directly charges nearly all those costs entirely to the entity(ies) benefiting from the services of the outside counsel retained. A significant portion of the costs in the other categories (Legal & Regulatory, 3rd Party Services, and Other) also relate to specific matters for supporting direct charging of all amounts as well; (e.g., a damage suit against NJNG, contract litigation involving a non-utility affiliate, financing for a specific subsidiary). They exclude, however, the amounts for outside counsel, as explained below. The entries for these categories in the Service Company sector of the following table include those not directly charged in that manner. The table’s NJNG entries show the portions of those categories directly charged to NJNG as the benefiting entity.⁶⁵⁰

Legal Department Operating Cost History

Component	2019	2020	2021	2022	2023 B	2024 B	Δ
Service Company							
Labor ¹	\$2,353,947	\$2,599,064	\$2,705,371	\$3,000,349	\$3,009,699	\$3,224,040	37%
Dues and Fees			\$62,996	\$169,034	\$131,239	\$202,850	222%
Legal & Regulatory	-\$1	\$2,845	\$8,979	\$154,236	\$60,495	\$27,698	874%
3 rd Party Services	\$34,981	\$46,585	\$0	\$251,194		\$10,000	-71%
Other ²	\$112,502	\$141,085	\$80,326	\$60,652	\$56,174	\$75,600	-33%
Subtotal	\$2,501,429	\$2,789,579	\$2,857,672	\$3,635,464	\$3,257,607	\$3,540,187	42%
NJNG							
Labor ¹						\$137	
Legal & Regulatory	\$117,680	\$633,459	\$524,902	\$2,051	\$1,008,028	\$403,817	243%
3 rd Party Services					\$31,308	\$9,275	-70%
Other ²	\$106,448	\$71,322	\$116,198	\$44,201	\$34,150	\$36,594	-66%
NJNG Subtotal	\$224,129	\$704,781	\$641,100	\$46,253	\$1,073,486	\$449,823	101%
Combined							
Grand Total	\$2,725,558	\$3,494,360	\$3,498,772	\$3,681,717	\$4,331,093	\$3,990,011	46%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Technology & Communications, Advertising & Marketing, Contractor/Materials/Reliability, and Other

The variations in the table shows the one-off nature of expenditures in the Legal & Regulatory, 3rd Party Services, and Other categories. The 2023 and 2024 costs data uses budgeted amounts, which show the one-off nature of costs in those categories. The unpredictable or infrequently recurring nature of the matters driving them can impose variations from year to year. The next table shows that there have been material outside counsel costs managed by the Legal Department but directly charged in total to NJNG. Many of these costs relate to the same matters that expenditures in the Legal & Regulatory, 3rd Party Services, and Other categories support. The Legal Department operates under a practice of assigning outside counsel costs directly and fully to the entity(ies) benefiting from services in the matter for which outside counsel is retained.⁶⁵¹

The table shows that outside legal costs incurred directly by NJNG fell between 2020 and 2022. Management reported that providing information prior to 2020 would be burdensome, given the failure to maintain the information in the single database that has been available since 2020.⁶⁵² Management has reported that it incurred no legal services costs that it partially allocated to NJNG.⁶⁵³

Outside Legal Department Costs to NJNG

Service Area	Amount			Change	
	2020	2021	2022	\$	%
<i>General Advice/Counsel</i>	\$1,960,722	\$1,591,371	\$1,326,637	-\$634,086	-32%
<i>Regulatory Litigation</i>	\$237,852	\$87,164	\$10,622	-\$227,230	-96%
<i>Other Litigation</i>	\$1,294,819	\$672,242	\$995,212	-\$299,607	-23%
Total	\$3,493,393	\$2,350,777	\$2,332,471	-\$1,160,923	-33%

4. Time and Fee Procedures and Controls

Legal resources have used an industry-accepted system for time recording, changing from JD Edwards to an Outlook Timesheet System in July of 2020.⁶⁵⁴ Timewatch, a professional services software firm, offers this system for users of Microsoft Outlook. Timewatch offerings include timesheets, time tracking and billing, and professional services automation.⁶⁵⁵

Administrative Policy and Procedure 93 became applicable in 2013, with amendment in 2017. The version in effect then required NJR and affiliate employees working for affiliates outside of their own to allocate their time accurately. The more generally descriptive introductory portion of the procedure obligated personnel who spent significant time on a regular basis for others to allocate their time, using the on-line timesheet system (then JD Edwards-based) or sending paper Form #800 or other documentation to the Financial Department. More clearly prescriptive portions of the procedure appear to require reporting of all such time, whether significant or regular (terms not defined in the procedure). This more prescriptive procedure portion allowed employees to report on a quarterly basis, “immediately” (not further defined) following each quarter.⁶⁵⁶ A November 2021 revision changed the reporting system to Timewatch, continuing the “substantial” and “regular” criteria requiring reporting of time charged to NJR entities other than an employee’s assigned one. The newer procedure also eliminated other, paper forms of time reporting for such work and required monthly, rather than quarterly reporting.⁶⁵⁷

Immediately following the quarter in which there is an occurrence of time worked outside of an employee's home affiliate, employees must submit time for the quarter to the Financial Department. Each employee must retain time documentation through the entire year.

The Legal Department tracked work, fees, and other aspects of outside services manually until early 2020, when it began to use a commercially available system, Legal Tracker E-billing software, for these purposes.⁶⁵⁸ This software provides a secure platform for managing invoices from outside firms, which generally bill on monthly cycles. The platform provides for automated invoice approval, audit, and routing and includes integration with systems that manage accounts payable. The system eliminates paper approval and makes invoices searchable. The system also provides controls over timekeeping, limits on incurring expenses, alternate fee arrangements and other billing guidelines. The system also provides cycled (monthly or life-of-matter for example) over-budget spending alerts.⁶⁵⁹

An Administrative Policy and Procedure last revised in August of 2022 addresses the engagement of all outside counsel by all NJR business, including NJNG. It covers authorizations, restrictions, guidelines and procedures and requires the use of firms on a pre-approved list or as specifically authorized in writing by the General Counsel. Only Company attorneys may retain, manage, supervise, or approve invoices from outside legal services providers. The document requires an engagement letter, cites the obligation of firms retained to comply with a set of established Outside Counsel Guidelines and other policies and procedures. The Assistant General Counsel primarily responsible for a matter must approve invoices for that matter, with further approval of the General Counsel for legal services invoices exceeding \$5,000. The Environmental Services Department must also review invoices for services related to the former manufactured gas plant ("MGP") sites, before sending them along for final General Counsel approval.

5. Measuring Service Effectiveness and Efficiency

Legal Department professionals use regular contacts with counterparts (e.g., through American Gas Association membership and participation) to benchmark their operations. Client satisfaction surveys conducted annually in recent years solicit feedback from the NJNG and other NJR businesses they serve. Negotiation of fee discounts form a regular part of managing relationships with outside counsel. The practice of engaging new outside counsel calls for contacts with multiple firms, with comparative costs comprising one of the factors considered.⁶⁶⁰

C. Conclusions

1. Legal Department staffing is reasonably structured, employs an experienced group of professionals, and employs resource numbers consistent with overall NJR and NJNG-specific needs.

The NJR-wide Legal Department operates under attorneys largely aligned by area of expertise in a manner typical of legal departments that have substantial responsibilities for representing the interests of utility subsidiaries that comprise a very large share of overall operations under a holding company. One less common organizational element here, the location of legal responsibility for NJNG regulatory legal matters under the utility's executive leadership, comprises a notable strength. Staffing has grown from six to eight since the last audit of this type, driven in substantial part by increasing non-utility operations and associated legal needs.

We found Legal Department cost growth from 2019 through 2022 reflective of needs to address growing overall NJR legal needs. The *Cost Allocations* Chapter of the accompanying Phase One report addresses measures for ensuring appropriate and reasonable assignment of costs among NJR business operations, including those of NJNG.

2. Measures for recording internal Legal Department time are generally appropriate, but contains an element that introduces uncertainty. (See Recommendation #1)

A 2021 change in the time recording platform tightened controls over time reporting, including shortening the time period for reporting work for other than one's assigned NJR entity from three to one month. Time recording determines the entity(ies) charged and the portions for which they bear responsibility. However, separate provisions of the applicable time reporting procedure appear both to require and to exempt reporting of work for other entities that is not both substantial and regular.

3. Legal Department costs have remained as stable as can be expected, given the unpredictable nature of the need for outside counsel resources and legal & regulatory, 3rd party services, and other costs associated with them.

Staffing costs drive the largest Legal Department expenditures. Their growth is consistent with the growth in non-utility business and in the support required for SAVEGREEN activities. The practice of directly charging essentially all outside counsel costs and a large portion of those associated with legal & regulatory, 3rd part services, and other costs serves to align by NJR entity cost responsibility with cost causation.

4. Effective policies and practices exist to manage outside counsel performance and costs.

A procedure recently reviewed covers in a manner that we found reasonably typical authorizations, restrictions, guidelines and procedures for outside counsel use. It employs a pre-approved list of firms, permits special authorization as needed and under reasonable controls. It gives only Legal Department attorneys the power to retain, manage, supervise, or approve invoices. The procedure requires an engagement letter and obligates outside counsel to comply with established Outside guidelines and other policies and procedures. The procedure also establishes appropriate approval requirements for outside billings.

5. More formality in benchmarking performance with others would be beneficial, but measures do exist to validate service effectiveness and efficiency.

Control of outside counsel costs, the practice of multiple firm contacts when considering new outside counsel relationships, annual internal client surveying, and success in achieving discounts from standard fees exemplify efforts that support effective performance effectiveness and efficiency.

D. Recommendations

1. Clarify time reporting procedures to make unambiguous the obligation to report all time spent for the benefit or on behalf of an entity or activity outside those to which personnel are regularly assigned. (See Conclusion #2)

Personnel should report all time spent on behalf of an entity or activity outside those to which personnel are regularly assigned, whether regular or not and whether substantial or not. One provision of the procedure can be read to require such reporting only when such time is both regular and substantial. Another can be read to require affirmative reporting for all such time, even if not regular or “substantial.” The last term is not explicitly defined, but apparently left to the judgement of the employee. The applicable procedure should make clear that all time so spent should be recorded.

***Chapter XX: Facilities and Real Estate Management
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Chapter XX: Facilities and Real Estate Management

A. Background

NJR provides facilities and real estate management functions and activities through a service company organization. It has transitioned away from the use of an affiliate operating in the commercial and industrial development business to provide those services. We examined the organization, resources, policies, procedures, and performance measures of the common provider, NJR Facilities group, which operates under the Finance organization. We examined changes in costs, including capital expenditures, which have been significant.

B. Findings

1. Summary of Facilities

The next table summarizes facility locations and the numbers of NJNG personnel operating from them.⁶⁶¹

NJNG Personnel Locations
(confidential table)



The next table summarizes net book values of owned and annual lease cost of other facilities at year end 2022.⁶⁶²

Net Book Value of Owned Facilities
(confidential table)

In addition, Project NEXT has made use of 17,497 square feet of leased space in Red Bank to support its work. The lease, scheduled to end in early 2024, requires payments of [REDACTED] per year and has produced capital expenditures of about [REDACTED]. The next table summarizes occupancy of these premises over the lease's duration.⁶⁶³

Project NEXT Leased Premises Occupancy

Source	2019	2020	2021	2022	2023
NJR Employees	30	12	36	40	36
PwC & Other Contractors	35	0	0	23	27
Total	65	12	36	63	63

There are no unused or vacant NJNG facilities or NJR facilities. Since 2020 the only instance of vacant or unused facilities came at an Upper Freehold NJNG facility, for which the utility's costs were [REDACTED] for 2020.⁶⁶⁴

2. Organization and Staffing

The last audit of this type found the use of use of affiliate CR&R to provide facilities management services at that time suboptimal. CR&R operated then as a developer, owner, and lessor of New Jersey commercial and industrial projects. It then had a small staff of four, including its President/CEO. The last audit recommended moving responsibility for facility and real estate management responsibilities under the Energy Delivery and the development of formal policies, procedures and measures of effectiveness.

Use of CR&R has declined precipitously in recent years, as NJR brought facility management into the service company, operating under Financial top executive leadership.

The service company Facilities group has had responsibility for maintenance services for offices and operating centers across the operations of NJR, including those of NJNG. Facilities manages the selection and supervision of contractors who perform such services. The group also coordinates

real estate transactions, inspections, and surveys. The Facilities group responsibilities include the assurance of safety and security at these locations, and maintenance of building structures, equipment, and grounds. The group has planned and managed construction projects at the Safety Town facility, the Manahawkin facility, and Wall General Office lot resurfacing, roof replacement, bathroom remodeling, data center construction, generator replacement, and office renovation.⁶⁶⁵

The organization of the Facilities group in 2017 consisted of four positions operating under two separate managers, a Manager, Facilities, under whom two Facilities Technicians reported and a Property Manager. Each of these two managers in 2017 reported to the Director, Finance and Administration. This director operated in the Finance organization, reporting to the Vice President Treasury and Investor Relations.⁶⁶⁶

A single manager, the Manager, Property and Facilities now provides day-to-day direction of Facilities group activities. This manager reports to the Director, Security & Business Continuity, who in turn reports through the Vice President Corporate Risk Management, a function within the Finance organization.⁶⁶⁷ The four-person Facilities group has expanded by one position. It now consists of the Manager, Property and Facilities, this manager's single direct report, the Supervisor Facilities & Building Grounds, and the supervisor's three direct reports, consisting of the two Facilities Technician positions and the added position of Facilities Technician Assistant.⁶⁶⁸

3. Operating Costs

The next table summarizes recent year Facilities operating costs. These costs include those incurred to perform physical security functions. The extremely high growth in Facilities operating costs came first from the addition of Building Operating expenses beginning in 2020, followed by large increases in Other costs. Labor costs have remained flat, not even increasing at the rate of annual compensation increases.⁶⁶⁹

Facilities Group Operating Cost History

Component	2019	2020	2021	2022	2023 B	Δ
Labor ¹	\$1,078,704	\$938,294	\$1,126,538	\$988,524	\$1,072,860	-1%
Building Operating Expenses		\$1,458,842	\$3,608,714	\$2,244,103	\$1,397,150	-4%
Other ²	\$10,699	\$23,630	\$787,619	\$916,822	\$1,301,147	5406%
Total	\$1,089,402	\$2,420,767	\$5,522,871	\$4,149,449	\$3,771,158	56%

¹ Includes Labor, Fringe Benefits, Training, & Travel

² Includes Technology & Communications, Services, Materials, and Reliability, and Other Expense

The next table shows that, as far back as 2019, budget overruns have been substantial, increasing dramatically as work on Safety Town and the Wall headquarters facility moved toward completion.⁶⁷⁰

Facilities Group Budget Variances

Year	Budget	Actual	Δ
2019	\$1,011,855	\$1,089,402	8%
2020	\$930,224	\$2,420,767	160%
2021	\$3,304,196	\$5,522,871	67%
2022	\$3,771,158	\$4,149,449	10%
Total	\$9,017,433	\$13,182,489	46%

Labor costs, as noted, did not contribute to budget overruns. Management did not provide direct answers to inquiries designed to examine use of outside resources, common in facilities management, and their effectiveness. We asked specifically for the following information regarding real estate or facilities planning, acquisition or management services, functions, or activities provided or supported by outside resources from 2019 through 2022:⁶⁷¹

- Each provider
- Dates of services
- Explanation of changes in services
- Amounts paid to each provider by service or activity if tracked.

The response listed providers and dates of service, but without identifying those services. The response did not provide amounts by provider, but simply total amounts by location and listing the training facility, the Wall headquarters, and the Manahawkin facilities.

4. Capital Costs

Large capital costs distinguish facilities management from most other central support activities. Capital costs associated with buildings have also shown large variability in recent years, as the next table summarizes.⁶⁷² Work to develop the new 30,000 foot training center (Safety Town) and on a substantial renovation and refitting of the Wall headquarters facilities have had a substantial effect on this variability, imposing large expenditures and causing variations from budgets as work progress and schedules changed.

Facilities Capital Expenditures

(confidential table)

Budget

Actual

The movement of facility management functions and activities under the service company has dramatically reduced reliance on CR&R in more recent years. The 2020 version of the Cost Allocation Manual listed CR&R as still an affiliate, describing it as holding commercial real estate. Most leases with CR&R, as our examination of affiliate transactions disclosed, were older. A

newer, 2020 lease observed did not engage NJNG interests; it was between CR&R and non-utility affiliate NJRCEV. Net dollar flows for transactions and relationships between NJNG and CR&R remained at a fairly consistent [REDACTED] or so average from the time of the last audit report until 2019. They fell to an average of [REDACTED] in 2020 and 2021, and further to [REDACTED] in 2022, after which they ended.

5. Policies, Procedures, and Metrics

The last audit of this type found some ten years ago a lack of policies, procedures, and measures of effectiveness addressing facilities and real estate matters. The Facilities group apparently still operates in the absence of policies, procedures, and guideline documents to support the real estate or facilities planning, acquisition or management services processes. Management explained this lack as compelled by the uniqueness of each situation that facilities management presents.⁶⁷³

C. Conclusions

1. The Facilities group has experienced very large increases in costs and large variances between budgeted and actual costs. (See Recommendation #1)

Certainly large capital work at the Wall headquarters and at Safety Town have made budgeting difficult and have added materially to operation and maintenance needs as well. Nevertheless, the large increases and variances warrant attention. We found it difficult to assess the causes of cost increases given management's inability to provide information about outside resource use and costs at a meaningful level of detail. Having now apparently completed the transition away from securing facilities management services from a small-sized affiliate engaged in commercial and industrial development, another question that remains is the degree to which that change has involved a robust consideration of alternative structures and resource options. As noted, the data management has provided does not allow meaningful response to that question.

Also at issue is the continued reporting of facilities management functions through the Finance organization. The resources with day-to-day responsibilities have been moved to a director whose other responsibilities include some that are non-financial. However, ultimate reporting remains through to the highest Financial levels, which may be a remnant of the era in which a commercial and industrial development affiliate provided facilities management services. Such services are fundamentally operational in nature.

2. As the last audit of this type found some ten years ago, facilities and real estate management continues to operate without policies, procedures, and sufficient performance measures. (See Recommendation #2)

Facilities and real estate management require a broad range of day-to-day and other regularly recurring activities. Moreover, the need for policies and procedures extends to activities that do not necessarily recur under a predictable schedule or require a standard response. Policies and procedures here, as generally true, require effective policies and procedures. Centrally supported functions at NJR also typically do not employ a set of performance measures consistent with good practice in the industry. The prior audit of that type found that to be the case for facilities and real estate.

A wide range of metrics find common use in measuring facilities and real estate management. They depend significantly on the types of facilities involved, of which NJNG has many either directly under its control or used by service company personnel to support NJNG. These types include general office, technology intense operations center, stores, garage, dispatch, and customer contact locations, to mention some.

3. NJNG has made reasonably full use of its facilities, whose overall size is reasonably aligned with utility needs, has made only limited use of leased facilities, and maintains no vacant facilities.

The facilities of NJNG and those used to house service company and corporate personnel have remained fairly stable in size, recognizing the addition of a training facility in 2022 and substantial headquarters work at the Wall Township facility. Changes at the headquarters building have brought additional personnel to that facility. Facilities are primarily owned, with limited leased buildings and no unoccupied facilities.

We found the Red Bank 17,497 square feet and lease costs moderate given the nature and size of Project NEXT and the term aligned with the project's schedule.

D. Recommendations

1. Identify the sustained drivers of the large increases in facilities management costs and budget overruns and revise the organization, structure, and resource alignment to optimize costs and performance effectiveness. (See Conclusion #1)

The Facilities management group has been challenged by a number of factors in recent years. They include transition away from the use of a commercial and industrial development firm to provide services, large capital projects that have complicated day-to-day operations, and a significant, new 30,000-foot training facility requiring support. Limits on the data that management supplied in response to our requests makes it impossible to identify with particularity all of the material drivers of the growing costs and large overruns, their individual contributions, and what is likely to result after transitory factors like those noted above have fully receded in impact.

These circumstances make facility management and real estate functions and activities a prime candidate for review under NJAC section 14:4-4.5 (described in this report's *Cost Allocation* chapter) to test the provision of services as now structured with other alternatives. It presents an example of a set of functions and activities classically divided between a mix of internal and external resources that varies among participants in the industry. This review should also examine what has been a recurring issue in not just the last but the last two similar audits of NJNG and its relationships and transactions with affiliates. Facilities and real estate management have a fundamentally operational rather than administrative focus. NJR's service company generally and its Finance organization in particular are not strongly operations focused, but the NJNG Energy Delivery organization is. The study we recommend needs specifically to consider the costs, benefits, and disadvantages of moving the management of facilities and real estate from the Financial to the Energy Delivery organization.

2. Develop a comprehensive set of facility and real estate management policies and procedures and conduct a review leading to development of an optimum set of performance measures. (See Conclusion #2)

Facilities and real estate management require a broad range of day-to-day and other regularly recurring activities. Moreover, the need for policies and procedures extends to activities that do not necessarily recur under a predictable schedule or require a standard response. Policies and procedures here, as generally true, require effective policies and procedures. Centrally supported functions at NJR also typically do not employ a set of performance measures consistent with good practice in the industry. The prior audit of that type found that to be the case for facilities and real estate.

As noted above, the measures that should be employed depend on the type of facilities that exist and the operations those facilities must support. The multiplicity of facility types and operations supported make it necessary to conduct in conjunction with NJNG a comprehensive review of the very wide range of measures in use and to use that review to identify a sufficiently broad array of measures to allow for reasonably complete measurement of how well facility and real estate functions and activities are performing. That list should be compared with the current roster of measures to identify additions and alterations that will provide a more comprehensive measurement system.

While not designed to address the full range of facilities whose management is important to NJNG's operations, a more general list serves to illustrate some more generally applicable measures and emphasize the need for them generally to be quantitative in nature. One list we have found particularly useful includes:

- Facilities group worker productivity
- Maintenance order completion
 - Time to respond
 - Time to complete
 - Open-to-close time
- Costs per square foot
 - Management
 - Maintenance
 - Operations
 - Utilities
 - Cleaning
 - Security
- Planned versus reactive maintenance ratio
 - Current
 - Trends
- Asset Condition (FCI)
- Safety
- Energy Use Intensity (EUI)
- Water Use Intensity
- Total facility cost per business activity unit
- Facility availability percentage

- Spending on new equipment versus repairs
- Satisfaction score of facility users and visitors
- User complaints.

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Chapter XXI: Fleet Services

A. Background

This chapter addresses vehicle and other fleet unit purchase, leasing, maintenance, repair, and housing. It focuses on the Fleet Services organization within NJNG that has responsibility for procuring vehicles after working with field personnel to develop specifications. This NJNG group also has responsibility for maintenance and repair of the NJNG vehicle fleet.⁶⁷⁴

B. Findings

1. Organization and Staffing

Management of NJNG fleet operations falls under the utility's Director-Energy Delivery Support. Staffing under the Manager – Fleet Services, who manages the function. Staffing includes 16 persons. The Manager's reports include a Supervisor Fleet & CNG (compressed natural gas) and a senior Operating Clerk. Two Fleet Technicians report to the supervisor, one with a staff of eight and the other six. The structure and staffing of Fleet Services has remained constant since at least 2017.⁶⁷⁵ The Manager of Fleet Services has responsibility for executing vehicle purchases and for retiring vehicles. The Supervisor of Fleet Services and Lead Fleet Technicians create and execute maintenance and repair work orders, assess parts availability, and manage the processing of. The Supervisor of Fleet Services also has responsibility for policies and for maintenance, parts availability, and managing invoices.⁶⁷⁶

The next table summarizes recent year Fleet Services operating costs. They have grown substantially since 2019. Labor costs have grown by nine percent per year. Larger increases in "Other" costs have produced an even greater, 11 percent annual rate of increase from 2019 through 2022 in actual expenditures and a further increase of about 20 percent on a 2023 budgeted basis.⁶⁷⁷

Fleet Services Operating Cost History

Cost Component	2019 A	2020 A	2021 A	2022 A	2023 B	2024 B	Change
Labor ¹	\$1,395,734	\$1,472,823	\$1,693,682	\$1,740,950	\$2,200,748	\$2,164,447	\$768,713
Contractor, Materials, & Reliability	\$1,937,124	\$1,613,934	\$1,136,750	\$765,704	\$1,088,542	\$1,221,790	(\$715,334)
3rd Party Services			\$48,076	\$19,576	\$21,000	\$60,839	\$60,839
Other ²	(\$297,838)	(\$59,783)	\$1,101,666	\$1,613,121	\$1,920,040	\$1,725,444	\$2,023,282
Total	\$3,035,020	\$3,026,975	\$3,980,174	\$4,139,351	\$5,230,331	\$5,172,520	\$2,137,500

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Technology & Communications, Building Operating Expense, Capital Transfers, Other

The table shows a very large 2021 increase in Other costs, with NJNG identifying repair and maintenance (50 percent) and bulk fuel use (25 percent) as the largest components. Management cited a limited ability to make new vehicle purchases as a result of COVID-19 circumstances as the principal reason for the increase in Other costs. Reduced new vehicle purchases thus required higher maintenance costs, increased parts costs, and the need for bringing vehicles back into service to separate personnel who traveled in the same vehicles before the pandemic.⁶⁷⁸

Data regarding fuels delivered to company locations and purchased at retail (by credit card) provide more clearly summarized and detailed information, but again, without any roll up or

analysis for the large amounts (e.g., \$1.7 million at 2021 prices). Available systems can respond to requests such as we made with large volumes of data, but NJNG has not provided reports showing that it regularly collects, summarizes, and reports on such data or how it manages the costs involved.

NJNG operates a number of locations for housing vehicles.⁶⁷⁹

- Rockaway Service Center in the Northern Division
- Atlantic Highlands Service Center in the Bay Division
- WLMD Service Center in the Central Division
- Lakewood Service Center in the Ocean Division
- Manahawkin Service Center in the Ocean Division.

NJNG performs vehicle repairs in-house, except for body work and transmission repairs, for which it does not have the necessary equipment.⁶⁸⁰ NJNG no longer secures vehicles through leases; approximately 40 of the more than 750 vehicles comprising the fleet are still held under lease, with the rest owned.⁶⁸¹ The next table shows 2021 fleet numbers by location and vehicle type.⁶⁸²

2. Fleet Composition

Fleet Numbers

Type	Location						Total
	Central	Lakewood	Northern	Bay	Manahwkn	NJR	
Truck	153	105	38	33	20	18	367
Car	35	32	17	6	15	19	124
SUV	83	10	1		2	15	111
Trailer	20	20	4	8	1		53
Van	21	13	7	4	2	2	49
Backhoe	1	2	1	4	1		9
Compressor	2	3					5
Crew Cab	3	5					8
Forklift		7		1			8
Dump Truck	2	2	1	1	1		7
Tractor	4		1				5
Vermeer	3			2			5
Gator	3						3
Welding Truck	1	1					2
Excavator	1						1
Other	1						1
Total	333	200	70	59	42	54	758
<i>Average Age</i>	<i>2021</i>	<i>2012</i>	<i>not avail.</i>	<i>2015</i>	<i>2010</i>	<i>2009</i>	
<i>Average Miles</i>	<i>46,000</i>	<i>38,000</i>	<i>48,000</i>	<i>44,000</i>	<i>60,000</i>	<i>66,000</i>	

NJNG tracks motor vehicle accidents by cause. The numbers of preventable accidents have remained moderate, ranging between 14 and 19 from 2019 through 2022.⁶⁸³

The next table summarizing capital expenditures for vehicles in recent years shows inter-year variations between budgeted and actual amounts. The budget for 2023 vehicle purchases was \$5.47 million.⁶⁸⁴

Vehicle Purchase Capital Costs

Year	Budget	Actual
2020	\$3,427,129	\$2,780,704
2021	\$1,218,000	\$4,024,213
2022	\$3,623,987	\$1,941,550
Total	\$8,269,116	\$8,746,467

There appear to be no requirements specifically applicable to vehicle purchases. However, management limits purchases to American-made vehicles, as required by a bargaining agreement, and management further limits the numbers of manufacturers used to reduce the variety and numbers of parts required to remain on hand to support servicing and repair. An agreement with General Motors, a major supplier, reportedly provides NJNG with lower prices than available to the public.⁶⁸⁵

3. Performance Management and Metrics

Apart from the preventable accident rate metric, preventive maintenance completion rate has comprised the principal metric for measuring the group's performance. In 2020, management appears to have set a time to complete preventive ("PM") and corrective ("CM") maintenance target, but no measure of performance against it was provided. The metric does not appear in the list of those used after 2020. A satisfaction survey had been used, but was dropped in 2020 due to COVID-19 complications.⁶⁸⁶ The next table summarizes results under the maintenance completion metrics.

Fleet Service Performance Metrics

Metric	2019		2020		2021		2022		2023	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
PM Completion	95%	95%	95%	95%	75%	66%	75%	84%	75%	84%

Our request for year-end reports on a number of baseline fleet management measures (maintenance, downtime, and gasoline usage from company tanks and credit-card programs) produced a single spreadsheet with some 7,000 entries (almost 750 rows and 100 columns). The data does not in a meaningful way report on any clear aspect of performance in managing the vehicle fleet. Clearly, management's systems have the capability on demand to generate data, but it does not appear that management has regularly accessed this data to assess performance at a meaningful level.⁶⁸⁷ Management has not benchmarked performance against other metrics during since at least 2018.⁶⁸⁸ Fleet Services does not appear to track service and repair costs by vehicle class or manufacturer.⁶⁸⁹

A broad range of metrics exists to track and manage performance and costs beyond the PM (Preventive Maintenance) completion rates used by Fleet Services. For example, a multi-continent outside provider of fleet management services (Fleetio) displays on its web site a list of 15 metrics.⁶⁹⁰ This list is fairly comprehensive, but not atypical of the kinds of metrics we have seen used at other utilities. This list includes:

- **Maintenance and Repairs**
 - Preventive Maintenance On-time Completion Rate

- Time to Repair
- Scheduled versus Unscheduled Services
- **Vehicle Inspections**
 - Completion Rate
 - Pass/Fail Rate
- **Vehicle Performance and Utilization**
 - Downtime v. Uptime
 - Mileage/Hours
 - Fuel Consumption and MPG
 - Utilization Rate
 - Vehicle Operational Life
- **Fleet Operational Costs**
 - Total Cost of Ownership
 - Cost Per Mile
 - Parts and Inventory Value.

There have been no studies, analyses, or other assessments of vehicles and vehicle management. Fleet Services has not undertaken any performance or service improvement initiatives since at least 2018.⁶⁹¹ There has been no survey to assess user satisfaction with Fleet Services performance.⁶⁹² There has been no examination comparing the costs of internally versus externally provided vehicle servicing, repair, or other activities performed by Fleet Services. The last examination comparing internally versus externally provided fleet services occurred about 20 years ago.⁶⁹³

C. Conclusions

1. The NJNG Fleet Services organization has witnessed extremely large cost increases for both internal labor and external services, with costs cited as increased due to COVID-19 still persisting. (See Recommendation #1)

The fleet management organization has remained fairly stable, but labor costs have grown at an annual rate of about nine percent. Large increases in outside costs, cited as resulting from COVID-19 circumstances, have pushed fleet costs to an even higher overall annual increase rate of 11 percent. Vehicle purchase constraints appear to have lifted, with the 2023 budget for new vehicle purchases more than doubling over 2022 actual purchases. Moreover, 2024 budgets show no moderation in the costs that management says rose due to COVID-19 circumstances.

There has been no analysis of the comparative costs and benefits of using outside services under different levels or combinations with internal resource use in 20 years.

2. Vehicle acquisition costs have remained moderate and within budget for the past several years; all are for purchases, as the organization has stopped using leases to acquire access to vehicles.

Purchase costs have recently averaged somewhat under \$3 million and within budget overall. This moderate level of investment to maintain a fleet of about 750 level of costs is moderate. Since the last audit of this type, Fleet Services has ceased using leases, as opposed to purchases, to secure vehicles. A current study would provide sounder validation of this preference, but the moderate

level of vehicle purchases likely would make any difference in costs marginal. Limitation of purchases to U.S. manufacturers assists in managing parts acquisition and maintenance, useful for what are moderate total vehicle requirements. A favored pricing arrangement with one of the large manufacturers also assists in ensuring competitive pricing.

Fleet aging indicates economy as well, with overall vehicle age averaging in the range of 10 years and mileage in the range of 50,000. The last comparison of internally versus externally provided fleet service occurred in 2004.

3. Fleet Services operates under an extremely limited set of metrics, which distinguishes it from typical industry experience. (See Recommendation #2)

The systems available to Fleet Service appear to give it the ability to capture significant data about performance and about costs (fuel, to name just one example). However, there is apparently little reporting of data or analysis of performance at the levels of detail and categorized by location. The lack of such reporting and analysis of data diminishes the ability to measure performance effectively and to adjust methods and practices as may prove needed.

D. Recommendations

1. Conduct a structured analysis of internally versus externally provided fleet services and of the continued preference for purchasing rather than leasing vehicles. (See Conclusion #1)

Particularly in managing fleets of the size at issue here, external services raise the potential for providing more cost effective services. NJNG does spread Fleet Services operations out across its service territory, which presents challenges in managing outside services, but use of multiple locations also means potentially further reduced economies of scale to reduce costs per unit of work performed or activity involved. A span of two decades since the last comparison with outside providers makes a new study appropriate, to determine whether attractive options exist. Even if they do not, a comprehensive study that considers true market costs can identify means for improvement internally, particularly for an organization that employs an extraordinarily limited set of performance measures subjected to regular reporting and analysis.

2. Adopt a series of fleet management metrics commensurate with those of the industry and regularly report and analyze Fleet Services performance using them. (See Conclusion #3)

It is typical to find a broad range of performance metrics among fleet management organizations, periodic reporting on progress under them as the year progresses, analysis of and responses to variances found, and comparison of performance between different company locations under them. The list set forth in the findings section above may prove more than Fleet Services will find useful in making decisions about vehicles or in managing the performance of those who work with or on them. Management should carefully review this list and identify the resource requirements involved in collecting the data such metrics require. It should then consider how the information can inform decisions about its vehicles (*e.g.*, service intervals, retirements) and the efficiency of the locations and persons working on them)

Management should then establish those it finds useful, set appropriate performance targets and goals for them, report performance against them (semi-annually or annually at least), identify variances, and identify solutions for addressing them. Fleet management simply is far more informed in the industry by data and analysis than appears to be the case at Fleet Services.

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Chapter XXII: Information Technology

A. Background

IT systems and applications support a wide variety of needs, which, for example, extend from financial and customer operations to increasingly significant roles in the planning operation, maintenance, and even restoration of systems that transport and deliver natural gas. Protecting the integrity of those systems has become increasingly important. A number of other chapters of this report show the breadth of IT applications and their criticality to NJNG's operating success. These other chapters address important aspects of IT design, capabilities, and use. Examples include the *Distribution and Systems Operation Management* and *Customer Service* chapters of this report. The *EDECA* Chapter of this report addresses protection of information and ensuring limits on its use to permitted purposes. Beyond these broader applications of important IT systems and applications, other chapters address their use for specific purposes; *e.g.*, managing work and costs of outside counsel or ensuring document retention for required time periods.

This chapter does not repeat the discussion of IT-created capabilities and uses, but addresses how NJR's provision of IT functions, activities, and services through a common service company department on an enterprise-wide basis organizes, staffs, structures, prioritizes and plans, develops, acquires, and maintains capabilities that depend on IT. Smaller in utility scale than the three large utility holding companies with New Jersey utility operations, NJR relies on outside providers to develop major system implementations. However, managing and supporting them after implementation takes considerable effort.

We conducted our examination recognizing the need for IT leadership and management to focus on improving efficiency and effectiveness at the common-service level and with respect to NJNG as an operating company. We considered factors such as:

- Responsiveness to user needs
- Management of work queues to avoid significant backlogs
- Planning to meet users' future needs
- Methods for identifying, ranking, acquiring/developing, and implementing recent technology and applications
- Organization structure and resource level changes over time.

We examined the organizational approach to IT and the resources applied, processes used, continuity and disaster-recovery programs, budget priorities and development, methods to keep abreast of user needs, measures of performance effectiveness and costs, and opportunity for and use of feedback from and participation by NJNG as a major end user in planning and feedback on performance effectiveness.

B. Findings

1. IT Responsibilities

The IT organization that serves operations across NJR, including those of NJNG, describes its services and support as including:⁶⁹⁴

Project NEXT: Supporting business and technology transformation through the multi-year program to modernize technology platforms and business processes

- Enterprise Architecture: Establishing, upgrading, and improving an architecture technology strategy and roadmap to support current and future business and technology capabilities
- Infrastructure and Operations: Providing innovative, scalable, redundant and highly available technologies and services for data network, telecommunications, data centers, and infrastructure
- Business Relationships and Project Management: Partnering with business groups to turn business strategies into investment roadmaps, oversee resulting initiatives and execution
- Technical Support: Providing help desk and technical support services
- Application Development and Support: Introducing leading technology practice, process, and productivity improvements through application support and development
- IT Analytics and Finance: Supporting achievement of yearly budget and performance goals
- Cybersecurity: Identifying risks to information and system security risks, and responding with confidentiality, integrity and availability processes, procedures, policies, training, and knowledge sharing.

The next Chapter of this report addresses cybersecurity in more detail, with this chapter's addressing of cybersecurity largely focused on its organizational alignment and overall impact on IT resources and costs.

IT personnel meet with NJNG on a regular basis to identify the utility's needs and to identify means for meeting them. The normal capital and operating budgeting processes provide the means for finalizing plans. Quarterly business unit Leader Technology Alignment meetings review projects currently underway and those pending for later start.⁶⁹⁵

2. IT Organization

The Chief Information Officer ("CIO"), reporting to the NJR CEO had in 2017 and continues to have executive responsibility for the IT group's responsibilities. The direct reports to the CIO have not changed significantly over this period. Five director-level positions (one as an interim leader in 2017) still report to the CIO:⁶⁹⁶

- IT Business Relationships and Project Management
- Application Development
- Infrastructure
- Enterprise Architect
- IT Cyber Security (addressed separately later in this chapter).

A sixth direct report to the CIO, the Manager, IT Analytics & Finance has continued over this period to report to the CIO. IT has added more recently a Program Manager to manage the large Project NEXT suite of IT-related solutions that have been underway for the past four or five years.

IT staffing has grown by about 43 percent since 2017, as the next table summarizes. As others have experienced as well, growth has come in areas that support operating technology, cybersecurity, and communications. Project NEXT has also added resource requirements.

IT Staffing Changes

(Table is Partially Confidential)

Director, Infrastructure			Business Relationships & Project Manager			Director, Enterprise Architect		
Position	2017	2023	Position	2017	2023	Position	2017	2023
Tech. Support	7	10	Business Technology	3		Solutions Architect	1	1
Help Desk	5	5	Analyst and Administrator		1	Developers		2
Ops & Special Projects	4		Project Manager	2	5	Total	2	4
Desktop & Telecomm	4	5	Total	6	7	Director, Application Development		
System Administrator		3	Manager, IT Analytics & Finance			Tech. Consultant	1	
Application Support			Assistant	1	1	Application Specialist	1	3
Patch Administrator		1	Total	2	2	Application Support		7
Network Solutions		3	Program Manager, Project Next			Developers	10	13
		2	Assistant	1	1	Total	13	24
Total	21	27	Total	2	2	GRAND TOTAL	46	66

3. Information Technology Costs

The next table summarizes recent year IT operating costs.⁶⁹⁷ Costs have increased substantially since 2019; *i.e.*, by \$5.97 million, or 28.9 percent. The largest dollar increases have come in these areas:

- Technology & Communications category, which increased by \$4.17 million (43.2 percent)
- Labor, which increased by \$2.47 million (31.2 percent)
- 3rd Party Services, which increased by \$438 thousand (31.2 percent).

Decreases in Other costs (\$1.67 million, or 136.2 percent) provided a partial offset to these sources of increase.

Information Technology Operating Cost History

Component	2019	2020	2021	2022	2023	2024B	Δ
Labor ¹	\$7,918,039	\$8,886,134	\$9,854,344	\$10,387,413	\$11,105,252	\$13,148,716	66%
Technology & Communications	\$9,638,760	\$11,934,620	\$15,025,336	\$13,807,094	\$16,321,234	\$19,997,037	107%
3rd Party Services	\$1,484,033	\$625,671	\$1,614,767	\$1,921,778	\$805,241	\$1,302,071	-12%
Dues & Fees	\$144,504	\$193,984	\$374,970	\$338,242	\$511,742	\$342,000	137%
Building Operating Expenses		\$132,467	\$215,137	\$174,586	\$135,275	\$181,764	37%
Insurance	\$282,686	\$295,001	\$318,602	\$483,000	\$649,543	\$746,974	164%
Other ²	\$1,226,516	\$127,146	-\$893,640	-\$444,290	\$170,375	\$220,786	-82%
Total	\$20,694,538	\$22,195,023	\$26,509,515	\$26,667,824	\$29,698,661	\$35,939,348	74%

¹ Labor, Fringe Benefits, Seminars, Training, & Travel

² Includes Contractor Materials, and Reliability, Legal & Regulatory, Capital Transfers, and Other

NJR makes fairly moderate use of ongoing (*i.e.*, not development-specific) outside services to support IT operations, as the next table summarizes.⁶⁹⁸

Ongoing IT Outside Services Costs
(partially confidential table)

Provider	Services	2019	2020	2021	2022
One	After-Hours HelpDesk Services	\$64,000	\$60,000	\$55,000	\$70,000
Two	ERP System Support		\$601,100	\$896,400	\$481,090
Three	JD Edwards G-Flex Featur Support	\$48,000	\$51,000	\$34,000	\$31,167
Four	Disaster Recovery Services	\$628,201	\$630,000	\$1,041,283	\$1,278,118
Total		\$740,201	\$1,342,100	\$2,026,683	\$1,860,375

We used 2021 and 2022 costs to show the categorical breakdown and NJNG shares of IT department and related other costs, which the next table summarizes. The charts following show the shares that the categories represent.⁶⁹⁹

2021 and 2022 Breakdown of IT-Related Costs

Component	2022				2021			
	Total		NJNG	%	Total		NJNG	
	\$	%	\$	%	\$	%	\$	%
Employees	\$9,663,542	37%	\$6,570,467	68%	\$8,864,425	33%	\$5,550,531	63%
Software	\$6,833,419	26%	\$4,646,201		\$7,409,666	28%	\$4,639,622	
Services	\$2,598,345	10%	\$1,766,675		\$3,198,857	12%	\$2,002,990	
Data Network	\$2,167,513	8%	\$1,473,743		\$1,663,984	6%	\$1,041,917	
Consulting	\$1,858,710	7%	\$1,263,780		\$1,614,767	6%	\$1,011,099	
Hardware	\$1,256,622	5%	\$854,407		\$1,796,699	7%	\$1,125,018	
Telephone	\$1,083,147	4%	\$736,457		\$1,169,758	4%	\$732,453	
Other ¹	\$604,096	2%	\$410,739		\$956,526	4%	\$598,936	
Subtotal	\$26,065,394	100%	\$17,722,469		\$26,674,682	100%	\$16,702,567	
Other	\$9,898,809		\$5,314,815	54%	\$5,138,636		\$1,852,138	36%
Grand Total	\$35,964,203		\$23,037,284	64%	\$31,813,318		\$18,554,705	58%

4. Technology Baselineing

IT prepares Technology Baseline Reports that address its networks, applications, and equipment. These reports provide descriptions of current application systems and technology infrastructure, versions in place, implementation dates, and business units served. Lists of current activities for each address matters such as new major releases, quarterly releases, vendor support for maintenance patches, and schedules for internal enhancements and “bug fixes.” These lists supplement summaries of prior activity where material. The reports also address significant upgrades to them and the procedures addressing them. Risk assessments conducted by IT rate risk from low to high and describe risk mitigation measures (e.g., provider upgrades, disaster recovery testing). The reports address enhancement and replacement plans, providing anticipated costs for major systems.⁷⁰⁰

We reviewed a recent report, which addressed applications, networks, and equipment in three categories:⁷⁰¹

- Application Development and Support (13 applications including those supporting the principal NJNG operating and customer service activities)

- Web Development and Support (addressing web application development and support and interfacing with interfacing with back-office applications)
- Technical Support addressing a range of applications and equipment including:
 - Data Communication Networks
 - Servers
 - Workstations
 - iSeries Production and Development Systems
 - Voice Communications
 - Radio Communications
 - Cell and Mobile Device Communications.

5. Data Processing and Communications Equipment

Data processing and communications equipment vary continually, but the next list provides an overall sense of the magnitude a of such equipment employed directly by NJNG. The table shows physical and virtual servers employed for specific uses. In addition, another 475 shared virtual servers for Network Services exist.⁷⁰²

NJNG Data Processing and Communications Equipment
(partially confidential table)

Various		Network & Communications		SCADA		LNG SCADA	
Category	Quantity	Category	Quantity	Category	Quantity	Category	Quantity
Getacs		Routers		Servers ¹		Servers ¹	
Laptops		Switches		Virtual Servers		Servers ²	
DeskTops		Avaya Gateway		Routers		Routers	
Cell phones		UPS		Firewalls		Firewalls	
Tablets		Meraki		Switches		Switches	
Radios		Servers ²		Workstations		Workstations	
Radio Towers		Firewalls		Backup Nodes		Backup Nodes	
		Servers ¹					

¹ Physical Servers

² Shared Servers

6. Project NEXT

This massive project has been underway for a number of years. A January 2020 status report to the board identified the eight initiatives involved, which included a number already under way: ERP, CX, EBI, and EIA (Enterprise integration Architecture). Additional areas planned but for which work had not yet begun in 2020 included CIS, WAM, and Enterprise Content Management (“ECM”). The report provided a color-coded status indicator addressing cost, schedule, resources, and deliverables. An April 2020 report addressed all the Project NEXT components, showing CXR1 Sales and Marketing, CXR2 Customer Service, and EBI Enterprise Business Analysis modules as completed. The report showed the CX Customer Experience and CXR3 MyAccount modules as on track. The report listed the WAM and CIS components and the CXR3 Mobile App as at schedule risk and on hold. The next table summarizes costs forecasted at that time in comparison to those of the 2018 estimate.⁷⁰³

Project Next April 2020 Cost Status
(confidential table)

Program Area	Capex			Opex			Total		
	Budget	F'Cast	Δ	Budget	F'Cast	Δ	Budget	F'Cast	Δ
Project Management Office									
Customer Information System									
Work and Asset Management									
Customer Experience									
Enterprise Content Management									
Enterprise Business Intelligence									
Enterprise Resource Planning									
Enterprise Integration Architecture									
<i>Total</i>									

By November 2023, only the CIS and WAM component remained uncompleted, with ECM still on hold. The report showed CIS as on track from a cost and schedule perspective, but WAM at risk of overrun. Totals forecasted showed \$205.1 million for capital expenditures and \$69.8 million for operating expenses. By year end 2023, WAM had grown from a 2018 estimate of \$51.6 million to an estimated \$111 million.

7. Managing Development and Acquisition

The last audit of this type found that NJR did not employ standards or formal methods for developing, selecting, or implementing applications. The report cited specifically the lack of criteria addressing:

- Business objectives
- Business requirements
- Analysis
- Feasibility studies
- Cost benefit analysis
- Testing standards
- Conversion standards
- Project management
- Risk management
- Documentation
- Training
- Go-live conditions

Like then, IT continues generally not to develop internally, but instead to purchase applications to support NJNG operations.⁷⁰⁴ However, it does support users with issues involving those applications. IT has since that audit developed methods and procedures to address the activities cited as missing at the time of the last audit. It applies them when working with the business units to address problems, gaps, or enhancements to applications it has secured from outside vendors.

NJR businesses, NJNG included, contact their IT Business Relationship Project Manager to discuss needs and capabilities or seek assistance. That project manager submits what IT terms a “PMO Request” using [REDACTED]⁷⁰⁵ cloud-based system for branded planning, tracking, and managing project work.⁷⁰⁶ The project management office (“PMO”), operating under IT’s Director, Business Relationships & Project Manager, reviews the request for determination of whether the following criteria call for assignment to an IT project manager:

- Over 160 hours of IT resource effort
- Introduction of a new cloud or on-premise technology or product
- Issuance of a request (“SOW”) for work by an external development vendor.

An assigned IT Project Manager works with the unit involved to develop for review by IT leadership a business case for the project. Approval by that leadership team permits projects currently planned and within budget to proceed. However, unplanned, unbudgeted projects starting in the current fiscal year also require approval by an IT Steering Committee if they meet [REDACTED]

[REDACTED]

An Information Technology Software Development Methodology (“SDM”) guides the process for application modification made at end user request.⁷⁰⁷ Business unit concerns and requests first go through IT’s Help Desk, which works with the unit’s requestor to document the following before engaging an appropriate IT team member to interact with unit personnel on the underlying matter:

- Process being performed, menu name, and option number used to access the process
- Function keys to access screens or dream writer/world writer name and version for batch processes
- Screen print to show what is seen, notation of variation from expectations on the print, and screen showing error message
- Copy of problems documented in a report and comparison of actual versus expected visuals.

For inquiries that proceed past this stage, an assigned IT Application Developer prepares a high-level estimate. Work efforts expected to require more than 10 hours of effort require a technical design. Otherwise, business unit personnel can approve the requested change or enhancement. Programmers assigned to required coding prepare a technical specification to support preparation of a technical specification document addressing, as may be required by the scope and complexity involved:

- User requirements
- Review or duplication of the problem observed
- Documentation of results of a technical design walk-through of solutions for greater than small projects
- Design specifications
- Expected outcomes
- Time estimate
- Impacts on other systems, programs, and processes affected or interfacing
- Required operational instructions and backup/restore, disk space and special processing requirements.
- System setup requirements
- Installation/cutover procedures
- Test plan
- Change management tracking
- User authorization to move to production.

IT uses provider [REDACTED] application for change management requirements. Coding must follow the specification involved and required standards, with programmer testing during development. Development follows applied naming conventions and a set activity worklist. After completion of successful development testing, a user integration testing phase commences. The end user prepares test scripts, conditions, and expected outcomes, and works together with the application developer to resolve issues or problems in a controlled manner.

The application becomes ready for production upon user acceptance and sign-off. Test data and results must be saved for a period of time after production.

Technical system and any training requirements documentation precede the new or changed application's go-live date. These requirements can include procedures, schedules, and interfaces for running jobs. The application developer monitors processing after go-live to verify functioning as intended. A checklist documents completion of required milestones. The user should prepare end-user procedure documentation prior to deploying a new or modified application. A cutover plan should capture required deployment tasks, and a period of focused support and monitoring follows go-live to verify operation as designed. A post-implementation review verifies such operation, with lingering issues documented under the Help Desk process.

Policies and procedures like these also address other gaps the previous audit of this type found. Regular assessments of applications address versions, recent changes, coming changes, and risks, providing current information on any needs for controls changes or refresh activities. The applicable procedures respond to prior observed needs for testing that engages both IT development personnel and end users. Processes exist for verifying that new or changed capabilities have satisfied clear testing requirements and that adequate attention exists for changes needed after post go-live.

8. Performance Measurement

There has been no substantial benchmarking of IT structure, staffing, or performance since at least 2018. An outside firm did provide a 2021 benchmarking of IT, but the data provided by NJR was too incomplete to identify a reasonably broad range of meaningful measures. The report did, however, [REDACTED], which the table below summarizes.⁷⁰⁸

Results of High Level 2021 IT Benchmarking

(confidential table)

Metric	
Spend as a % of Revenue	
Spend as a % of OpEx	
Spend Per Employee	
Capital Portion	
Operational Portion	
Hardware % of Spend	
Software % of Spend	
Salaries & Benefits % of Spend	
External Services % of Spend	

The benchmarking available through this widely used outside source includes a large number of more specific metrics, for which NJR appears not to have provided the data needed for comparison. These other metrics include, for example:

- IT spend by strategic category (run, grow, or transform the business)
- IT spend by functional area
 - Governance and service management
 - Security, operations management, service continuity, disaster recovery
 - Applications
 - Infrastructure
 - End-user support
- Staffing
 - IT personnel as a percentage of total employees
 - Insourced personnel
 - Contracted personnel
 - Staffing by functional area
- Traditional licensing versus cloud-based (“SaaS”) software spending
- Security Spend
 - As a share of total IT spend
 - Per employee
 - Per \$1,000 of revenue
 - By functional area
 - On hardware, software, employee costs, and external costs
- Distribution of security staff
 - Identity
 - Access management
 - Network security
 - Endpoint security
 - Data security.

The next table summarizes IT’s results against its performance metrics all of them non-cost based (e.g., system availability, duration).⁷⁰⁹

IT Performance Metrics

Metric	Goal	Actual		
		2021	2020	2019
System Response Time	0.25 sec	0.14 sec	0.1 sec	0.06 sec
System Availability	99%	100%	100%	100%
Radio Network Availability	99%	100%	100%	99%
Help Desk -Calls closed on 1st call	65%	63%	74%	70%
Customer Bills processed on time	99%	100%	100%	100%
User Based SLA's - Summary	90%	96%	96%	90%
Employee Name Change - 10 Days		100%	100%	86%
Employee Transfer Request - 10 Days		99%	97%	85%
Hardware (4 days)		100%	100%	100%
Hardware (5 days)			100%	100%
Installations (5 days)		90%	92%	100%
JDE Access Request - 5 days		89%	91%	74%
Network (2 days)			100%	99%
Network (3 days)		100%	97%	99%
New Employee Request - 10 Days		100%	98%	72%
Password (1 day)			100%	100%
Password (2 hours)			97%	95%
Password (4 hours)		94%	100%	100%
Security (5 days)		95%	94%	95%
Software (1 day)		76%	79%	92%
Telecomm (4 days)		96%	98%	99%
Temporary Employee Request - 10 days		100%	98%	87%
IT (Internal) SLA's	99%	96.0%	98%	98%

The IT department also surveys participants in its projects to measure performance by each of its IT project management teams. The surveys seek ratings scored between one and five in a number of categories, which, when combined produce a total score. The attributes surveyed consist of:⁷¹⁰

- Planning
 - Objectives and goals clear
 - Risks and trade-offs well understood
 - Stakeholders clearly defined
 - Stakeholders adequately updated on status
 - Project plan well-defined and communicated from inception
- Execution
 - Tasks well defined
 - Tasks appropriately assigned
 - Appropriate specs and/or mockups provided for planning
 - Goals attainable within established timeframe
 - Post-implementation plan defined and effective
 - Testing thorough and completed timely
 - Changes reasonable and prudent
 - Team collaboration high
- Outcome
 - Deployment in a reasonable timeframe according to scope
 - Training and support adequate and timely
 - Operational support informed and properly trained

- Stakeholders and affected teams properly informed before launch
- Post-implementation issues handled timely
- Objectives achieved
- Project manager performance effective.

9. *Continuity and Disaster Recovery*

[REDACTED]

711

[REDACTED]

712

[REDACTED]

713

[REDACTED]

714

[REDACTED]

[REDACTED]

C. Conclusions

- 1. The service company organization that serves NJNG's IT needs follows an overall sound strategy, employs sufficient resources, and aligns them soundly to support the utility's needs.**

NJR continues, as was true as long back as the prior two audits of this type, largely to use outside resources for development of applications and systems. Resources, stressed by the large Project NEXT that has been underway for a number of years, have been aligned and staffed at levels that appear to have continued to provide timely support when systems and applications encounter problems or require adjustment, expansion, refreshes, or replacement. The alignment recognizes the need for partnering with the business units, including NJNG, providing means for them to address needs, raise problems, and seek support from the central IT organization.

Dedicated enterprise architecture leadership exists. The organization recognizes the need for leadership specifically assigned to help desk and project management. NJNG has IT personnel partners responsible for business relationships with the utility in meeting its IT needs. NJR has placed cybersecurity under the same executive leadership (NJR's CIO) that oversees these other IT functions.

- 2. The central IT organization employs effective procedures for working with NJNG to identify the IT needs of its operations, incorporate needed changes and enhancements into annual planning and budgeting processes, to make NJNG personnel contributors to projects that address utility IT needs.**

The same does not appear to have been the case at the time of the last audit of this type, which means that NJR has made substantial improvement strides in this area. Regular engagement with NJNG personnel ensures that current and emerging IT needs get regularly discussed and become timely and logically integrated into annual plans and budgets. An organized and controlled process initiates consideration of means for addressing applications and capabilities not functioning as intended, that require change to conform more closely to business needs, or that require refreshes or potentially marginal development by IT or perhaps even replacement by other market alternatives. The processes require clear identification of the business needs at stake, the alternatives for addressing them, and the costs that change or replacement will require.

In the most recent years, the very large Project NEXT has involved changes to many large and important systems. Designating a separate lead in IT to manage that project, which depends primarily on outside development providers, has been sound in minimizing impacts on the continuing responsibilities of the IT organization.

- 3. Sound measures and resources exist to ensure timely and efficient performance of IT work for NJNG.**

Despite broad reliance on outside providers for development work, internal IT resources play a significant role in ensuring timely and effective delivery to end users like those within NJNG. Standards exist for system response and availability, help desk performance, customer-bill process timing, and completion of a variety of service request types. Surveys of end user participants in IT projects address the timeliness of project planning, execution, and outcomes. Material projects require business cases, estimates, and conformity with or, where necessary, changes to existing budgets.

4. IT cost growth has been substantially affected by external circumstances and continues to face significant further pressures. (See Recommendation #1)

Cost increases for reasons associated with IT have exceeded those in a number of other centrally-provided service areas. Significant recent sources of activity (e.g., cyber security and support for Project NEXT) have imposed significant requirements. However, as explained in the *Cybersecurity* chapter of this report, NJR has now reached a base level of performance that is both competitive with the industry and commensurate with a longer-term level considered effective. While Project NEXT includes several key components not expected for completion until sometime in 2025, measurement of cost performance to date has shown generally good results. In any event, the late stage of development of these components would not appear to leave significant opportunity for material alteration in their completion.

However, despite achieving key milestones in areas like cybersecurity and Project NEXT, continuing technological, legal/regulatory, cyber threat, work/lifestyle factors like the following have had and continue to have great impact on IT needs, capabilities, and the spending it takes to address and support them:

- Security and Compliance
- Artificial Intelligence (“AI”) and automation
- Cloud infrastructure and hybrid work solutions
- Data analytics and business intelligence
- Customer experience
- Digital transformation
- IT workforce and skills development.

These factors exemplify those that will continue to exert significant upward pressure on IT costs. Limited benchmarking has excluded a number of indicators that can help measure cost and performance effectiveness. IT employs a number of key metrics to measure performance, those provided do not focus on costs, although it does measure project performance against estimates.

D. Recommendations

1. Strengthen the IT cost baseline for use in planning and managing future resources and costs and develop a five- to ten-year plan addressing IT strategy. (See Conclusion #4)

More robust completion of the data sets that support benchmarking comparisons by the outside source currently used will assist in further developing a cost and performance baseline. An IT plan should be developed to address the opportunities and the risks that technology and application advances and that exponentially expanding cyber threats present and strategies for addressing them

based on a range of scenarios. Such a plan should also present a range of potential future paths for both IT expansion and adjustment. A plan that takes account of the major changes that have produced a new roster of systems, platforms, applications, and other capabilities (*e.g.*, for cyber and the operations affected by Project NEXT) is necessary. Taking account of a range of possible scenarios and expanding technology uses and capabilities, the plan should look ahead for at least five years at opportunities and threats, identifying means for addressing them, while providing flexibility to change course as events unfold. The fluidity of those opportunities and threats will require continuing flexibility in plan alteration and execution, which robust consideration of scenarios will best support.

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Chapter XXIII: Records Management

A. Background

A small organization operating at the service company level has responsibility for a broad set of measures and activities designed to ensure retention and safe, secure storage of documents pertinent to NJNG and to provide a controlled process for destroying those no longer required. This chapter addresses the organization, resources, costs, systems, procedures, and activities of that organization.

B. Findings

1. Organization and Staffing

An NJR Office Services team has responsibility for maintaining records in accordance with the Records Retention Schedule policy.

Its staffing since at least 2017 has included a:

- Supervisor of Records & Office Services
- Senior Records Specialist
- Senior Print Shop Coordinator
- Office Assistant II.

The group has operated under management of security functions. The Supervisor of Records & Office Services reports to the Director Security & Business Continuity.⁷¹⁶ Office Services also has responsibility for training personnel on records retention procedures and on completing records retention forms.⁷¹⁷ The team undertook in 2023 an audit of stored records to ensure no duplication, focusing on the Engineering Department. The group remains responsible, as was true at the time of the prior audit of this type, for processes regarding:

- Intake for storage
- Record titles
- Packaging
- Records Indexing
- Carton labeling
- Retrieval & destruction approval
- Retention schedules
- Retention periods
- Scanning & offsite storage

2. Operating Costs

The next table shows that costs have moderately decreased in recent years.⁷¹⁸

Office Services Costs

Cost Type	2019 A	2020 A	2021 A	2022	2023	2024 B	Δ
Employee Expenses	\$395,604	\$371,807	\$423,994	\$421,164	\$399,642	\$411,998	4%
Technology & Communications	\$267,121	\$90,626	\$59,316	\$214,148	\$68,046	\$221,256	-17%
Miscellaneous ¹	\$196,424	\$22,614	\$44,370	\$1,200	\$91,031	\$1,200	-99%
Other Expenses	\$288,151	\$415,623	\$347,627	\$397,340	\$449,974	\$406,286	41%
Total	\$1,147,300	\$900,670	\$875,306	\$1,033,852	\$1,008,694	\$1,040,740	-9%

¹ Customer Experience, Building Operations, Advertising & Marketing, Consulting & Services

The change to an Oracle-based enterprise resource planning (“ERP”) system in mid-2020 eliminated Customer Experience and Satisfaction as an accounting cost category. It covered miscellaneous expenses; here for example, largely postage and courier services.⁷¹⁹ NJR employs

outside services for scanning and imaging and for document storage, with all shredding performed in-house. The next table shows outside costs for microfilming and hard copy storage services from two outside providers.⁷²⁰ Conversion of paper to digital records to ease access has been underway for some time to facilitate access to records of particular importance and to avoid the need for bulkier paper storage requirements. Increases in storage costs in 2021 and 2022 resulted from the need to prepare for major Wall headquarters renovation.

Scanning/Imaging and Storage Costs

Year	Microfilm	Storage
2019	\$30,889	\$75,290
2020	\$10,143	\$73,886
2021	\$29,153	\$101,785
2022	\$25,705	\$163,933
Total	\$95,889	\$414,895

Management identified the following means for retaining records reported as required by the NJ BPU:

- **Customer Bills:** IT Data Center Operators perform daily and weekly tape backups, with seven-year retention of weekly tapes
- **Plant Records:** the Company retains them as work orders with associated data, storing additional documentation not attached to work orders on network drives; old work orders not so retained are stored offsite on microfiche at Iron Mountain; operations personnel are responsible for maintaining this documentation
- **Customer Complaints:** the Customer and Community Relations department has responsibility for tracking, using NJNG's Complaints and Resolution Entry System ("CARES"), which holds them for a minimum of one year
- **Cyber Attacks or Threats:** the Cybersecurity team, responsible for addressing them stores incident information in a dedicated dashboard system controlled by limited access, with incident responders responsible for adding information to tickets generated to address attacks or threats
- **Physical security incidents:** the Corporate Security Department logs and tracks them, adding investigation details and results.

3. Retention, Access, and Destruction Controls

Policies and procedures for addressing records practices continue to exist, as they did at the time of the last audit of this type. That audit found multiple on-premise storage locations in addition to the off-site location run by a leading national provider of storage, access, and destruction services. An internal audit at that time raised that included securing access to documents held on premises and protecting them from environmental risks (*i.e.*, fire). Management has since eliminated the on-premise storage locations, consolidating document retention at the off-site, vendor-operated site. It has also enhanced security of the location where documents temporarily remain on premises when pulled from the off-site location.⁷²¹

Controls continue to be required when documents are requested from that site and while they remain on premises. Requests for retrieval from the off-site location or visits there to view

documents must be preceded by completion of a form that requires management approval. A database provides the Senior Document Specialist responsible for managing document access with automated retrieval of status of documents requested from the off-site location.⁷²²

After consultation with an outside firm, the Legal Department developed a master record of documents subject to retention requirements, categorizing and listing the requirements associated with them. Its categorization of documents by operating area (*e.g.*, Accounting, Administration, Corporate, Finance, Human Resources, Information Technologies, Legal, Marketing, Operations, Public and Government Relations, Tax) facilitates the processes for identifying, requesting, and gaining access to requested documents.

C. Conclusions

1. An NJR centralized records management organization has provided adequate means for retaining and controlling the destruction of records relevant to NJNG at moderate and stable costs.

The organization has remained stable, costs have not increased, and effective use is made of scanning, imaging, and off-site storage locations.

2. Controls over records retention and destruction are reasonably complete and effective.

A reasonably comprehensive set of procedures exists, a sound cataloging of retention requirements exists, and adequate measures protect documents stored from damage or unauthorized access. We found adequate the controls over locations where key documents are stored and measure to back up regularly those maintained in electronic form. Measures found lacking following an internal audit performed before the completion of the last audit of this type have been undertaken.

D. Recommendations

We do not have any recommendations regarding records management.

***Chapter XXIV: Physical Security, Business Continuity, and Information
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Chapter XXIV: Physical Security, Business Continuity, Information Protection

A. Background

This chapter addresses the structures, staffing, activities, systems, methods, procedures and practices that cover the provision of physical security to NJNG and service company premises. It also addresses measures to address disaster recovery of information and communications systems, business continuity, and the protection of information. The latter group falls generally under the organization headed by NJR's CIO. The *EDECA* Chapter of the accompanying Phase One report addresses specific requirements associated with access to NJNG and customer information by affiliates. The *Customer Service* Chapter of this report addresses handling and treatment of customer information by systems and personnel who support customer service operations.

The service company IT department, operating under NJR's CIO, has a substantial role in these areas. The CFO's organization, through NJR's Vice President, Corporate Risk Management has responsibility for physical security.

B. Findings

1. Physical Security Responsibility and Staffing

Responsibility for physical security at the facilities of NJR's businesses falls under the Manager, Corporate Security and Business Continuity, whose two direct reports comprise a Security Investigator and a Security Specialist. The manager reports to the service company's Director, Security and Business Continuity, who in turn reports to the NJR Vice President, Corporate Risk Management. These physical security responsibilities include protecting people, property, and physical assets against risks that include fire, flood, natural disaster, burglary, theft, vandalism, and terrorism, focusing on tangible assets like buildings and equipment. This small group monitors surveillance cameras and manages physical access control at company locations.⁷²³

Day-to-day responsibility for physical security in 2017 also fell under a Manager, to whom a Homeland Security Specialist, a Business Continuity Planning Coordinator, and a Security Investigator reported.

2. Physical Security Costs

The costs for managing facilities (addressed in this report's *Real Estate and Facilities Management* Chapter) include those incurred for physical security.⁷²⁴ The three principal outside service providers, who have done so since 2019, have invoiced the following average annual amounts in recent years:⁷²⁵

- Guard Services: [REDACTED]
- Access control & camera surveillance: [REDACTED]
- 3rd party security monitoring: [REDACTED]

3. Physical Security Operations

Corporate Security & Business Continuity Planning coordinates its work with the BPU's Emergency Management and Security Bureau of the Division of Reliability and Security and with other local, county, state, and federal resources. Work with these resources includes monthly meetings such as the following:⁷²⁶

- BPU-hosted Electric and Gas Security Working Group
- County Police Chiefs
- Police chief association ("MCPCA")
- Monmouth and Ocean County Intelligence Bureau ("MOCIB").

Corporate Security & Business Continuity Planning regularly works with a number of NJR internal committees or other groups on matters that have security implications; *e.g.*:⁷²⁷

- Business Interruption Committee
- Cyber Resiliency Committee
- Building Evacuation Committee
- NJNG Operations, through monthly safety meetings.

Corporate Security & Business Continuity Planning has operated under specific annual goals, which have changed as existing ones have been met and as circumstances have presented emerging or increasing needs. On an ongoing basis through the period, the group has also attended monthly Operation Management Safety Meetings and shared security messages with operations team members. Partnering with local, county, state, and federal law enforcement partners and strengthening relationships with industry peers has comprised another longstanding ongoing activity. The next chart summarizes other measures utilized in more recent years.⁷²⁸

Physical Security Goals and Initiatives

Year	Goals/Initiatives	Measures
2018	Wall HQ Security	Turnstiles requiring badge access installed
	BPU Inspections	Four BPU inspections completed
2019	Wall HQ Security	Change vendor; add second guard
	Homeland Security Specialist	Replace retiree with one having law enforcement background
	Mass Notification System	Implemented [REDACTED] mass notification system
	BPU Inspections	Completed NJNG Howell LNG BPU Inspection
2020	Overall Security Posture	Additional cameras to expand CCTV coverage
	COVID-19	Partnering with internal/contacts to manage ongoing response
	BPU Inspections	On hold due to COVID-19
2021	COVID-19	Partnering with internal/contacts to manage ongoing response
	Complete BPU Inspections	Completed 1 BPU Inspection (NJNG Ship Bottom Station)
2022	COVID-19	Partnering with internal/contacts to manage ongoing response
	BPU Inspections	Completed BPU Inspections
	Theft of Service	Establish initiatives, open investigations tracking spreadsheet
	Crisis Management Plan	Updated plan and publish to Company intranet.
2023	COVID-19	Partnering with internal/contacts to manage ongoing response
	BPU Inspections	Completed BPU Inspections
	Theft of Service Initiative	Maintain initiatives, open investigations tracking spreadsheet
	Surveillance & Security Infrastructure Refresh	Began vendor selection for new video surveillance

Physical security, which operates from the Wall headquarters building, has the capability of across all operating locations to monitor facilities through video surveillance and the access control system. A Business Interruption Committee (“BIC”) stands prepared to convene as appropriate to address security or business continuity situations.⁷²⁹

4. Physical Security Policies and Procedures

A Corporate Identification Badges procedure (Administrative Policy and Procedure 81A) provides measures for identifying and distinguishing employees and contractors through issuance and requirement to wear photo corporate identification badges in accord with the requirements of N.J.S.A. 48:3-42, *et seq.* and N.J.A.C. 14:3-6.7. It requires updating at intervals not greater than six years for employees and three for those contractors expected to be on site for more than six months. Non-photo badges apply for shorter-term contractor personnel. Badges must have alteration protection and an assignment of a designated access level. The procedure provides for badge collection and deactivation at employment termination, and notification of lost, stolen, broken, or illegible badges. Employees must pre-register visitors who must sign-in for entry accompanied by an employee. A 120-day notice prior to badge duration expiration enables timely validation of continuing need for access and badge renewal.⁷³⁰

A Building and Facility Security Policy (Administrative Policy and Procedure 81B) addresses a number of administrative requirements related to company site identification and access, including:⁷³¹

- Signs displaying utility name at all structures in accordance with N.J.A.C. 14:3-2.4,
- Responses to Homeland Security Advisory System (HSAS) in favor of a new system, the National Terrorism Advisory System (“NTAS”) alerts (e.g., documentation, procedure testing, locking of gates, added security, emergency plan activation)
- Advising delivery makers of operational hours and delivery protocols, authorizing access, and receiving packages
- Validating delivery authorization
- Gate failure notification
- Site physical security inspection requirements
- Access to and control of keys
- Visitor identification, parking, and access control.

Security personnel visit all NJNG stations and inspect corporate facilities [REDACTED]. Prior to 2021, tracking of inspection dates or results did not occur, but management has since initiated a formal log to track dates. Summary forms track the results of the security checks performed.⁷³² Security incidents have been rare. For example, only one incident, alleged employee theft of materials, occurred in the three years ending with 2022.⁷³³ Management began to track theft of service incidents in 2022, but does not track any other performance measures.⁷³⁴ Most metrics used in the industry focus on incidents, which have been rare for NJR. Corporate Security does track the following items:⁷³⁵

- Security Guard daily report
- Penthouse Guard tour report
- Visitor logs to Wall headquarters building
- Temporary badge reports

- Gas Control Room sign in sheets
- Office occupancy rates
- Security Investigations.

The last reported internal audit addressing Corporate Security activities occurred in 2017. It sought to identify high risk areas, ensure internal control effectiveness in mitigating high risks, and verify compliance with federal, state, and BPU regulations.⁷³⁶ The audit report found needs for:

- Evaluating internal controls for adequacy and effectiveness
- Complying with contractor access procedures
- Performing access reviews for high-risk areas.

Specific gaps observed included:



5. Background Checks

NJR requires background checks, conducted by a third-party firm, before hiring outside applicants.⁷³⁷ The scope includes:

- *Employment Verification*
- *Motor Vehicle Verification*
- *Social Security Number verification*
- *Court verification*
- *Watch Lists and Sanctions*
- *Educational verification*

6. Protecting Information

A Cybersecurity Policy addresses the procedures and practices that NJR applies to protect information and industrial controls systems. The policy covers information maintained or transmitted by computers, cloud applications, networks, and industrial controls equipment processing information or providing networking. The Cybersecurity Policy seeks to maintain information resource and industrial control system (“ICS”) confidentiality, integrity, and availability, addressing threats that include denial of use, theft of information, unauthorized access, modification, disclosure, or destruction of the information, systems, and applications that process electronically stored information.

Information Resources include printed and electronic information, online display devices, magnetic storage media, and computer-related activities involving devices that receive email or browse Web sites. Information Resources also include devices that receive, store, manage, or transmit electronic data. These devices include mainframes, servers, personal and notebook computers, hand-helds, PDAs), pagers, and distributed processing systems. Network and

computer-controlled equipment, telecommunications resources, network environments, telephones, fax machines, printers and service bureaus also comprise Information Resources. Coverage of the policy extends to procedures, equipment, facilities, software, and data that create, collect, record, process, store, retrieve, display, and transmit information.

ICSs that the policy covers include supervisory control and data acquisition (“SCADA”) and distributed control systems (“DCSs”), industrial control systems (“IACS”), programmable logic controllers (“PLCs”), remote terminal units (“RTUs”), control servers, intelligent electronic devices (IEDs), and sensors.

The policy is grounded in:

- State law (*e.g.*, the New Jersey Domestic Security Preparedness Act) and the Cybersecurity Framework (“CSF”)
- Federal Law (*e.g.*, TSA responsibility for pipeline security exercised under the Aviation and Transportation Security Act)
- Industry standards (*e.g.*, of the National Institute of Standards and Technology (“NIST”).

The policy sets forth a comprehensive list of standards, practices, and requirements that cover a typical range of subjects, risks, vulnerabilities, and measures. They include:

- Operating under an enterprise-wide cybersecurity risk management program designed to identify, analyze, and mitigate cybersecurity risk
- Employing a cybersecurity risk management strategy and managing cybersecurity risk
- Employing a Cyber Resiliency Committee to enforce risk management practices and coordinate annual risk assessments
- Developing and expressing risk tolerance
- Continually assessing and prioritizing cyber and physical risks to critical systems under documented methods and priorities
- Developing and applying controls to mitigate risks
- Annually updating and asset inventory and managing asset configuration, and changes
- Assigning IT and OT assets to owners responsible for managing and maintaining them
- Mapping organizational communications and data flows will be mapped, including any external information systems
- Prioritizing resources on the basis of classification, criticality, and business value
- Annually documenting asset vulnerabilities
- Formally managing asset maintenance with logging of maintenance and repair activities and control over remote asset maintenance
- Wiping data and software before disposal of electronic storage media and making controlled disposal of them
- Segmenting data into five sensitivity classifications: Sensitive Security Information (“SSI”), Company Confidential, Customer Confidential, Internal Use and Public
- adhering to special SSI access, sharing, disclosure, marking, securing, and limits
- Limiting and managing identities with access rights to assets
- Segregating duties to ensure no one person has exclusive control over company- and customer-confidential information
- Controlling remote and vendor access to servers and other systems

- Ensuring continuous operations access to systems, applications and data through storage area network, Cloud, remote redundancy, and off-site backups
- Conducting periodic disaster recovery and test exercises
- Operating systems in their pre-defined states, to provide for availability under normal operation, under duress or attack, and during recovery
- Under an annually tested Cybersecurity Incident Response Plan (“CIRP”), employing, managing, and testing) plans, procedures, and technologies for incident detection, analysis, and response, while sustaining operations throughout incidents
- Documenting breach investigation steps and results
- Managing incident public relations through an authorized company official and addressing reputational issues post-incident
- Establishing and maintaining relationships for collecting and sharing information to reduce risks and increase operational resilience
- Keeping comprehensive and current Disaster Recovery (“DR”) strategies and plans in place
- Periodically conducting a Business Impact Analysis (BIA) to establish recovery time and recovery point objectives
- Notifying the Information Technology Help Desk and Cybersecurity Department of potential loss or unauthorized disclosure of confidential information or unauthorized system access
- Notifying customers whose data or operations an incident may affect
- Robustly investigating notifications from detection systems according to response plan categories of significance
- Employing any require access control emergency procedures
- Regularly backing up information and maintaining and testing backups
- Maintaining adequate capacity to ensure availability
- Maintaining a cyber supply chain risk management process that identifies, prioritizes, and assesses critical suppliers
- Requiring suppliers to implement cybersecurity program objectives and monitoring their compliance
- Soundly evaluating capabilities of suppliers to provide adequate safeguards
- Promoting a sound cyber culture through responsibility assignment, awareness activities, and require training
- Creating a sound baseline configuration of information technology/industrial control systems and network operations
- Establishing and maintaining expected data flows for users and systems
- Hardening the configuration of components such as firewalls, routers, servers, and workstations for resistance to attack
- Changing passwords and disabling or renaming default accounts
- Ensuring that servers, email gateways, desktop workstations, laptops and wireless devices have approved malware protection that undergoes frequent updating and cannot be disabled or bypassed
- Regularly scanning malware protection on IT and OT systems
- Screening all internet files downloaded with malware detection software

- Requiring users to report unusual systems behavior to the Information Technology Help Desk
- Limiting discussions about security problem details to those authorized and with a need-to-know
- Employing filters to identify malicious email traffic, spam, and phishing emails
- Prohibiting ingress and egress of communications with known malicious IP addresses
- Controlling access from OT systems to external websites
- Encrypting confidential data where possible using periodically reviewed and updated standards and rotated cryptographic keys
- Keeping data sent over the Internet must be kept private
- Protecting data in storage (“at rest”) using approved encryption on laptop and desktop computers, tablets, mobile phones and other devices
- Identifying and documenting asset vulnerabilities from internal and external threats
- Implementing security patches timely and testing them prior to implementation
- Patching third-party applications, firewalls and routers Segmentation
- Protecting network integrity by incorporating network segregation where appropriate
- Designing, operating, and maintaining communications and control networks for NJR business purposes and with appropriate security
- Prohibiting users from bypassing or compromising network design and security
- Prohibiting SCADA/Industrial Control environment direct connections to the Internet
- Requiring installation, configuration, and management of Wi-Fi access points connected by authorized personnel. Unauthorized access points that are identified will be blocked and removed by authorized personnel
- Using strong encryption protocols for corporate WI-FI networks
- Requiring Guest Wireless Network users to be credentialed for access and to comply with use policy
- Collecting, analyzing, and alarming of network access and activities and monitoring of log files, sources of threat, and vulnerability information
- Reporting of security issues to the Information Technology Help Desk and Cybersecurity Department for advice and investigation
- Employing perimeter access intrusion detection and prevention systems and processes to safeguard against malicious actors who attempt to compromise or destroy NJR systems and data
- Monitoring of detection systems by the Cybersecurity department and Analyzing of detected events
- Aggregating event data and correlating it from multiple sources and sensors
- Establishing incident alert thresholds
- Determining impacts of events
- Detecting malicious and unauthorized code
- Monitoring external service provider activity to detect threats and vulnerabilities
- Regularly testing detection processes
- Immediately reporting suspected or confirmed instances of intrusion attempts to the Information Technology Help Desk or Cybersecurity Department.

- Employing change control, application and cybersecurity protection practices to ensure system and application integrity
- Separating development and testing from production environments where possible
- Implementing a system development life cycle with configuration change control processes in place
- Applying appropriate copyright notices to company-owned programs and program documentation
- Barring storage on company systems and networks of third-part information or software not approved for company use
- Managing and protecting physical access to and the operating environment of assets
- Providing access cards or keys for individual use, not to be shared or loaned
- Revoking access for departed employees
- Periodically reviewing access to data centers
- Distinguishing visitors from onsite personnel through badges and logging visitor access
- Providing sufficient access controls over company workstations
- Limiting generation of hard copy information to the extent necessary to conduct business
- Not leaving printed confidential information unattended during reproduction
- Securing confidential information and proper shredding and disposal of printed material.

7. Business Continuity

A comprehensive crisis management plan addresses measures to ensure business continuity when threatened by any form of interruption. The Crisis Management Plan must undergo annual review and updating by the Security Department and undergo electronic distribution and annual employee review through NJR's Learning Management System. Crisis management governance lies with the BIC, whose executive sponsors include the NJR CEO, and the NJNG and non-utility business COOs. Program administration falls under two persons from Corporate security and one from the service company financial organization. Eleven committee subject matter experts ("SMEs") come from the business units (four from NJNG) and include another from service company finance and corporate communications groups. Convened prior to an unexpected interruption or immediately following an unforeseen interruption, the BIC has responsibility for developing a responsive action plan for executive approval and action. An internal alert system can support critical messaging. The plan identifies multiple individual contacts for specific circumstances; *i.e.*, gas system, facilities, computer systems, cyber incidents, and for non-utility solar, storage, and transportation. It also provides event initiation instructions and contact information for each type of emergency.

The plan addresses elements of a variety of emergencies; *e.g.*, gas-related, medical, fire and emergency evacuation, violent or armed individuals, active shooters, suspicious packages, potential chemical or biological hazards, bomb threats, and facility loss. The procedure calls for three all-department fire/evacuation drills annually for the Wall General Office and annual drills at Rockaway, Maude and Lakewood. The drills may consist of tabletop exercises, desktop reviews or realistic drills under BIC-approved plans. The plan requires annual security drills or exercises at each critical facility.

Appendices include a description of the Incident Command Structure ("ICS") that applies to emergency response and plans for a range of different emergency types, and detail steps in

managing emergencies, address backup sites, and describe fire warden duties, ID badging, the hazardous materials response unit, and general security requirements.

The plan addresses activation of the Emergency Operations Center (“EOC”) by the BIC. The BIC then continues to recommend actions to NJR leadership and to provide regular updates through the EOC, which manages events through conclusion and preparation of a post-event performance assessment.

The plan’s content is thorough, but not organized in a way that provides clear step-by-step guidance in handling emergencies. It mixes background content, procedural guidance (e.g., badging), and actual instruction with respect to certain emergency types. It should be reordered to provide simpler straight-line instruction,

Disaster recovery plans exist for virtual servers, backup types, phone systems, Gas Control (“SCADA”), and for a number of non-utility business operations.⁷³⁸

C. Conclusions

1. A small internal organization supported by a small group of firms that provide guard, surveillance and monitoring services has provided a suitable range of physical security activities for moderate and fairly stable costs.

There has not been internal staffing growth and the principal outside service providers have operated at moderate annual costs.

2. Physical security systems and activities address a suitable range of risks.

Between the internal and external resources, the activities performed provide a reasonably typical range of security coverage. Background checks and access controls exist. The internal group coordinates its work and partners with a range of outside sources. The group operates under specific annual goals, and participates regularly in safety meetings with NJNG operations personnel. Initiatives over the past several years have added guards and badging turnstiles, completing BPU inspections, expanding CCTV camera coverage, and established a theft of service initiative. A reasonable comprehensive Building and Facility Security Policy exists, and regular facility inspections occur. Security incidents have been extremely rare.

3. The last reported internal audit addressing corporate security, which occurred in 2017, found a broad range of observations warranting remedial actions. (See Recommendation #1)

The audit occurred quite some years ago and preceded a number of changes that have occurred. Nevertheless, the range of observations it made do point to the need for a current review. The gaps noted included [REDACTED]

[REDACTED] Their breadth was sufficient to warrant a current review to ensure the effectiveness of the systems and measures now in place.

4. A Cybersecurity Policy provides substantial protection of information and industrial controls systems.

The policy addresses information resource and ICS confidentiality, integrity, and availability. The threats it addresses include denial of use, theft of information, unauthorized access, modification, disclosure, or destruction of the information, systems, and applications that process electronically stored information. The information resources it covers include a full range of devices and systems that hold or manage information electronically. It covers not only IT systems, but OT ones as well. It prescribes a comprehensive and specific list of standards, practices, and requirements.

5. Substantial measures to support disaster recovery and business continuity exist.

NJNG and service company Business Continuity Plans exist and suitably document procedures and information to address disruptions. Specific and reasonably detailed practices have been documented for servers and systems. They include measured recovery time and recovery point objectives. They specify backup schedules, methods, and locations. They identify standby systems and alternate operational locations and provide for annual recovery exercises and quarterly backup testing. Specified measures for communications system redundancy and backups exist as well.

A crisis management plan updated annually is available electronically to employees who review it annually through the online learning system. The plan provides for top executive governance of crisis management activities, provides a range of designated subject matter experts, calls for specific response plans, and identifies contacts for events affecting specific areas of operation. Specific emergency types are detailed, as is the incident command structure applicable for managing emergencies when declared.

6. The crisis management plan has sufficient scope and detail but its organization does not lend itself to direct, step-by-step guidance in handling emergencies.

The plan is comprehensive and reasonably detailed, but not structured for ready reference as a simple and direct guide for proceeding along a well-defined course in responding to particular types of emergencies. The size and geographical range of NJNG operations likely minimizes the risks of this aspect. The plan requires annual security drills or exercises at each critical facility, which provides a substantial test of how well participants understand detailed responsibilities and actions.

Where participants in key emergency roles are senior and experienced, annual testing may provide a better indication of what they have learned from long experience, as opposed to what the plan documentation communicates. It cannot be presumed that actual emergencies will occur only on the watch of seasoned veteran employees. It is when they do not that the quality and clarity of the plan has the most relevance.

D. Recommendations

1. Conduct a broadly based Internal Audit examination designed to test the effectiveness of physical security measures. (See Conclusion #3)

Management should undertake a broadly scoped Internal Audit examination of physical security measure effectiveness. It seems clear that circumstances and measures have changed significantly in the more than five years since the last Internal Audit examination. Nevertheless, either of the importance of physical security measures or the extent of enhancement needs identified by the last

examination call for a similarly scoped engagement. The combination of the two factors heightens the need.

***Chapter XXV: Manufactured Gas Plant Remediation
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Chapter XXV: Manufactured Gas Plant Remediation

A. Background

Our review of NJNG's MGP remediation had four principal focuses:

- Program Organization and Staffing
- Company Involvement in Program Design and Execution
- Program Control and Record-Keeping
- Company Interaction with Government Authorities.

Passage in 2009 of the SRRA brought, with the act's full implementation in 2012, an important development in the conduct of NJNG's Remediation Program. The NJ DEP has reported acceleration of contaminated site remediation as the State's primary objective in enacting this law.⁷³⁹ The act introduced LSRPs, who can "step into the shoes" of the NJ DEP to oversee contaminated sites remediation to assure remediation accomplishment in accord with NJ DEP regulations. May 2012 implementation of this change came shortly before the end of the audit period for the previous audit of this type. We examined remediation activities since 2013.

B. Findings

The preceding audit of this type found NJNG's strategy and program appropriate and effective, including controls for managing contractor activities and costs. It had some concerns about selection of certain contractors, and recommended that remediation work by all contractors go through the competitive bid process, with formal documented comparisons of the technical and cost attributes of contractor proposals.

NJNG's responsibilities at the time of the previous audit of this type included environmental remediation and ongoing monitoring of contamination at three former MGP sites and two other sites contaminated through associated construction and earlier clean-up activities. NJNG became responsible for the three former MGP sites through acquisition of their operators.⁷⁴⁰

One of the former MGP sites, Atlantic Highlands, operated under NJNG predecessors as a carbureted water gas manufacturing facility from 1910 until 1949. It now provides the site of an NJNG Energy Delivery Operations Division Service Center. The second of the MGP sites, Long Branch, came to NJNG as part of the purchase of Jersey Central Power & Light Company's gas operations. It was used for MGP activities until 1961. The Company donated a portion of the site to the City of Long Branch in 1976 and sold another portion to private parties in 1983. The third MGP site, Toms River, operated as an MGP facility until 1950. NJNG acquired the site in 1952, and it served until 1989 as a Company Energy Delivery Operations Division Service Center. The two other sites consist of Manchester and Berkeley asphalt recycling facilities, to which NJNG delivered materials from the Atlantic Highlands and Long Branch MGP sites. NJNG has responsibility for Manchester and Berkeley site contaminants traceable to the former MGP sites. Some MGP sites have multiple affected locations, termed Areas of Concern ("AOCs"). Each AOC may require its own remedial action program.

Discovery of two additional sites, Freehold and Aberdeen, came following the previous audit of this type. A third-party LSRP discovered at Freehold in November 2017 an MGP site operated by

an NJNG predecessor company until 1916. Following discussions with the NJ DEP, NJNG retained an LSRP for the site in March 2018 and began investigative work in July 2018. Research involving the Freehold site disclosed the existence of another MGP site at Aberdeen, operated by the same predecessor company. NJNG informed the NJ DEP about the Aberdeen discovery and started investigative work in June 2019.⁷⁴¹

The MGP remediation process includes the following phases:

Preliminary Assessment/Site Investigation: performed to determine the presence of MGP-related contaminants and to assess any non-MGP contamination present

Remedial Investigation: used to delineate fully the horizontal and vertical extent of a site's MGP-related contamination, potentially consisting of multiple phases

Remedial Action: work program designed to contain or remove MGP-related contamination.

Each of these phases concludes with a report submitted to the NJ DEP. The responsible LSRP issues a Response Action Outcome following completion of a Remedial Action program, in effect a final report on the site's remediation. The Response Action Outcome can become final following a three-year period during which the DEP can audit a program, although some activities; *e.g.*, groundwater monitoring, may continue.

NJNG characterizes Atlantic Highlands as a large site with many AOCs. Completion of many remedial action projects leaves substantial work remaining. Similarly, Toms River comprises a large site with many AOCs, many remedial action projects completed, but still much work remaining. NJNG considers Long Branch at a more advanced completion stage, with the final remedial construction project recently completed. Administrative reporting, assessment of remedial action effectiveness, permit acquisition and long-term monitoring activities remain. Manchester has also reached the stage where administrative reporting, assessment of remedial action effectiveness, permit acquisition and long-term monitoring and reporting comprise the expected remaining actions.

Berkeley has undergone significant data generation, but progress is on hold until resolution of property redevelopment and ownership uncertainties. Both Freehold and Aberdeen remain in the Remedial Investigation phase, with field work approximately 75 percent complete at each site.⁷⁴²

The chart below/on the next page shows expenditures by site since the prior audit of this type.⁷⁴³ The increases in expenditures at Toms River, Atlantic Highlands and Long Branch reflect transitions from the Remedial Investigation phase to Remedial Actions.

Expenditures by MGP Site

Site	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Atlantic Highlands	\$1,102,952	\$1,027,372	\$1,709,894	\$1,182,132	\$953,840	\$1,298,696	\$1,367,005	\$5,932,807	\$14,154,405	\$28,729,103
Long Branch	\$1,707,407	\$2,848,622	\$2,916,821	\$893,519	\$601,870	\$812,909	\$668,108	\$855,097	\$11,459,955	\$22,764,308
Toms River	\$1,284,523	\$1,776,940	\$2,493,540	\$7,900,965	\$16,032,545	\$9,260,405	\$8,343,866	\$2,485,032	\$8,386,456	\$57,964,270
Manchester	\$87,607	\$78,189	\$53,613	\$58,180	\$69,990	\$58,731	\$53,837	\$68,043	\$165,140	\$693,331
Berkeley	\$22,521	\$19,174	\$18,940	\$16,774	\$18,518	\$29,012	\$21,912	\$23,910	\$58,159	\$228,918
Freehold						\$647,607	\$434,461	\$176,009	\$295,704	\$1,553,781
Aberdeen						\$8,538	\$97,723	\$396,432	\$190,632	\$693,324
Total	\$4,205,009	\$5,750,297	\$7,192,808	\$10,051,570	\$17,676,763	\$12,115,897	\$10,986,911	\$9,937,330	\$34,710,450	\$112,627,035

NJNG annually estimates the costs of remaining MGP liability using a probabilistic cost model updated on five-year cycles. The estimates consider remediation options and assigns to them costs provided by Company consultants and contractors.⁷⁴⁴ Annual estimate updates consider regulatory changes and technology advances that affect the likelihood of implementing the options. The performance of this process produced the most likely scenarios by site, shown in the next table.⁷⁴⁵

2022 Most Likely Remaining Liability

Site	Amount
Atlantic Highlands	\$34,400,000
Long Branch	\$2,900,000
Toms River	\$65,000,000
Manchester	\$220,000
Berkeley	\$19,900,000
Freehold	\$400,000
Aberdeen	\$1,300,000
Total	\$124,120,000

The Company's SEC Form 10-K for fiscal 2022 places a range on this amount of between \$110,800,000 and \$167,100,000.⁷⁴⁶

1. Program Organization and Staffing

Organization and staffing of the MGP Program has been essentially the same over the past decade. The Department of Environmental Services directs NJNG's Remediation Program. A director, two environmental engineers, a back office supervisor and a clerical assistant currently staff that office. The Director of Environmental Services reports to the Senior Vice President – Regulatory Affairs and Energy Efficiency. The environmental engineers manage work at MGP sites. The back office manager has responsibility for the accounting and financial processes involved in operating the MGP program. The clerical assistant helps with those processes and with document filing and storage.⁷⁴⁷ Other departments assist with various facets of Program operation:

- Purchasing: Contract negotiations and review, and purchase orders
- Accounting: MGP budget tracking and reporting
- Legal: Contract review and legal advice
- Corporate Communications: Organizing public meetings and presentation materials
- Government Affairs: Stakeholder engagement and municipal relationships.

Each of the Environmental Engineers manages three sites, with the one site, as noted above, on hold. Consultants provide technical support in organizing and directing field work. Each site's Oversight Engineering Consultant ("OEC") assists in document development and issuance, and with oversight of individual remedial projects. Document development includes, for example, preparing technical specifications for individual projects, requests for proposals, and evaluations of proposals submitted by contractors. The OEC also prepares, for each work scope, a cost estimate used in evaluating bids offered. Contractors undertake the field work required for remediation, working under specific contracts and scopes of work, generally awarded through competitive bidding.

An LSRP operates at each MGP site as well, serving as the on-site representative of the NJ DEP, to ensure remedial work performance in accord with NJ DEP regulations and applicable technical guidance. LSRPs also evaluate each Company report to the NJ DEP describing progress, sending them to the NJ DEP when satisfied with their accuracy and compliance with applicable requirements.

NJNG's Department of Environmental Services includes a position not associated with the MGP Remediation Program, but assigned to all NJNG air, emissions and wetlands permitting. This position also has responsibility for recycling and waste management, training operations personnel about Company general environmental responsibilities, and representing the Company on industry environmental committees. The Department of Environmental Services also handles other small services, such as snow removal, and vegetation management (*e.g.*, mowing).⁷⁴⁸

NJNG's long-time Director of Environmental Services retired at the end of 2018. The replacement has very substantial qualifications, having formerly served for 27 years at the NJ DEP overseeing remedial efforts at contaminated sites, including MGP sites. That individual retired at the end of January 2024, with replacement again by an equally-qualified candidate, also formerly with the NJ DEP.⁷⁴⁹ The most senior Environmental Engineer has worked in environmental fields for almost 40 years, most of it at NJNG. Another well qualified Environmental Engineer had worked at NJNG for about eight years, the latter half in MGP remediation, before departing in May of 2023. Promotion of a well-trained junior engineer to fill the opening followed. The back office supervisor has been with the Company since 2008, working in the environmental area for about five years.

Environmental consulting firms generally provide the site OECs, some of them with an individual site for a number of years.⁷⁵⁰ Sizeable construction firms generally perform the field work at NJNG sites.⁷⁵¹ The high volume of environmental remediation across New Jersey has produced ample candidates for OEC and contractor field remediation work. There is no shortage of candidates for this function.

2. Company Involvement in Program Design and Execution

We examined the nature and extent of NJNG involvement in MGP program planning and execution. Our review assessed that involvement in

- Program definition, planning and cost estimation
- Designing testing and monitoring activities
- Contractor selection, work progress, and quality monitoring
- Ensuring the use of well-qualified contractors.

NJNG's strategy for its remediation efforts envisions active involvement by Company personnel in identification of responsibilities, and in development of engineering and business solutions that will enable NJNG to discharge its responsibilities cost-effectively.⁷⁵² The Company provides adequate focus on ensuring that its efforts address its MGP remediation responsibilities and do not extend to remediating contamination from unrelated sources.⁷⁵³

Company staff conduct the process of identifying AOCs within each site and developing work programs for each one. The OECs provide advice to this process, but each site's Company-

employee manager, in consultation with the Director, Environmental Services, makes the decisions. NJNG secures third-party services, including project-management and engineering support services provided by the OEC, and physical remediation and support services provided by contractors, competitively, through NJNG's contractor-procurement procedures.⁷⁵⁴ NJNG's Procurement and Contract Management department administers these procedures. NJNG also employs approval processes and financial controls specific to purchasing support for the remediation of MGP sites.⁷⁵⁵ Those procedures supplement the Company's main procurement policies.

NJNG's Environmental Engineers manage all work at each MGP site. As previously noted, each one is currently responsible for three sites. They are supported by an OEC for each site, and each site has its own LSRP to provide detailed guidance for compliance with NJ DEP regulations.

3. Program Controls and Record-Keeping

We examined internal controls and the flow of information used to ensure proper recording of MGP remediation costs, support for remaining expected costs, and effectiveness in controlling costs. We examined systems and processes for expense capture and recording, regularity of site-by-site comparisons of actual versus planned expenditures, analysis conducted of variances, and the collection, retention, and retrievability of cost information.

a. Accounting for Remediation Costs

NJNG records remediation costs by MGP site, with each employing a separate work order under the Enterprise Resource Planning system, now based on Oracle after a fairly recent change. Management categorizes costs within each MGP site by category; *e.g.*, consulting, remediation, legal, or other.⁷⁵⁶ Environmental Services staff estimate the percentage of time the group spends working on individual MGP sites for assignment of their costs to them. Invoices tied to site-specific purchase orders established for MGP remediation work cover vendor, contractor, and consultant time and other costs.⁷⁵⁷

Costs reported to the NJ BPU as Remediation Costs and recovered via the Remediation Adjustment Rider include only direct costs of the Environmental Services staff and invoices from consultants, contractors, and vendors.⁷⁵⁸ NJNG's policy is to exclude support costs from what is reported as Remediation Costs, instead recovering them through base rates.⁷⁵⁹ Service Company practice excludes charging to Remediation Costs, except when an employee spends at least 50 percent of time on MGP remediation; that situation has not arisen⁷⁶⁰

Management initially reports Remediation Costs to Account 15860 (Retirement Work in Progress), subsequently moving them to Account 182.3 (Regulatory Asset) during the monthly books-close process. The Company also calculates carrying charges on under-recovered cost balances as part of the RAC cost-recovery process. It adjusts the interest rate each August 31, based on the seven-year constant maturity Treasury rate shown in the Federal Reserve Statistical release, plus 60 basis points. Management adds interest to the Regulatory Asset balance in Account 182.3 and amortizes the Regulatory Asset to expense over a seven-year period.⁷⁶¹ We conducted a walk-through of the Regulatory Asset Roll-Forward schedule, finding it logical and in compliance with accounting⁷⁶² as prescribed by the NJ BPU in its June 1992 Order establishing

the Remediation Cost recovery process. We also examined the monthly carrying-charge calculations for 2020 and 2021, finding them appropriate as well.⁷⁶³

b. Controls/Internal Audit Reviews

We examined key controls applicable to the MGP Remediation process. Two key controls apply specifically to MGP Remediation. Control FS2C63 – MGP Future Liability requires a quarterly analysis of the MGP spend and factors that might affect MGP liability. Control FS2C75-B – Regulatory Assets and Liability Analytic Review requires a manager or designee in the regulated accounting group to prepare an analytical review of all Regulatory Assets and Liabilities, which includes analyzing the current-period balances and activity since the last review. The Controller or designee reviews and approves the analysis for appropriateness.⁷⁶⁴ In addition to these two specific controls, a number of more general ones apply to the MGP Remediation process, including:⁷⁶⁵

- Authorization of Orders to Suppliers
- Purchase Order Approvals
- Matching of Invoices to Purchase Orders
- Journal Entry Review
- Review/Closure of Work Orders
- Work Order Approval
- Reconciliation of Balance Sheet Accounts.

No required or suggested cycle applies to the timing of examinations of Remediation by Internal Audit. The annual risk-assessment process that guides much of Internal Audit's work must identify them. In the past decade or so, four MGP Remediation process examinations have occurred, in 2014, 2015, 2018, and 2023.⁷⁶⁶

The 2014 audit came at the request of the Legal Department, and resulted in an Internal Audit Memorandum, somewhat less formal than an Audit Report. The audit examined certain internal processes and expenses billed by consultants and contractors. The memorandum found review of the process for paying contractor expenses operating as intended.⁷⁶⁷

The 2015 and 2018 audits examined MGP contractor expenses, with the objectives of:

- Evaluating consultant and contractor bidding process and related controls
- Evaluating invoicing and payment processing
- Ensuring proper support for and documentation, review, and approval of consultant and contractor costs
- Evaluating compliance with service agreements and existing policies and procedures.

Internal Audit found the internal controls and processes evaluated appropriate and effective in providing assurances of risk management and objectives achievement. However, the report noted the existence of opportunities to improve operational effectiveness or efficiency. It cited only one instance of the use of an improper Labor Distribution Rate in explaining those opportunities.⁷⁶⁸

The 2023 audit examined MGP Remediation Cost compliance, seeking to review remediation costs and confirm compliance with applicable NJ DEP environmental requirements and internal NJNG policies and procedures. The audit found controls over contracting, MGP costs, and adherence to

NJ DEP LSRP compliance standards operating effectively and as intended by NJNG procedures, specifically:

- Contracts evaluated and approved in accordance with NJR's procurement procedures
- Invoices accurately calculated, approved, and in accord with contracts and purchase orders
- Fiscal Year 2022 expenses at or below approved budget
- MGP sites each with an assigned LSRP possessing an active license registered with the NJDEP.
- Process risks mitigated by existing SOX controls.⁷⁶⁹

c. Documentation and Senior Management Review

NJNG has no reports addressing the recording and recovery of MGP remediation since at least January 1, 2014.⁷⁷⁰ There are no records of remediation costs; management simply reports costs to accounting monthly.⁷⁷¹ The NJR Board of Directors does receive reports, discussed below, and annual RAC recovery filings are made as well.⁷⁷² What appear not to exist are internal reports that regularly (*e.g.*, monthly) summarize, analyze, and report on variances in remediation costs.

Management also does not employ documented policies and procedures defining and explaining remediation identification, recording, and recovery from customers. Management relies on the 1992 NJ BPU order establishing the Remediation Rider and related policy.⁷⁷³

We observed an anomaly in the annual RAC filings of Remediation Costs, all of which we examined for the audit period. Management made no 2016 filing, and its 2017 filing covered both 2016 and 2017.⁷⁷⁴ Management provided a December 2, 2016 letter to the NJBPU advising that NJNG would make its 2016 filing on July 1, 2017, because a Board order for 2015 effective July 9, 2016 made it "premature" to file so soon thereafter.⁷⁷⁵ The December letter came just over two months after the report's due date (September 30) and cited a justification known by the Company since the preceding July. Subsequently, NJNG missed its proposed July 1, 2017 filing date, which did not come until November 16, 2017, including information for 2017 as well.⁷⁷⁶ NJ BPU orders set rates for beginning effectiveness the following year. The order dates during the Audit Period ranged from March 23 to September 9, placing the June 29, 2016 in the middle of the typical range.⁷⁷⁷

Company records retention requirements do not specifically address remediation cost reports. The only requirements cited by management reside in a general NJR Records Retention Schedule.⁷⁷⁸ However, that schedule does not address reports, but underlying data (*e.g.*, purchase orders or contracts) that might help form "reports."⁷⁷⁹

We examined environmental reports provided to the NJR Board of Directors since 2014. They were provided to the Board on a periodic basis, with six annually through 2020 and four since. The reports contained the spending to date for the current fiscal year, and other key status updates on a site-by-site basis. In addition, the 2014 reports provided the fiscal-year budget amounts.⁷⁸⁰

d. Budget Comparisons

Annual budget forecasts for MGP Remediation receive board-of-director approval.⁷⁸¹ A review of remediation costs for 2014 through 2021 showed an underrun of actual costs to budget in every year except 2018, which experienced an overrun of 6.4 percent. The budget underrun for the remaining years averaged 10.3 percent.⁷⁸² The data underlying these variances used updated Fourth Quarter estimates; *i.e.*, building in actual costs through the first three quarters.⁷⁸³ Underruns as measured by each year's starting forecasts showed much larger underruns, indicating that forecasts at year start have consistently proven too high.⁷⁸⁴ The yearly underruns ranged from a low of 17.1 percent in 2022 to a high of 75.3 percent in 2014, averaging 43.8 percent when measuring actual costs at year end with those forecasted at year start.

4. *Interaction with Government Authorities*

We examined correspondence with the NJ DEP and other government stakeholders and the relationships NJNG has maintained with government entities, especially the NJ DEP. The enactment of the SRRA in late 2009 had a significant impact on those relationships. The SRP Program did not become fully implemented until May, 2012, not long before the end of the period addressed by the preceding audit of this type. NJNG had little experience with the program as that last audit period came to a close.

Private-sector environmental professionals fill the LSRP positions key to program execution. A State of New Jersey Site Remediation Professional Licensing Board oversees the issuance of licenses to LSRPs and monitors their conduct and performance. Parties like NJNG responsible for remediation activities, however, have responsibility for retaining them. LSRPs direct and oversee environmental investigations and remedial actions in accordance with applicable New Jersey regulations and guidance.⁷⁸⁵

Prior to SRRA implementation, the NJ DEP assigned Core Staff Teams to oversee remediation at each site. Dealing with that team involved considerable paperwork in proposing and securing approval for proposed remediation activities. LSRP replacement of the former NJ DEP staff roles has led to more direct and immediate involvement in the remediation process. LSRP actions to ensure remediation compliance occur directly, rather than through a paper filing-and-response process.⁷⁸⁶ LSRPs submit "milestone" reports to the NJ DEP. These reports show remediation activities, completion activities and dates, with the NJ DEP retaining authority to review particular investigation phase studies. The NJ DEP also retains the authority to issue remedial action permits for soil and groundwater.

LSRPs study the backgrounds of sites for which they have responsibility. Sanborn Fire Insurance maps prepared in the early 1900s to assist companies and interested parties in assessing property insurance coverages provide an important tool for these background investigations. They led, for example, to the discovery of the two additional MGP sites, identified earlier in this chapter, for which NJNG has assumed responsibility.⁷⁸⁷

5. *MGP Program Files*

The Environmental Services group's recent addition of a clerical assistant aids in ensuring proper records maintenance. The Company's Records Retention Policy provides for retention of program

records indefinitely, subject to periodic review for continuing viability. File organization operates by site. Ongoing activities rely on hard copies, with electronic storage of records concerning completed activities.⁷⁸⁸ We found all requested records readily accessible.

C. Conclusions

1. NJNG operates a mature and well-staffed MGP Remediation Program with a sufficiently broad and defined scope.

NJNG's Remediation Program began with Administrative Consent Orders in 1989.⁷⁸⁹ The resources primarily responsible for its execution report at a high level – to NJNG's Senior Vice President for Regulatory Affairs and Energy Efficiency. Having operated for over 30 years, the Program is mature, with established, qualified and highly skilled personnel.

NJNG's MGP Program has had the same organization and most of the same people for much of its existence. Replacements of those who have left the Program, typically due to retirement, have come through equally-qualified successors. The Environmental Services group added a clerical assistant since the last audit of this type, as growth in NJ site numbers and movement into later restoration phases have increased records support needs.

Clear, long-established and well-developed policies and procedures govern the Program. Appropriate business processes for monitoring and controlling expenditures apply. The Program's director has provided written reports every other month through 2020, and quarterly since to NJR's Board of Directors.⁷⁹⁰ The current version of the Company's Policy & Procedure for the MGP Program provides for submission of current-year and long-range capital requirements to the board annually for its review and approval. NJNG's responsible officer apprises the Board regularly regarding the Program's progress, and Program expenditures comprise a regular part of budgeting exercises and progress reports, appropriate, given the large expenditures involved. Examination of those expenditures in annual NJ BPU proceedings is thorough.

2. Company staff have primary responsibility for Program definition, planning and cost estimation, as well as monitoring activities at each site.

Company staff have had and maintain primary responsibility for all aspects of managing NJNG's MGP Remediation Program. The OECs assist Company site managers with detailed design and costing of activities at each site. The OECs, knowledgeable about MGP remediation, take a support role, not a primary one. Each OEC serves at the pleasure of NJNG staff.

Contractors conduct actual remediation work, but with their tasks configured and costed by an OEC pursuant to the Company site manager's direction. The site managers also have responsibility for review and initial approval of consultant and contractor invoices, with further review and approvals by other involved staff.

The Company's site manager also has responsibility for evaluating the progress of remediation activities at each site. The site manager, working with the OEC, designs activities for monitoring the results of remediation activities, with development of succeeding actions and activities as appropriate.

3. Company staff conduct consultant and contractor selection, using well-defined processes and criteria.

Consultant and contractor selection takes place under procedures prescribed specifically for the MGP Remediation Program. Procurement Policy & Procedure 3 (Financial Procedures at Former Gas Plants), supplements Procurement Policy and Procedure 1, which applies generally to acquisition of goods and services. Policy & Procedure 3 guides approval processes and financial controls specific to securing support for MGP remediation.⁷⁹¹ Environmental, Procurement, Finance, and the Legal departments engage in the processes for selecting consultants and contractors.

NJNG has twice revised its detailed MGP Remediation Program procedures since the last audit of this type. The most recent 2021 revision occurred after the retirement of the program's long-time director. It clarified the roles and responsibilities of NJNG's Purchasing, Accounting and Legal departments in supporting the Program, and clarified the Environmental department's ability to make operational decisions as the Program progressed.

4. We found remediation cost accounting appropriate.

All costs charged to the Remediation Program arise through invoices or employee-related charges (time) direct-charged to the program. No costs come through allocations from the service company. Management calculates carrying charges for accrual to the balance of unrecovered remediation costs in accordance with NJ BPU directives. A module in NJR's Oracle-based ERP captures remediation costs in sufficient detail to allow for the annual RAC filing. Costs are originally deferred to a Regulatory Asset and secure eventual recovery through RAC filings, as prescribed by the NJ BPU. Our review of recent BPU orders and other Company documents confirmed application of the prescribed accounting.

5. We found controls related to the recording and reporting of remediation costs sufficient.

The identified key controls related to the MGP Remediation process as well as to related processes are appropriate. We examine more generally annual testing of controls in the *Controls, SOX, Internal Audit, and NYSE Filing Requirements* Chapter of this report.

The four Internal Audit examinations of MGP remediation processes have occurred with sufficient frequency and have had meaningful scopes. All found the processes well controlled, making no significant findings.

6. Documentation of the processes for capture and reporting of MGP Remediation Costs is lacking. (See Recommendation #1)

We found no policy and procedures documents defining either the process of capturing remediation costs or their reporting through the RAC cost-recovery process. Appropriate capturing of costs and accurate annual RAC filings appears to depend on institutional knowledge of the ERP means for treating these costs, and on the NJ BPU RAC process as explained in a 1992 BPU order. The late 2016 RAC filing and subsequent combination of 2016 and 2017 into one filing illustrates one consequence of relying only on institutional knowledge and the lack of formal policies and procedures.

7. Reports to the boards of directors and senior management provide sufficient program activities, status, and costs.

We found environmental reports provided to the boards of directors comprehensive and offering an appropriate level of detail.

8. Management undertakes budget comparisons periodically, but the level of annual underruns indicate the need for attention to program cost budgeting processes. (See Recommendation #2)

Management prepares forecasts of the annual expected MGP Remediation spend and updates them quarterly. The process of quarterly updates is appropriate to manage spending throughout the year. However, the consistent level of significant underruns from the originally-forecast levels suggests that the budget estimation process needs to become more realistic in setting baselines against which to monitor and analyze costs, and from which to hold program management accountable.

9. Regulatory changes and Company support have enabled significant program progress.

NJNG's MGP Remediation Program has had the support it needed from the Company to progress satisfactorily. The process changes brought by the SRRA have enabled significant progress acceleration.

The Company has responded to those changes by improving its own processes. Process support from other parts of the Company has solidified, and budget support has increased as investigation steps have been completed. Retirement of long-time staff members has been followed by adding equally-qualified people to replace them. Administrative support has been added as the volume of records has increased. Program controls are sound, and compliance is assessed periodically with internal audits. NJNG's MGP Remediation Program is a mature one, steadily working its way through discharge of the Company's responsibilities.

D. Recommendations

1. Create policy and procedure documents that define how Remediation Costs are captured, and the detailed steps and schedules associated with the RAC process. (See Conclusion #6)

Reliance on institutional knowledge can be effective for a period of time when turnover is low, but having clear documentation of processes with process schedules and periodic review, with periodic updating of those policy and procedure documents, is good business practice.

2. Revise the process for forecasting Remediation Costs. (See Conclusion #8)

The level of over-estimation consistently evident in the original Remediation Cost annual estimates results in a dedication of resources to a segment of the business that consistently does not require that level of resource allocation.

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Chapter XXVI: Cybersecurity

A. Background

NJR employs an enterprise-wide IT Department that address the needs of all the parent's operations, including those of NJNG. Operating under a CIO who forms part of the NJR senior leadership team, this IT Department also has responsibility for addressing cybersecurity risk and threat identification, assessment, mitigation, and response. This chapter addresses the structure, resources, costs, systems, applications, tools, procedures, and methods employed by the cybersecurity group operating under the CIO. It also addresses the means for ensuring compliance with BPU requirements involving cybersecurity.

B. Findings

1. Organization

The Cyber Resiliency Committee, which includes top NJR executive management, provides governance, strategic planning and sponsorship for cybersecurity. The structure under which NJR addresses cyber matters includes measures designed for detecting, preventing, and responding to threats and occurrences. The specific measures this structure provides include incident management and decision-making, threat intelligence, policy planning and ongoing risk assessment. Alignment with the Cybersecurity Framework of the National Institute of Standards and Technology ("NIST") and fulfilling BPU requirements guide cybersecurity infrastructure design and execution. The U.S. Department of Energy's Cybersecurity Capability Maturity Model ("C2M2") guides efforts to evaluate and improve cybersecurity processes and programs on a continuing basis.⁷⁹²

An NJR service company organization operating under the direction of NJR's Senior Vice President and CIO, has responsibility for general cybersecurity operations, IT cybersecurity operations, identity control for access to facilities, and Security Projects Portfolio Management.⁷⁹³ A group under the Managing Director, Information Security operates under the following mission:⁷⁹⁴

Proactively identify risks to the security of information and systems across NJR. Develop processes, procedures, and policies to ensure confidentiality, integrity and availability of information and systems. Utilizing best practices by developing and implementing incident response plans to respond to and recover from disruptive and/or destructive information security incidents. Shares knowledge and training of cyber risks to all employees

The service company's Information Security group has responsibility for cybersecurity across NJR's businesses, including NJNG. The Managing Director, Information Security reports to the NJR Chief Information Officer.⁷⁹⁵ Governance of cybersecurity matters occurs through the work of the Managing Director with an NJR Cyber Resilience Committee whose leadership comes from the CIO, the Chief Risk Officer ("CRO"), and the General Counsel. Other members of this committee provide expertise and support as well.

The Audit Committee of the NJR board of directors has received roughly quarterly cybersecurity reports. These reports vary in subjects that, for example, have included:⁷⁹⁶

- Progress in enhancing the maturity level of cybersecurity program capabilities and measures
- Major internal initiatives and their schedules and status
- Managing cyber risks imposed by relationships with third parties
- Cyber event and investigation numbers
- Industry events with implications for NJR's businesses
- Plans and schedules for mitigating threats they have presented.

2. Staffing

The Managing Director was the [REDACTED] dedicated cybersecurity resource when joining NJR in 2015, coming to the company with more than 10 years of cyber experience, including responsibility for North American information security for a global manufacturing entity. By 2017, staffing under this then-titled Director of IT Cyber Security had grown [REDACTED]. The director of cybersecurity then, as now, reported to NJR's CIO.⁷⁹⁷

Staffing increased [REDACTED] by 2021, and by early 2023 grew further [REDACTED]. Management forecasts continued growth in resources; e.g., [REDACTED] by the end of 2023.⁷⁹⁸ There is substantial cybersecurity personnel movement across U.S. industry, as companies have struggled to find and retain qualified resources as threats and efforts to respond to them have grown greatly. NJR has succeeded in retaining resources in this dynamic environment, with only one departure. This growth accompanied focused efforts to improve NJR's cybersecurity maturity level, described further below.

Later in 2023, staffing grew by one more, with the [REDACTED] team under the Managing director now organized as follows:

- Identity Access Management, [REDACTED] positions have responsibility for controlling the access personnel have to information systems (not physical facility access, addressed elsewhere in the service company structure and described in this report's *Physical Security, Business Continuity, Information Protection* Chapter) addressing onboarding, departure, and position and responsibility changes that have implications for system access
- IT Cybersecurity Operations, [REDACTED] have responsibility for monitoring and responding to conditions, events, and incidents involving IT business systems
- OT Cybersecurity Operations, [REDACTED] has the same responsibilities for Operations Technology; i.e., systems used in support of facility operations, such as Supervisory Control and Data Acquisition ("SCADA") and systems that control industrial processes
- Security Projects Portfolio Management, [REDACTED] have responsibility for developing new or enhanced internal systems or tools used for addressing cybersecurity operations, threats, and incidents and for contributing analysis of the cybersecurity implications of business systems being developed by others for their operations.

People factors comprise a major focus of Identify Access Management; e.g., how their access to systems and information presents cyber risk. The preceding Information Technology Chapter of this report addresses the distinctions between IT (Information Technology) and OT (Operational Technology). Incidents comprise a major focus of IT and OT Cybersecurity Operations; e.g., how

protective systems operate to prevent them and ensuring prompt response when they occur. Development forms a major focus of Security Projects Portfolio Management. The Managing Director considers current staffing sufficient on an ongoing basis, but NJR forecasts continued growth in resources, [REDACTED].⁷⁹⁹

3. Operating Costs

As noted above, NJR has experienced significant staffing additions as it proceeded through focused efforts to improve NJR's cybersecurity maturity level, described further below. That maturity improvement process has generated material cost increases. The next table summarizes recent year Cybersecurity operating costs. Roughly equal increases in labor and in third-party services costs accounted for essentially all of the 60 percent increase in total operating costs from 2019 through 2022.⁸⁰⁰ Labor costs, driven by staffing changes, proved the most significant cost driver, with insurance the next most significant factor. Industry participants have commonly faced increased staffing, outside service, and insurance cost increases over this period. Here those increases came not just as part of efforts to sustain cyber protection levels, but to increase them substantially. The next table shows a 115 percent increase in operating costs between 2019 and 2023, with a four percent budgeted increase for 2024.

Cybersecurity Operating Cost History (confidential table)

[REDACTED]			

The next table summarizes external Cybersecurity costs.⁸⁰¹

Cybersecurity External Costs

Year	Providers	Costs	Services
2019	3	\$56,831	Systems Implementation, Consulting
2020	4	\$181,831	Systems Implementation
2021	9	\$557,586	Systems Implementation, Consulting, Auditing
2022	18	\$483,000	Service Agreements, Systems Implementation, Consulting, Auditing, Insurance, Legal
Total Costs		\$1,279,248	

4. Cybersecurity Maturity Level

NJR has for a number of years been executing a plan to increase its cybersecurity "Maturity Level" [REDACTED]. NJR has established and met a range of key milestones on that journey. Enhancing the maturity level of cybersecurity comprised a main focus in 2020 and 2021, producing

at least three separate reports to the Audit Committee. A report from March 2020 described two separate assessments of the overall cyber security level during 2019. Both measured maturity against a scale consisting of grade levels 1 through 5, [REDACTED]. A self-assessment using a formal structure provided by a major service provider in the industry⁸⁰² produced a maturity rating [REDACTED]. A 2019 review by [REDACTED] (acting as internal auditor for NJR) using the National Institute of Standards and Technology (NIST) Cyber Security Framework (CSF) produced a maturity rating [REDACTED].

Management generated a list at that time of high medium and low action items identified as supporting the reaching of [REDACTED] by mid-2023. The next table shows the original action-item list and changes in number of planned items and their completion status as of 2022. A January 2022 management status report to the NJR Audit committee showed substantial progress in completing the tasks required.⁸⁰³

Reaching Cyber Maturity [REDACTED]

(confidential table)



The factors driving management's selection [REDACTED] included alignment with industry peers, balancing the needs of running versus protecting the business, and a goal of seeking continuous improvement. [REDACTED]

[REDACTED]. The maturity levels are defined as follows:

- 1 – Initial: Undocumented and new or ad-hoc process
- 2 – Repeatable: Distinct and repeatable process, with some documentation
- 3 – Defined: Documented, predictable, understood, and occasionally evaluated
- 4 – Managed: Well managed, formal, often automated, and evaluated frequently
- 5–Optimizing: Continuous and effective, proactive, continuously evaluated for improvement.

Costs of [REDACTED]

(confidential table)



An April 2021 report to the Audit Committee noted significant improvement in maturity since 2014, [REDACTED]

[REDACTED], “green lighting” progress in completing items in the last three categories but indicating some lag by “yellow lighting” progress in the first two. The report to the audit committee identified more specifically progress on all the high priority items. Management reported to the Audit Committee that it had attained level as determined by its September 2021 Gartner self-assessment.

A voluntary public-private partnership program involving U.S. Department of Energy and energy sector public and private organizations has produced and promoted the voluntary use of a Cybersecurity Capability Maturity Model (“C2M2”). This voluntary self-administered evaluation process uses accepted cybersecurity practices to measure the maturity of cybersecurity capabilities, measuring cyber program “sophistication and sustainment.” Experts from the energy industry organized the model, with the intent of developing a basis for identifying and measuring cyber policies, processes, and procedures. Use of the model produces maturity indicator levels (“MILs”) that consider operation in normal and crisis circumstances. Rather than comprising an “audit,” C2M2 use seeks to measure cybersecurity risk management approach maturity and sophistication “at a strategic and holistic level.” C2M2 takes account of both IT and OT assets and environments.⁸⁰⁵ NJR completed a C2M2 assessment in the fall of 2022.

Progress in completing tasks identified in the December 2022 report noted above has continued. Management has reported that Internal Audit confirms that it had reached its target level of 3 as of March 2023. Management has determined that this level both conforms to its peers and that sustaining that level sets an appropriate NJR target. [REDACTED]

⁸⁰⁶

NJR remains committed to sustaining [REDACTED] as its goal. Management recognizes that, despite having attained it, staying at that level will take more in a changing and more threatening cybersecurity environment. [REDACTED]

[REDACTED]

The cyber organization has been “stepping back” to assess next steps for continuing to remain at that level. Management considers current personnel, system, and tools resources sufficient to do so, but recognizes that change in the cybersecurity environment makes it necessary to remain aware of new offerings that can enhance security cost effectively or changes in resources to improve efficiency.⁸⁰⁷

5. Policies and Procedures

The suite of cybersecurity policies and procedures includes the following:⁸⁰⁸

- The **Data Safeguards**, which set forth data safeguards and minimum-security controls for third-party service providers (September 2022 version)
- The **Information Technology Acceptable Use Policy**, which addresses standards for use of IT resources including end user devices and desktop computers, hardware, storage media, removable storage devices, mobile devices, phones and tablets, Internet/Intranet access, network, cloud, industrial control systems, email systems, and other electronic information systems and software (October 1, 2019 version)
- The **Charter Of The Cyber Resiliency Committee**, responsible for monitoring the NJR cybersecurity Program and providing direction of activities assigned to mitigate cyber risks and facilitate continuous improvement of security capabilities (September 7, 2021 version)
- The **Information Technology Policy And Procedure Cybersecurity Policy**, which addresses cybersecurity procedures and practices to protect information and industrial controls systems to maintain confidentiality, integrity, and availability (September 23, 2022 version)
- The **Information Technology Encryption Standard**, which addresses security and protection of electronic data by transforming readable information into unintelligible ciphertext. (version undated and without approval signoff)
- The **Information Technology Remote Access Standard**, which establishes authorized methods for remotely accessing resources and services securely. (June 14, 2021 version)
- The **Cybersecurity Risk Assessment Procedure**, which provides the structure and methods for identifying, analyzing and evaluating risk and potential effects regarding assets presenting highest risk, vulnerability or exposure (September 2022 version)
- The **Password Standard**, which addresses password security for operating systems, directory services, applications, and databases (May 2020 version)
- The **Information Technology Phishing Awareness Policy**, which to prevent Email phishing attacks (January 19, 2022 version)
- The **Information Technology Policy And Procedure for Technical Support**, which addresses actions and procedures to comply with workstation patching (February 7, 2023 version)
- The **Third Party Service Provider Policy and Procedure**, which provides for annual review of internal control environment of Third Party Service Provider’s on whom NJR relies on for aspects of NJRs internal control environment (September 15, 2020 procedure).

Other chapters of this report address too-common failures to review and update policies and procedures as required. However, the procedures listed above have undergone reviews in accord with the four-year cycle management reported as applicable.⁸⁰⁹

6. Performance Measurement

Management has been issuing a quarterly Cybersecurity dashboard that provides information about the following areas of risk, generally providing a definition of the risk to which each relates and associated objectives, goals, and metrics applicable:⁸¹⁰

- [REDACTED]
- Numbers of risks (categorized as High, Medium, or Low) disclosed by the 2022 and the last three years' annual Cybersecurity Risk Assessments, listed separately for internal and external systems, with notes on high-risk items identified
- Numbers of event investigations and incidents confirmed by quarter for the most recent four quarters and a summary list of reasons for change
- Phishing campaign failure rates for last 12 months and numbers of phishing awareness communications issued
- Progress in completing tasks forming part of efforts to increase cybersecurity program maturity
- Change in Cybersecurity score using Bitsight benchmark and remediation measures.

7. Training

All new hires receive cybersecurity training that addresses phishing, handling sensitive data, and securely working remotely. The training system sends out reminders until all modules are completed. New hires working on operational technology ("OT"), also receive training [REDACTED] that covers OT-specific cybersecurity topics.

NJR's cybersecurity team has responsibility for identifying cybersecurity training requirements, content, and recipients by employee position. NJR employees monthly phishing simulations, which require reports to managers for those who fail, training for them, and completion reports on successful completion of that training. All new hires receive training that addresses phishing, handling sensitive data, and security when working remotely. The company's training system automatically issues e-mail notices for training not completed by due dates. New hires with whose responsibility includes access to OT also receive training from [REDACTED], Audit, Network and Security training that includes cybersecurity topics. Personnel who engage with OT receive cybersecurity training annually.

Cybersecurity testing modules include a requirement to achieve a minimum knowledge score to pass. NJR uses a [REDACTED] system that manages communications, module access, and completion testing, and has the ability to provide completion reports. [REDACTED] operates as a leading provider of cybersecurity for employee e-mail, social media, and mobile devices.⁸¹¹ OT-specific training includes the capability to report completion success as well.⁸¹²

The following recurring measures (including those described in more detail in this report section) promote awareness of cybersecurity risks and means for addressing them:⁸¹³

- New hire training addressing general cybersecurity topics and OT-specific training for those engaged
- Annual general cybersecurity training to all employees
- Annual Operational Technology (OT) -specific cybersecurity training to those involved
- Monthly phishing exercises and training for those users who fail the exercise
- Periodic emails about current threats and tips
- National Cyber Security Awareness Month activities, including optional training and information
- [REDACTED] email invitations to submit questions for answer in the monthly “Inside NJR” newsletter.
- Annual Cyber Security Open Houses and roadshows at different office locations addressing cybersecurity awareness, education and preventative measures (suspended during COVID-19).

Contractors, vendors, and consultants receive the communication regarding cybersecurity measures as company employees do. A six-page Data Safeguards document adds to agreements with these third parties. NJR includes with agreements with service providers a “Data Safeguards” list (dated September 12, 2022) that adds minimum security controls to those already set forth in individual agreements. These safeguards impose at a minimum the controls set forth in the Data Safeguards document. To the extent that they impose greater controls, data safeguards consistent with good industry practice for the type of services provided also apply. These minimum measures include a comprehensive list organized under the following topics:⁸¹⁴

• Security Policies	• Network Segregation	• Denial of Service (DDoS) Protection
• Configuration Management	• Malware Prevention	• Threat Monitoring/Response
• Coding/Application Development	• Vulnerability/Patch Mgmt.	• Encryption
• Electronic Media Mgmt.	• Data Retention/Disposal	• Audit and Inspection
• Incident and Crisis Response	• Breach Notification	• PCI Compliance

A safeguards clause calls for service provider use of an external auditor to examine security and confidentiality controls related to services provided. Before contract entry, NJR undertakes a review of the provider’s security control environment. It then selectively assesses security practices to ensure conformity with established requirements.⁸¹⁵

Management reports regular meetings that include the Managing Director, Information Security, BPU personnel and representatives from other state utilities. Its incident response addresses reporting of cyber incidents to the BPU Cyber Manager and reporting to the NJCCIC. The Company participates in workshops and tabletop exercises with the BPU and OHSP.⁸¹⁶ Examples include an April 2022 NJBPU Broken Silos TTX-2022 tabletop exercise and a September 2022 NJOHSP 2022 Threat Assessment briefing.⁸¹⁷

8. SCADA Protection Measures

The SCADA system serves as a principal focus of protection of operating technology (“OT”) against cyber threats. Management introduced a 24/7 level 1 Security Operation Center (“SOC”) for SCADA in the first half of 2023. SCADA-affecting measures already existing at that time include:⁸¹⁸

- Dedicated SCADA cybersecurity staff
- Red team/blue team (attack and defense) exercises

- Incident response plan tabletop exercises
- External network penetration tests
- Malicious activity detection monitoring tools
- Networks isolated and protected by restricted access
- Third-party incident response retainer
- Third-party network architecture reviews
- Annual cyber training from executive to new hires
- Regular, knowledge-based communications on threats and practices
- Board oversight of risk exposures, steps to monitor and control them, risk assessment and management policies, and regular technology upgrade and enhancement updates.

9. BPU Utility Cybersecurity Program Requirements

The March 18, 2016 BPU Order In the Matter of Utility Cyber Security Program Requirements (Docket AO16030196) requires that NJNG undertake a substantial list of responsibilities and activities. NJR has assigned responsibility for each to the Cybersecurity department.⁸¹⁹ These responsibilities and activities include:

- Join NJCCIC and create and submit a cybersecurity reporting process by July 2016
- Submit a written report to BPU Staff documenting assignment of organizational oversight, accountabilities, and responsibilities for cyber risk management activities
- Submit an executive-signed report certifying compliance with all other requirements of the order by October 31, 2017.

We sought documentation evidencing actions and reporting regarding the following items addressed in the March 18, 2016 BPU Order In the Matter of Utility Cyber Security Program Requirements (Docket AO16030196):

- NJCCIC membership.
- The cybersecurity reporting process
- Annual inventory of critical systems and document changes
- Annual assessment and prioritization of cyber risks
- Controls designed to mitigate cyber risks, related to the most recent risk assessment driving them
- Annual review of risk assessment methods
- Monitoring of critical system log files
- Monitoring and sharing of internal and external sources of threat and vulnerability information, including required sharing
- Review of vendor security patches
- Reports of ICS-related events
- Notifications to law enforcement and copies to Staff
- Reports of unusual cyber activity
- Cybersecurity Incident Response Plan
- Plan exercises and documentation of results and lessons learned
- Cybersecurity awareness program documentation, review, and documentation of lessons learned

- Cybersecurity awareness program documentation, review, and documentation of lessons learned
- Cybersecurity awareness communications
- Documentation of cybersecurity roles and responsibilities.

A comprehensive set of procedures, practices, and reporting exist for ensuring ongoing compliance.⁸²⁰ Management reports that several staff members have current NJCCIC membership. It cites the existence of a cybersecurity reporting process, annual inventories of critical systems and document changes, annual assessments and prioritization of cyber risks. A cybersecurity incident response plan exists, reportedly tested in 2023. The test documented strengths and identified areas for improvement. A Phishing Awareness policy addresses phishing threats, reporting, mitigation, and correction. Annual training for all employees addresses insider threats, data security, mobile device security, password complexity, and phishing. Affected employees receive annual protected health information (“PHI”) training. New hires receive security essentials, phishing, multi-factor authentication (“MFA”) for login to accounts, and attacks (e.g., fake logins). Moving from IT to OT (operating technology) training, those who have access to OT systems receive annual cybersecurity training. Cybersecurity personnel also coordinate periodic phishing simulations.⁸²¹

Each year includes a series of security awareness communications covering cyber, physical, and personal threats issues. Recent subjects addressed include:

• Ransomware	• PII/Online Safety	• Email Compromise
• Email Banner Explanation	• Holiday Shopping Safety	• Using email block list
• Smishing	• Phishing Policy Update	• Phishing Awareness
• Phishing Reminder	• PayPal scam notice	• Annual Training Notice
• Smishing Update	• LinkedIn Phishing	

Management reported monitoring of critical system log files and provided documentation of security patches. It reports the receipt of threat and vulnerability notices and information from:⁸²²

- The Downstream Natural Gas Information Sharing and Analysis Center (“DNG-ISAC”), which shares threat information among U.S. and Canadian natural gas distribution and transmission companies
- ONE-ISAC, which also shares threat and vulnerability information among member oil and natural energy companies
- The federal Cybersecurity & Infrastructure Security Agency (“CISA”)
- The U.S. Federal Bureau of Investigation (“FBI”).

Management reported no recent reports of ICS-related events, no necessary notifications to law enforcement, and no reports of unusual cyber activity. A series of seventeen controls address cyber risk mitigation. Its Risk Assessment procedure⁸²³ sets forth its risk assessment methods.⁸²⁴ The next table summarizes

⁸²⁵

[REDACTED]

(confidential table)

[REDACTED]

Internal Audit performed a dozen or so examinations of systems, functions, and activities with substantial cybersecurity implications between 2014 and 2018. [REDACTED]

[REDACTED] 826 [REDACTED]

[REDACTED]

Internal Audit Cybersecurity Examinations
(confidential table)



10. Cyber and Other Incident Records and Reports

N.J.A.C. § 14:3-6.7(a) requires NJNG to report within six hours of awareness the following incidents involving its facilities or equipment:

- Theft of a vehicle, identification document, badge or uniform bearing a utility logo
- Entry to any facility forced or achieved by deception
- Unauthorized photography or videotaping of a facility
- Extensive note-taking or audio recording involving a facility
- Intentional damage to facilities or equipment except for accidents or routine vandalism

C. Conclusions

1. An effective cybersecurity structure and adequate resources exist.

The centrally-provided cybersecurity function, which the NJR CIO leads provides an effective means for addressing NJNG cybersecurity needs. An overall governance, planning, and sponsorship process address design, execution, and continuous improvement of cybersecurity processes and programs. Staffing has expanded appropriately to address growing threat levels and the need for systems and tools to address them and personnel to execute them. With the growth in resources, stability in staffing has continued, with only one departure in a function that has experienced significant turnover in the industry. The NJR board's Audit Committee has remained substantially engaged in monitoring cyber threats, incidents, and circumstances, and in overseeing efforts to improve the company's cybersecurity maturity level.

2. The substantial cybersecurity cost growth experienced, while understandable, warrants detailed examination as part of the measures recommended in the Chapter of this report addressing IT more generally. (See Recommendation #1 of the Information Technology Chapter of this report)

The somewhat greater than doubling of cybersecurity operating costs from 2019 through the 2024 budget reflects the massive growth in needs for addressing expanding threat levels. External services, which have expanded significantly, reflect the growth in those needs.

3. NJR has made large advances in cybersecurity, reaching a competitive level of maturity through extensive investment in resources, systems, and tools.

NJR has completed a multi-year program for reaching a cybersecurity level that is commensurate with others in the industry. Outside and self assessments have tracked growth as new resources systems, tools, and practices have been added. Management views its current level of maturity [REDACTED] as appropriate to maintain; [REDACTED] A comprehensive set of systems, applications, tools, documented process and procedures, 17 controls focused on cybersecurity, and regular examination by Internal Auditing exist. We found a comprehensive and extensively applied training program.

4. A robust range of capabilities to identify, protect against, and respond to cyber threats and circumstances exists.

Efforts to grow the cyber maturity level have included comprehensive assessments of threats, and measures to address them. A comprehensive action plan to [REDACTED] brought major changes. A cybersecurity dashboard details risks, events, investigations, and improvement action status. Policies and procedures address data safeguards, acceptable IT use, protection of information and industrial controls, encryption requirements, remote access standards, passwords,

phishing awareness, technical support, and annual review of third-party controls environments. A specific procedure provides the structure and methods for conducting cybersecurity risk assessments. SCADA protection includes comprehensive staffing, exercising, testing, monitoring, isolation measures, architecture reviews, standby support for incident management, annual training, regular communications, and board of director oversight.

5. The cybersecurity organization adequately tracks the requirements and expectations of the BPU with respect to cybersecurity.

Management takes a structured approach for meeting the BPU's Utility Cyber Security Program Requirements. Our requests for documentation of processes, actions, lists and rosters, reports, plans, and regular communications (to both employees and outside providers) found evidence of their existence and performance. Service agreements with providers include a Data Safeguards list of minimum security controls.

6. NJNG has responded timely and substantially to [REDACTED].

Management has undertaken timely and substantial actions to address the [REDACTED]
[REDACTED].

D. Recommendations

See Recommendation #1 from this report's *Information Technology* Chapter.

End Notes

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- ² <https://d18rn0p25nwr6d.cloudfront.net/CIK-0000356309/59135a12-aaa6-44a7-9869-5782aeba6885.pdf>, at p.35
- ³ 2023 10-K and audit report at 28
- ⁴ Response to Data Request 2
- ⁵ Response to Data Request 2
- ⁶ Response to Data Request 2
- ⁷ Interview 37
- ⁸ Interview 44
- ⁹ Interview 47
- ¹⁰ <https://investor.njresources.com/governance/governance-documents/default.aspx>
- ¹¹ <https://investor.njresources.com/governance/board-of-directors/default.aspx> and proxy statement end-noted as well
- ¹² December 2022 Proxy at 21
- ¹³ [https://s26.q4cdn.com/222857764/files/doc_downloads/2022/12/NJR008_PXY_2022_Web-\(002\).pdf](https://s26.q4cdn.com/222857764/files/doc_downloads/2022/12/NJR008_PXY_2022_Web-(002).pdf) (“December 2022 Proxy”), pages 6-9
- ¹⁴ Response to Data Request 459
- ¹⁵ Response to Data Request 460
- ¹⁶ <https://investor.njresources.com/governance/committee-composition/default.aspx>
- ¹⁷ December 2022 Proxy at 23
- ¹⁸ December 2022 Proxy at 22
- ¹⁹ December 2022 Proxy at 25
- ²⁰ Response to Data Request 171
- ²¹ Response to Data Request 445
- ²² <https://investor.njresources.com/governance/board-of-directors/default.aspx>
- ²³ Response to Data Request 450
- ²⁴ December 2022 Proxy at 26
- ²⁵ December 2022 Proxy at 24
- ²⁶ December 2022 Proxy at 27
- ²⁷ December 2022 Proxy at 28
- ²⁸ <https://investor.njresources.com/financials/sec-filings/sec-filings-details/default.aspx?FilingId=15423877>
- ²⁹ Response to Data Request 1191
- ³⁰ December 2022 Proxy at 28
- ³¹ Response to Data Request 447
- ³² December 2022 Proxy at 22
- ³³ <https://investor.njresources.com/governance/governance-documents/default.aspx>:
- ³⁴ <https://investor.njresources.com/financials/sec-filings/sec-filings-details/default.aspx?FilingId=15423877>
- ³⁵ January 2022 Proxy and December 2022 Proxy
- ³⁶ COSO.org website
- ³⁷ Sarbanes-Oxley-101.com website
- ³⁸ NYSE.com website
- ³⁹ Response to Data Request 244
- ⁴⁰ Response to Data Request 913
- ⁴¹ Response to Data Request 916
- ⁴² Interview 69
- ⁴³ Response to Data Request 260
- ⁴⁴ Response to Data Request 914
- ⁴⁵ Response to Data Request 914
- ⁴⁶ Response to Data Request 914
- ⁴⁷ Response to Data Request 936
- ⁴⁸ Response to Data Request 914
- ⁴⁹ Response to Data Request 1230
- ⁵⁰ Response to Data Request 914

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- ⁵¹ Interview 69
⁵² Response to Data Request 246
⁵³ Response to Data Request 1228
⁵⁴ Interview 69
⁵⁵ Response to Data Request 759
⁵⁶ Response to Data Request 242
⁵⁷ Response to Data Request 914
⁵⁸ Response to Data Request 245
⁵⁹ Response to Data Request 931
⁶⁰ Response to Data Request 258
⁶¹ Response to Data Request 923
⁶² Response to Data Request 257
⁶³ Response to Data Request 258
⁶⁴ Response to Data Request 258
⁶⁵ Response to Data Request 939 and Data Request 1226
⁶⁶ Response to Data Request 249
⁶⁷ Response to Data Request 927
⁶⁸ Response to Data Request 1224
⁶⁹ Response to Data Request 008
⁷⁰ Response to Data Request 769
⁷¹ Response to Data Request 941
⁷² Interview 70
⁷³ Response to Data Request 1223
⁷⁴ Response to Data Request 897
⁷⁵ Response to Data Request 250-S
⁷⁶ Response to Data Request 929
⁷⁷ Response to Data Request 928
⁷⁸ May 13, 2024, interview with James Degraffenreidt
⁷⁹ Response to Data Request 1463
⁸⁰ Response to Data Request 250-S
⁸¹ Response to Data Request 34, Data Request 926, and Data Request 1425
⁸² Response to Data Request 253
⁸³ Response to Data Request 251
⁸⁴ Response to Data Request 925
⁸⁵ Response to Data Request 251
⁸⁶ IIA website
⁸⁷ Response to Data Request 769
⁸⁸ Response to Data Request 942
⁸⁹ Institute of Internal Auditors website
⁹⁰ Response to Data Request 924
⁹¹ Response to Data Request 1461, Attachment 2
⁹² Interview 7
⁹³ Response to Data Request 1462
⁹⁴ Response to Data Request 1461
⁹⁵ May 14, 2024, interview with Don Correll; May 13, 2024 interview with Greg Aliff
⁹⁶ Response to Data Request 240.
⁹⁷ Response to Data Request 241
⁹⁸ <https://hbr.org/2018/03/why-compliance-programs-fail>
⁹⁹ <https://fecorporateresponsibility.com/content/dam/investor/files/policies-charters/board-charters/Audit-Charter.pdf>
¹⁰⁰ <https://cdne-dcxprod-sitecore.azureedge.net/-/media/files/conedison/audit-committee-charter.pdf?rev=f174a360508441d1a6c077e1921cb6dd&hash=9AB49EB01A744DC54012B06440B4F002>
¹⁰¹ <https://corporate.pseg.com/aboutpseg/leadershipandgovernance/seniorexecutiveteam/mcourtneymccormick>
¹⁰² [ap-2023-njr-audit-committee-charter-approved.pdf \(q4cdn.com\)](https://corporate.pseg.com/aboutpseg/leadershipandgovernance/seniorexecutiveteam/mcourtneymccormick)
¹⁰³ <https://corporate.pseg.com/aboutpseg/leadershipandgovernance/seniorexecutiveteam/mcourtneymccormick>
¹⁰⁴ <https://cdne-dcxprod-sitecore.azureedge.net/-/media/files/conedison/audit-committee-charter.pdf?rev=f174a360508441d1a6c077e1921cb6dd&hash=9AB49EB01A744DC54012B06440B4F002>
¹⁰⁵ Response to Data Request 457 and Interview 73
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- ¹⁰⁶ Interview 73
¹⁰⁷ Interview 73
¹⁰⁸ Response to Data Request 456
¹⁰⁹ Response to Data Request 185
¹¹⁰ Interview 73
¹¹¹ Response to Data Request 456
¹¹² Response to Data Request 456
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¹¹⁴ <https://www.pge.com/content/dam/pge/docs/about/doing-business-with-pge/SupplierCodeofConductPGE.pdf>
¹¹⁵ <https://www.firstenergycorp.com/content/dam/supplierservices/files/supplier-code-of-conduct/fe-supplier-code-of-conduct.pdf>
¹¹⁶ <https://www.sjindustries.com/sji/media/pdf/Supplier Code of Conduct - Final 4-23-20.pdf>
¹¹⁷ Interview 73
¹¹⁸ Interview 73
¹¹⁹ Response to Data Request 1192
¹²⁰ <https://www.exeloncorp.com/leadership-and-governance/ethics-and-conduct>
¹²¹ <https://corporate.pseg.com/aboutpseg/leadershipandgovernance/standardsconduct>
¹²² Response to Data Request 1203
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¹²⁴ Interview 73
¹²⁵ Response to Data Request 461
¹²⁶ Response to Data Request 1207
¹²⁷ Interview 73
¹²⁸ <https://www.irs.gov/charities-non-profits/other-non-profits/types-of-organizations-exempt-under-section-501c4>
¹²⁹ Response to Data Request 461, Attachment 2
¹³⁰ Response to Data Request 462 and Data Request 1211
¹³¹ Response to Data Request 463
¹³² Response to Data Request 1209
¹³³ 17 CFR § 229.404 - (Item 404) Transactions with related persons, promoters and certain control persons
¹³⁴ Response to Data Request 458
¹³⁵ Interview 73
¹³⁶ Response to Data Request 402-S, Attachment 1-S
¹³⁷ Interview 53 and Response to Data Request 2-S-Attachment F-S
¹³⁸ Response to Data Request 71-S, Attachment 1-S and Interview 50
¹³⁹ Response to Data Request 403-S, Attachment BM-S
¹⁴⁰ Interview 3
¹⁴¹ Response to Data Request 404-S, Attachment 1-S
¹⁴² Interview 53
¹⁴³ Interview 53 and Response to Data Request 404-S, Attachment 1-S
¹⁴⁴ Response to Data Request 71-S Redacted, Attachment 1-S, pages 10-17
¹⁴⁵ Response to Data Request 411
¹⁴⁶ Response to Data Request 71-S, Attachment 1-S, pages 17-19
¹⁴⁷ Interview 54
¹⁴⁸ Response to Data Request 993 and Interview 54
¹⁴⁹ Response to Data Request 428
¹⁵⁰ Interview 54
¹⁵¹ Response to Data Request 1262, Attachment 1
¹⁵² Interview 54
¹⁵³ Ibid.
¹⁵⁴ Response to Data Request 1258, Attachment 1, page 24
¹⁵⁵ Interview 53
¹⁵⁶ Response to Data Request 408-S
¹⁵⁷ Response to Data Request 408-S and Response to Data Request 1258
¹⁵⁸ Response to Data Request 233, Attachment A, C, E and G
¹⁵⁹ Response to Data Request 233, Attachment I
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¹⁶¹ Response to Data Request 423
¹⁶² Interview 50 and Response to Data Request 423, Attachment A
¹⁶³ Response to Data Request 233, Attachments A,C,E,G and I, and Data Request 1257, Attachments 12 and 25
¹⁶⁴ Response to Data Request 1259, Attachment 2
¹⁶⁵ Response to Data Request 1259
¹⁶⁶ Interview 53
¹⁶⁷ Interview 54
¹⁶⁸ Analysis data from the Response to Data Request 408S and Data Request 1258
¹⁶⁹ Analysis data from the Response to Data Request 408S and Data Request 1258
¹⁷⁰ Interview 74
¹⁷¹ Interview 50 and response to Data Request 423, Attachment A
¹⁷² Response to Data Request 417
¹⁷³ Response to Data Request 420
¹⁷⁴ Interview 51
¹⁷⁵ Response to Data Request 418-S and Data Request 422-S, Attachments B-S
¹⁷⁶ Interview 51
¹⁷⁷ Response to Data Request 417
¹⁷⁸ Response to Data Request 419-S and Data Request 420
¹⁷⁹ Interview 51
¹⁸⁰ Energy Services AMA Fact Sheet available at <https://investor.njresources.com/resources/Investor-Fact-Sheets/default.aspx>
¹⁸¹ Interview 50
¹⁸² Response to Data Request 1119
¹⁸³ Response to Data Request 417
¹⁸⁴ Interview 50 and Response to Data Request 419-S
¹⁸⁵ Interview 51
¹⁸⁶ Response to Data Request 419-S and Data Request 420-S
¹⁸⁷ Response to Data Request 417
¹⁸⁸ SEC 10-Ks for NJR at September 30 of each year 2014-2022; 10-Q for June 30, 2023. Credit metrics from response to Data Request 977
¹⁸⁹ Response to Data Request 1111, Attachment 2
¹⁹⁰ Response to Data Request 415-S, Attachment P-S
¹⁹¹ Response to Data Request 415, Attachment N
¹⁹² SEC 10-Ks for NJR at September 30 of each year 2014-2022
¹⁹³ Response to Data Request 417
¹⁹⁴ SEC 10-Ks for NJR at September 30 of each year 2014-2021; 10-Q for June 30, 2023. Credit metrics from Response to Data Request 977
¹⁹⁵ Interview 50
¹⁹⁶ Response to Data Request 986 – Attachment 3 Confidential
¹⁹⁷ Interview 51
¹⁹⁸ NJR SEC 2023 Form 10-K annual report
¹⁹⁹ Response to Data Request 1121-Attachment 1 and NJR SEC 2023 Form 10-K annual report
²⁰⁰ Interview 51, referring to the responses to Data Request 986 and Data Request 987, Attachments 2
²⁰¹ Response to Data Request 1116 – Attachments 1, 2 and 3
²⁰² Interview 51
²⁰³ Response to Data Request 1121-Attachment 1
²⁰⁴ Response to Data Request 1121-Attachment 1
²⁰⁵ Response to Data Request 1121, Attachment 1
²⁰⁶ Response to Data Request 1121, Attachment 1
²⁰⁷ Response to Data Request 1121, Attachment 1
²⁰⁸ Response to Data Request 1121, Attachment 1
²⁰⁹ Interview 51
²¹⁰ Response to Data Request 1122, Attachment 1
²¹¹ NJR SEC 10-K annual reports
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²¹² Response to Data Request 985, Attachment 1
²¹³ NJR SEC 8-K filing on November 3, 2021
²¹⁴ NJR Note Purchase Agreement dated October 24, 2022
²¹⁵ Response to Data Request 1116, Attachment 2, page 5
²¹⁶ Interview 51
²¹⁷ Response to Data Request 986, Attachment 6 and 987, Attachment 3
²¹⁸ Response to Data Request 986, Attachment 6 and 987, Attachment 3
²¹⁹ NJR SEC 10-K annual report for 2023
²²⁰ Moody's Credit Opinion dated September 28, 2022, page 2
²²¹ Fitch Ratings report dated April 14, 2022
²²² Responses to Data Request 1121, Attachment 1 and 1122, Attachment 1
²²³ Response to Data Request 987, Attachment 2
²²⁴ Interview 5
²²⁵ Interview 52
²²⁶ Response to Data Request 1125
²²⁷ Interview 52
²²⁸ Response to Data Request 1125, Attachment 53
²²⁹ Response to Data Request 1124, Attachments 1-24
²³⁰ Response to Data Request 1130, Attachment 1
²³¹ Response to Data Request 1129, Attachment 1
²³² Response to Data Request 1129, Attachment 1
²³³ Response to Data Request 1123, Attachment 1
²³⁴ Response to Data Request 1123, Attachment 1
²³⁵ Interview 51
²³⁶ Response to Data Request 1123, Attachment 1
²³⁷ Interview 50
²³⁸ Response to Data Request 1112, Attachment 1, page 5
²³⁹ Response to Data Request 1111, Attachment 1, page 11
²⁴⁰ Response to Data Request 2-S
²⁴¹ Response to Data Request 2-S and Response to Data Request 1149
²⁴² Response to Data Request 926, Attachment 1
²⁴³ Response to Data Request 53
²⁴⁴ Response to Data Request 54
²⁴⁵ Response to Data Request 223
²⁴⁶ Response to Data Request 222
²⁴⁷ Response to Data Request 346
²⁴⁸ Response to Data Request 346
²⁴⁹ Response to Data Request 54, Attachment H
²⁵⁰ Response to Data Request 54, Attachment H
²⁵¹ Response to Data Request 903, Attachment 1
²⁵² Response to Data Request 54
²⁵³ Response to Data Request 758
²⁵⁴ Response to Data Request 1328
²⁵⁵ Response to Data Request 1328
²⁵⁶ Response to Data Request 54
²⁵⁷ Response to Data Request 224
²⁵⁸ Response to Data Request 54, Attachment A2
²⁵⁹ Response to Data Request 757
²⁶⁰ Response to Data Request 926
²⁶¹ Response to Data Request 926
²⁶² Response to Data Request 1425
²⁶³ Response to Data Request 250-S
²⁶⁴ Response to Data Request 1460
²⁶⁵ Response to Data Request 56
²⁶⁶ Response to Data Request 1221

267 Response to Data Request 232
268 Response to Data Request 238
269 Response to Data Request 239
270 Response to Data Request 910
271 Response to Data Request 1403
272 Interview 70
273 Response to Data Request 760
274 Response to Data Request 1423
275 Response to Data Request 54, Attachment H
276 Response to Data Request 1428
277 Response to Data Request 236
278 Response to Data Request 947
279 Response to Data Request 552
280 Response to Data Request 552
281 Response to Data Request 1168
282 Response to Data Request 1169
283 Response to Data Request 552
284 Response to Data Request 556
285 Response to Data Request 557
286 Response to Data Request 558
287 Response to Data Request 559
288 Response to Data Request 1170
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292 Response to Data Request 489
293 Response to Data Request 469
294 Response to Data Request 470
295 Response to Data Request 10, Data Request 471, and Data Request 472
296 Response to Data Request 464
297 Response to Data Request 465
298 Response to Data Request 466
299 Response to Data Request 467
300 Response to Data Request 439
301 Response to Data Request 473
302 Response to Data Request 482
303 Response to Data Request 482
304 Response to Data Request 483
305 Response to Data Request 476
306 Response to Data Request 477
307 Response to Data Request 295
308 Response to Data Request 475
309 Response to Data Request 473
310 2023 Proxy 40
311 Response to Data Request 493
312 Response to Data Request 494
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320 2022 Proxy at 39, 2023 Proxy at 38
321 Response to Data Request 503

³²² 2023 Proxy at 39-40
³²³ Response to Data Request 501
³²⁴ 2023 Proxy at 41
³²⁵ Proxy Statements
³²⁶ 2023 Proxy at 42
³²⁷ NJR LD&C Committee materials for 2020
³²⁸ Response to Data Request 503
³²⁹ Response to Data Request 497
³³⁰ Response to Data Request 500
³³¹ Response to Data Request 497
³³² Response to Data Request 497
³³³ Response to Data Request 504
³³⁴ Response to Data Request 504
³³⁵ Response to Data Request 508
³³⁶ Response to Data Request 505
³³⁷ Response to Data Request 510
³³⁸ Response to Data Request 501
³³⁹ Response to Data Request 502
³⁴⁰ Response to Data Request 487
³⁴¹ Response to Data Request 489
³⁴² Response to Data Request 487
³⁴³ Response to Data Request 485
³⁴⁴ Response to Data Request 485
³⁴⁵ Response to Data Request 485
³⁴⁶ Response to Data Request 287-S-Attachment 1-S Customer Counts 2014_2022
³⁴⁷ Response to Data Request 1009-Attachment 1 and Data Request 1020 Attachment 04 - Bill Cancels - F19N13 - FY2023, Data Request 1019-Attachment 1
³⁴⁸ Response to Data Request 515-Attachment 3 - NJNG 2018 Integrated Agreement Clean Final.pdf
³⁴⁹ Response to Data Request 2-S- Attachment E-S
³⁵⁰ Response to Data Request 286-Update-S-Attachment B-S Call Center Company Employees.xlsx, Data Request 286-Update-S-Attachment A-S Collections Billing Employees.xlsx, Data Request 287-S-Attachment 1-S Customer Counts 2014_2022.xlsx
³⁵¹ Response to Data Request 1073 - Attachment 11 Update-0295 Payments Dist Office FY 2014 to FY 2023
³⁵² Response to Data Request 1019-Attachment 1
³⁵³ Response to Data Request 1017-Answer
³⁵⁴ Management Audit Kick-off Meeting Presentation, 11-22-2022
³⁵⁵ Response to Data Request 284-Answer
³⁵⁶ BPU Dockets GR21030679 and GR21030680
³⁵⁷ Response to Data Request 1026 Attachment 03 - Customer Service incentive goals targets and actual percentages 2014 2022
³⁵⁸ Response to Data Request 1028-Attachment 1
³⁵⁹ Response to Data Request 294-S Attachments 2014 through 2022
³⁶⁰ Response to Data Request 294-S Attachments 2014 through 2022
³⁶¹ Response to Data Request 294-S Attachments 2014 through 2022
³⁶² Response to Data Request 1305 -Attachment 01 - Meter Dept Annual O&M 2014 and Data Request 1305 - Attachment 02 - Meter Dept Annual O&M 2015-2022
³⁶³ Response to Data Request 1306 -Attachment 01 - Meter Exchanges Annual O&M 2015-2022 and Data Request 1075 Attachment 01
³⁶⁴ Response to Data Request 1307 -Attachment 02 - Meter Shop Annual O&M 2015-2022, Data Request 1307 - Attachment 01 - Meter Shop Dept Annual O&M 2014, and Data Request 295-S-Attachment F-S - Field Performance FY 2014 to FY 2022
³⁶⁵ Response to Data Request 305-Attachment 1-S
³⁶⁶ <https://www.jdpower.com/business/press-releases/2018-gas-utility-business-satisfaction-study>
³⁶⁷ Response to Data Request 291-S-Attachment 3-S CustomerSatisfaction_2014_2022

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- ³⁶⁹ Response to Data Request 1061
- ³⁷⁰ Response to Data Request 292-S CONFIDENTIAL Attachment A-S CKK
- ³⁷¹ Response to Data Request 293, Data Request 1062, and Data Request 1063
- ³⁷² Response to Data Request 1020 Attachment 03 - Call Ctr One Page Stats 2023
- ³⁷³ Response to Data Request 298-Update-S-Attachment 1-S REV
- ³⁷⁴ Response to Data Request 286-Answer-Update Attachment B - Update_Call Center Company Employees
- ³⁷⁵ Response to Data Request 294-S Attachments 2014 through 2022
- ³⁷⁶ Response to Data Request 1073 - Attachment 12 Update-298-Calls Handled_Abandoned
- ³⁷⁷ Response to Data Request 1073 - Attachment 08 Update-0295 - Average Speed of Answer 2014_2023
- ³⁷⁸ Response to Data Request 1073 - Attachment 07 Update_0295- Service_Level_2014_2023
- ³⁷⁹ Response to Data Request 1073 - Attachment 12 Update-298-Calls Handled_Abandoned
- ³⁸⁰ Response to Data Request 1073 - Attachment 13 Update_0299-Call Center Performance Stats-2014-2023
- ³⁸¹ Response to Data Request 1012 and Data Request 1012 Attachment 1
- ³⁸² Response to Data Request 1012 Attachment 3
- ³⁸³ Response to Data Request 1012 Attachment 1
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- ³⁸⁵ Response to Data Request 295-S-Attachment E-S - Payments & Dist Office 2014-2022
- ³⁸⁶ Response to Data Request 286 Update-S-Attachment A-S Collections Billing Employees
- ³⁸⁷ Response to Data Request 295-S-Attachment E-S - Payments & Dist Office 2014-2022
- ³⁸⁸ Response to Data Request 295-S-Attachment E-S - Payments & Dist Office 2014-2022, Data Request 294-S Attachments 2014 through 2022
- ³⁸⁹ Response to Data Request 1069 and attachments
- ³⁹⁰ Response to Data Request 1058-Attachment 1 - Delinquent Accounts and Revenue
- ³⁹¹ Response to Data Request 1020 Attachment 05 - BPU0723RPT FINAL
- ³⁹² Response to Data Response 8-Attachment L Chapter 14
- ³⁹³ Response to Data Request 1012 Attachment 4
- ³⁹⁴ Response to Data Request 1012 Attachment 1
- ³⁹⁵ Response to Data Request 1057 -Attachment 3 Net Revenue Final Audit 101323, Data Request 1056 -Attachment 1, Data Request 1054-Attachment 1 - Service Terminations, Data Request 0286 Update-S-Attachment A-S Collections Billing Employees, Data Request 294-S Attachments 2014 through 2022.
- ³⁹⁶ Response to Data Request 1058-Attachment 1 - Delinquent Accounts and Revenue.
- ³⁹⁷ Response to Data Request 1020 Attachment 05 - BPU0723RPT FINAL and Data Request 1058-Attachment 1 - Delinquent Accounts and Revenue
- ³⁹⁸ Response to Data Request 286 Update-S-Attachment A-S Collections Billing Employees.
- ³⁹⁹ Response to Data Request 1012 Attachment 1
- ⁴⁰⁰ Response to Data Request 294-S Attachments 2014 through 2022.
- ⁴⁰¹ Response to Data Request 1047 Attachment 01
- ⁴⁰² Response to Data Request 1047 Attachment 01
- ⁴⁰³ Response to Data Request 1034-Attachment 1 - Monthly Meter Totals 2014-2023.
- ⁴⁰⁴ Response to Data Request 368
- ⁴⁰⁵ Response to Data Request 304-Attachment A
- ⁴⁰⁶ Response to Data Request 304-Attachment A
- ⁴⁰⁷ Response to Data Request 294-S Attachments 2014 through 2022 and Data Request 1036 -CONFIDENTIAL - Attachment 3 - Data Request 1036 Operations FY23-FY16 OT by dept
- ⁴⁰⁸ Response to Data Request 1067-Attachment 1
- ⁴⁰⁹ Response to Data Request 302-Attachments A to AC and Data Request 302 Attachments A to R
- ⁴¹⁰ Response to Data Request 295-S-Attachment F-S - Field Performance FY 2014 to FY 2022
- ⁴¹¹ Response to Data Request 1380 -Attachment 01
- ⁴¹² Response to Data Request 1380 -Attachment 01
- ⁴¹³ Response to Data Request 305-Attachment 1-S
- ⁴¹⁴ Response to Data Request 1020 Attachment 05 - BPU0723RPT FINAL.
- ⁴¹⁵ Response to Data Request 292-S CONFIDENTIAL Attachment A-S CKK.
- ⁴¹⁶ Response to Data Request 292-S CONFIDENTIAL Attachment A-S CKK
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⁴¹⁷ Response to Data Request 315, Attachment 1
⁴¹⁸ Response to Data Request 260
⁴¹⁹ Response to Data Request 1034-Attachment 1 - Monthly Meter Totals 2014-2023
⁴²⁰ Response to Data Request 1020 Attachment 04 - Bill Cancels - F19N13 - FY2023
⁴²¹ Response to Data Request 298-Update-S-Attachment 1-S REV.
⁴²² <https://www.nj.gov/bpu/newsroom/reports/covid19.html>, Electric and Gas Arrearages Summary as of February, 2023 (PDF)
⁴²³ Response to Data Request 301-Attachments A to AC and Data Request 302-Attachments A to V
⁴²⁴ Response to Data Request 303-S Attachment 1-S
⁴²⁵ Response to Data Request 1075 Attachment 01
⁴²⁶ Response to Data Request 288-Attachment C.2 NJNG Customer Satisfaction Survey Fieldwork 2014-2021
⁴²⁷ 11-22/2022 Kick-Off Presentation pg. 3
⁴²⁸ Response to Data Request 287
⁴²⁹ Response to Data Request 330
⁴³⁰ Response to Data Request 331
⁴³¹ 11-22-2022 Kick-Off Presentation pg. 19
⁴³² Response to Data Request 002
⁴³³ Responses to Data Request 341 and 464
⁴³⁴ Response to Data Request 002
⁴³⁵ Response to Data Request 392
⁴³⁶ Response to Data Request 392
⁴³⁷ Response to Data Request 346
⁴³⁸ Response to Data Request 346
⁴³⁹ Response to Data Request 346
⁴⁴⁰ Response to Data Request 351
⁴⁴¹ Response to Data Request 335
⁴⁴² Response to Data Request 337
⁴⁴³ Report of the Audit of Affiliated Transactions Between New Jersey Natural Gas Company and New Jersey Resources and Affiliates and Comprehensive Management Audit Of New Jersey Natural Gas Company, June 26, 2024 (“NorthStar Report”), Chapter XI
⁴⁴⁴ Response to Data Request 2 Attachment A
⁴⁴⁵ Response to Data Request 280
⁴⁴⁶ Response to Data Request 281
⁴⁴⁷ Response to Data Request 280
⁴⁴⁸ Response to Data Request 842
⁴⁴⁹ Response to Data Request 279
⁴⁵⁰ Response to Data Request 344
⁴⁵¹ Response to Data Request 464
⁴⁵² Response to Data Request 002
⁴⁵³ Response to Data Request 476
⁴⁵⁴ Response to Data Request 295 Attachment F
⁴⁵⁵ DOT Annual Report Data
⁴⁵⁶ Response to Data Request 1241 and DOT Report Data
⁴⁵⁷ Response to Data Request 1241
⁴⁵⁸ Response to Data Request 464
⁴⁵⁹ Response to Data Request 1243
⁴⁶⁰ Response to Data Request 1335
⁴⁶¹ Response to Data Request 476
⁴⁶² Response to Data Request 295 Attachment F
⁴⁶³ Response to Data Request 464
⁴⁶⁴ Response to Data Request 375
⁴⁶⁵ Response to Data Request 375
⁴⁶⁶ Response to Data Request 1251
⁴⁶⁷ Response to Data Request 376, 379 and 381
⁴⁶⁸ Response to Data Request 378

469 Response to Data Request 309 Attachment A
470 Response to Data Request 466
471 Response to Data Request 321
472 DOT Code 192.605
473 2022 NJNG DOT Report to PHMSA
474 Response to Data Request 354 and Data Request 1133
475 Response to Data Request 464
476 Response to Data Request 1335
477 Response to Data Request 83
478 Response to Data Request 312 & 313
479 Response to Data Request 83 and PHMSA 2013 DOT Report
480 Response to Data Request 83 and PHMSA 2013 DOT Report
481 Response to Data Request 324
482 11-22-2022 Kick-Off Presentation p 24
483 Response to Data Request 326
484 NJNG 's annual DOT Reports
485 NorthStar Report, page 157
486 Response to Data Request 321
487 Response to Data Request 321
488 Response to Data Request 374
489 [NJR_HydrogenProject_Factsheet_01d1.pdf\(njrsustainability.com\)](#)
490 Response to Data Request 384
491 Response to Data Request 1282
492 Response to Data Request 1282
493 Response to Data Request 1148
494 Response to Data Request 311
495 Response to Data Request 333
496 Response to Data Request 315 & 317
497 Response to Data Request 316
498 Response to Data Request 322
499 PHMSA/DOT website; Pipeline Safety Stakeholder Communication Enforcement Page for New Jersey
500 Response to Data Request 322
501 Response to Data Request 323 Attachment A
502 Response to Data Request 309 Attachment T
503 Response to Data Request 329
504 Response to Data Request 329
505 Response to Data Request 841
506 Response to Data Request 839
507 Response to Data Request 841
508 Response to Data Request 839
509 Response to Data Request 1132
510 Response to Data Request 839.
511 Response to Data Request 841 Attachment 1
512 Response to Data Request 1132
513 Response to Data Request 841 Attachment 1 p 23
514 Response to Data Request 389.
515 Response to Data Request 283 and Data Request 841
516 Response to Data Request 1282
517 Response to Data Request 1132
518 Response to Data Request 1131 and Data Request 1132
519 Response to Data Request 1131 & 1132
520 Response to Data Request 1254
521 Response to Data Request 1148
522 Response to Data Request 276, Data Request 398, and Data Request 385

⁵²³ Response to Data Request 399
⁵²⁴ Response to Data Request 282
⁵²⁵ Response to Data Request 280 and Data Request 281
⁵²⁶ Response to Data Request 281
⁵²⁷ Response to Data Request 280 Attachment B
⁵²⁸ Response to Data Request 280
⁵²⁹ Response to Data Request 842
⁵³⁰ Response to Data Request 322
⁵³¹ Response to Data Request 398
⁵³² Response to Data Request 1343
⁵³³ Response to Data Request 839 Att's 1 & 2
⁵³⁴ Response to Data Request 1006, Attachment 1
⁵³⁵ Response to Data Request 1314
⁵³⁶ Response to Data Request 273-S, Attachments A1 through I4
⁵³⁷ PHMSA portal – New Jersey State Program Metrics, Damage Prevention Program, Excavation Damages per 1,000 tickets.
⁵³⁸ Response to Data Request 271-S-Update-Attachment
⁵³⁹ Damage Information Reporting Tool (DIRT) 2022 Analysis and Recommendations, www.commongroundalliance.com
⁵⁴⁰ Pipeline and Hazardous Materials Safety Administration, PHMSA Form F 7100.1-1 data from 2014 through 2022, Annual Reports, portal.phmsa.dot.gov
⁵⁴¹ Response to Data Request 271-S-Update-Attachment A
⁵⁴² Response to Data Request 1319, Attachment 01
⁵⁴³ Response to Data Request 1315
⁵⁴⁴ Response to Data Request 275-S, Attachment A-S
⁵⁴⁵ Response to Data Request 309, Attachment B
⁵⁴⁶ Response to Data Request 274-S, Attachment A-S
⁵⁴⁷ Response to Data Request 567
⁵⁴⁸ Response to Data Request 569
⁵⁴⁹ Response to Data Request 567
⁵⁵⁰ Response to Data Request Data Request 1153
⁵⁵¹ Response to Data Request Data Request 1156
⁵⁵² Response to Data Request 570.
⁵⁵³ Response to Data Request Data Request 1155
⁵⁵⁴ Response to Data Request 570 and Data Request 1154
⁵⁵⁵ Response to Data Request 571, Data Request 1158, and Data Request 1159
⁵⁵⁶ Response to Data Request 567 and Data Request 1157
⁵⁵⁷ Response to Data Request Data Request 572
⁵⁵⁸ Response to Data Request Data Request 1160
⁵⁵⁹ Response to Data Request 575.
⁵⁶⁰ Response to Data Request 579.
⁵⁶¹ Response to Data Request 575
⁵⁶² Response to Data Requests 2 and Data Request 575
⁵⁶³ Response to Data Request 575.
⁵⁶⁴ Response to Data Request 575.
⁵⁶⁵ Response to Data Request 575.
⁵⁶⁶ Response to Data Request 576.
⁵⁶⁷ https://www.njsustainability.com/environmental/NJR_HydrogenProject_Factsheet_01d1.pdf
⁵⁶⁸ Response to Data Request 580.
⁵⁶⁹ Response to Data Request Data Request 578
⁵⁷⁰ Response to Data Request Data Request 199, <https://www.njresources.com/news/index.aspx>
⁵⁷¹ <https://www.forbes.com/councils/forbescommunicationscouncil/2023/03/13/14-essential-kpis-for-measuring-corporate-communications-efforts/>
⁵⁷² Response to Data Request 561.
⁵⁷³ Response to Data Request Data Request 562
⁵⁷⁴ Response to Data Request 565 and 566, <https://investor.njresources.com/home/default.aspx>

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576 Response to Data Request 531
577 Response to Data Request 532
578 Response to Data Request 707
579 Response to Data Request 537
580 Response to Data Request 720
581 Response to Data Request 539
582 Response to Data Request 541
583 Response to Data Request 542 and Data Request 005
584 Response to Data Request 543
585 Response to Data Request 712 and Data Request 715
586 Response to Data Request 534
587 Response to Data Request 535
588 Response to Data Request 706 and Data Request 709
589 Response to Data Request 716
590 Response to Data Request 719
591 Response to Data Request 720
592 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a)
593 Response to Data Request 548
594 Response to Data Request 544
595 Response to Data Request 545
596 Response to Data Request 546
597 Responses to Data Request 547, Data Request 005, and Data Request 436
598 Response to Data Request 548 and 551
599 Response to Data Request 705
600 Response to Data Request 713
601 2019 New Jersey Energy Master Plan Pathway to 2050
602 Interview 57
603 Interview 57
604 Response to Data Request 582
605 Response to Data Request 580 and Data Request 1161
606 Response to Data Request 2
607 Response to Data Request 1162
608 Response to Data Request 582 and Data Request 1163
609 Response to Data Request 582 and Interview 57
610 Response to Data Request 2
611 Response to Data Request 1164
612 BPU Docket Nos. QO19010040 and GO20090622
613 Response to Data Request 1394, and Attachments 01 - 03
614 Response to Data Request 1394, and Attachments 01 - 03
615 Response to Data Request 1395, and Attachment 01
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618 <https://www.njcleanenergy.com/main/public-reports-and-library/market-analysis-protocols/market-analysis-baseline-studies/market-an>
619 Final 2020 NJ CP Evaluation Report 1-5-221
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621 Response to Data Request 954-Attachment 1 and Data Request 1396 -Attachment 01
622 Response to Data Request 265
623 Interview 72
624 Response to Data Request 953
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626 Response to Data Request 266
627 Interview 72
628 Response to Data Request 953

629 Response to Data Request 1418
630 Interview 72
631 Response to Data Request 734 and Data Request 970
632 Response to Data Request 267
633 Response to Data Request 956
634 Response to Data Request 254-S
635 Response to Data Request 920
636 Response to Data Request 1238
637 Response to Data Request 266
638 Response to Data Request 268
639 Response to Data Request 668
640 Response to Data Request 669
641 Onsite April 29-May 2 Review of board documents requested by Data Request
642 Response to Data Request 671
643 Response to Data Request 671
644 Response to Data Request 675 and Onsite April 29-May 2 Review of board documents requested by Data Request
645 Response to Data Request 685
646 Response to Data Request 692
647 Response to Data Request 694
648 Response to Data Request 702
649 Response to Data Request 685 and Data Request 1165
650 Interview 86
651 Interview 86
652 Response to Data Request 687 and Data Request 1166
653 Response to Data Request 688
654 Response to Data Request 689
655 <https://www.timewatch.com/>
656 Response to Data Request 698
657 Response to Data Request 22
658 Response to Data Request 690
659 Response to Data Request 696
660 Interview 86
661 Response to Data Request 664
662 Response to Data Request 664
663 Response to Data Request 665
664 Response to Data Request 666 and Data Request 667
665 Response to Data Request 660
666 Response to Data Request 660
667 Response to Data Request 660
668 Response to Data Request 660
669 Response to Data Request 660
670 Response to Data Request 660
671 Response to Data Request 661
672 Response to Data Request 660
673 Response to Data Request 663
674 Response to Data Request 640
675 Response to Data Request 642
676 Response to Data Request 655
677 Response to Data Request 640 and Data Request 1172
678 Response to Data Request 1172
679 Response to Data Request 647
680 Response to Data Request 645
681 Response to Data Request 643
682 Response to Data Request 646
683 Response to Data Request 468

684 Response to Data Request 652
685 Response to Data Request 657
686 Response to Data Request 640, Data Request 653, and Data Request 295
687 Response to Data Request 643
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689 Response to Data Request 659
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692 Response to Data Request 651
693 Response to Data Request 656
694 Response to Data Request 620
695 Response to Data Request 623
696 Response to Data Request 620
697 Response to Data Request 620
698 Response to Data Request 621
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700 Response to Data Request 628
701 Response to Data Request 628
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714 Response to Data Request 633
715 Response to Data Request 633
716 Response to Data Request 1187
717 Response to Data Request 635
718 Response to Data Request 635
719 Response to Data Request 1189
720 Response to Data Request 636
721 Prior audit report and Interview 85
722 Prior audit report and Interview 85
723 Response to Data Request 612
724 Response to Data Request 603
725 Response to Data Request 604
726 Response to Data Request 603
727 Response to Data Request 603
728 Response to Data Request 603
729 Response to Data Request 614
730 Response to Data Request 608
731 Response to Data Request 608
732 Response to Data Request 615
733 Response to Data Request 609
734 Response to Data Request 613
735 Response to Data Request 618
736 Response to Data Request 619
737 Response to Data Request 617
738 Response to Data Request 616

⁷³⁹ “Site Remediation & Waste Management Program”, a tab at the NJ DEP web site
⁷⁴⁰ Prior audit report
⁷⁴¹ Response to Data Request 734, Attachment 4
⁷⁴² Response to Data Request 723
⁷⁴³ Response to Data Request 732
⁷⁴⁴ Response to Data Request 733
⁷⁴⁵ *Ibid.*
⁷⁴⁶ New Jersey Resources SEC Form 10-K for fiscal 2022, at page 13
⁷⁴⁷ Data Request 728 and Interview 49
⁷⁴⁸ Interview 49 and Response to Data Request 1104
⁷⁴⁹ Response to Data Request 729, Interview 49, and Data Request 1103
⁷⁵⁰ Interview 49
⁷⁵¹ Interview 49
⁷⁵² Response to Data Request 725
⁷⁵³ Response to Data Request 734 Attachment 1
⁷⁵⁴ Response to Data Request 734 Attachment 1
⁷⁵⁵ Response to Data Request 730 Attachment 1
⁷⁵⁶ Response to Data Request 958
⁷⁵⁷ Response to Data Request 964
⁷⁵⁸ Response to Data Request 1408
⁷⁵⁹ Response to Data Request 960
⁷⁶⁰ Response to Data Request 966 and Interview 70
⁷⁶¹ Response to Data Request 966
⁷⁶² Response to Data Request 960, Data Request 971, and Interview 70
⁷⁶³ Response to Data Request 734
⁷⁶⁴ Response to Data Request 968
⁷⁶⁵ Response to Data Request 968
⁷⁶⁶ Response to Data Request 254-S and Data Request 969
⁷⁶⁷ Response to Data Request 738
⁷⁶⁸ Response to Data Request 738
⁷⁶⁹ Response to Data Request 1235
⁷⁷⁰ Response to Data Request 957
⁷⁷¹ Response to Data Request 963
⁷⁷² Response to Data Request 734
⁷⁷³ Response to Data Request 959
⁷⁷⁴ Response to Data Request 734
⁷⁷⁵ Response to Data Request 1404
⁷⁷⁶ Response to Data Request 734
⁷⁷⁷ Response to Data Request 734
⁷⁷⁸ Response to Data Request 962
⁷⁷⁹ Response to Data Request 1410
⁷⁸⁰ Response to Data Request 961
⁷⁸¹ Response to Data Request 1405
⁷⁸² Response to Data Request 264 and Data Request 902
⁷⁸³ Response to Data Request 1405
⁷⁸⁴ Response to Data Request 1405
⁷⁸⁵ Response to Data Request 731
⁷⁸⁶ Interview 49
⁷⁸⁷ Details of adding these sites are the testimony of the NJNG Director – Environmental Services in the Company’s Societal Benefits Charge proceedings
⁷⁸⁸ Interview 49
⁷⁸⁹ Liberty’s 2007 Audit Report, at page 120
⁷⁹⁰ Response to Data Request 961
⁷⁹¹ Response to Data Request 730 Attachment 1
⁷⁹² Response to Data Request 382

⁷⁹³ Response to Data Request 587
⁷⁹⁴ Response to Data Request, 2, Data Request 620, and Interview 60
⁷⁹⁵ Interview 60
⁷⁹⁶ Response to Data Request 597
⁷⁹⁷ Response to Data Request 620
⁷⁹⁸ Response to Data Request 594
⁷⁹⁹ Interview 60 and Response to Data Request 594
⁸⁰⁰ Response to Data Request 587 and Data Request 1175
⁸⁰¹ Response to Data Request 588
⁸⁰² Response to Data Request 597
⁸⁰³ Response to Data Request 596
⁸⁰⁴ Response to Data Request 597, Attachment 6
⁸⁰⁵ <https://c2m2.doe.gov/>
⁸⁰⁶ Response to Data Request 1183
⁸⁰⁷ Interview 60
⁸⁰⁸ Response to Data Request 593
⁸⁰⁹ Response to Data Request 1184
⁸¹⁰ Response to Data Request 596
⁸¹¹ [REDACTED] (citation is confidential)
⁸¹² Response to Data Request 599
⁸¹³ Response to Data Request 600 and Data Request 1179
⁸¹⁴ Response to Data Request 601
⁸¹⁵ Response to Data Request 1180
⁸¹⁶ Response to Data Request 602
⁸¹⁷ Response to Data Request 1181
⁸¹⁸ Response to Data Request 382
⁸¹⁹ Response to Data Request 1176
⁸²⁰ Response to Data Request 1177
⁸²¹ Response to Data Request 1177
⁸²² Response to Data Request 1177
⁸²³ Response to Data Request 593
⁸²⁴ Response to Data Request 1177
⁸²⁵ Response to Data Request 591
⁸²⁶ Response to Data Request 595 and Data Request 1178
⁸²⁷ [REDACTED] (citation is confidential)
⁸²⁸ Response to Data Request 596; [REDACTED]
(citation is confidential)
⁸²⁹ Response to Data Request 1182