

**BEFORE THE STATE OF NEW JERSEY  
OFFICE OF ADMINISTRATIVE LAW  
BOARD OF PUBLIC UTILITIES**

**IN THE MATTER OF THE PETITION ) BPU DKT. NO. GR09030195  
OF PIVOTAL UTILITY HOLDINGS, INC. ) OAL DKT. NO. PUC-03655-2009N  
D/B/A ELIZABETHTOWN GAS FOR )  
APPROVAL OF INCREASED BASE TARIFF )  
RATES AND CHARGES FOR GAS SERVICE )  
AND OTHER TARIFF REVISIONS )**

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**DIRECT TESTIMONY OF MICHAEL J. MCFADDEN, A. E. MIDDENTS, AND  
JOHN N. PETERS ON BEHALF OF THE  
NEW JERSEY DEPARTMENT OF THE PUBLIC ADVOCATE  
DIVISION OF RATE COUNSEL**

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**EXHIBIT MJM-1**

**APPENDIX**

1 **I. INTRODUCTION AND BACKGROUND**

2 **Q. Please state your name, title, and business address.**

3 A. My name is Michael J. McFadden and I am the president of McFadden Consulting  
4 Group, Inc. (“McFadden Consulting”). My business address is 625 S. York Street,  
5 Denver, Colorado 80209.

6 My name is A. E. “Pete” Middents and I am an independent Natural Gas  
7 Industry Consultant. I am currently retained as a Senior Consultant by McFadden  
8 Consulting. My business address is 3 University Lane, Greenwood Village, Colorado  
9 80121.

10 My name is John N. Peters and I am an independent Natural Gas Industry  
11 Consultant. I am currently retained as a Senior Consultant by McFadden Consulting.  
12 My business address is 8629 East Pawnee Drive, Parker, CO 80134.

13 **Q. Please provide a summary of your qualifications and experience.**

14 A. Copies of our resumes are contained in the Appendix.

15 **Q. Was this testimony prepared by you or under your direct supervision?**

16 A. Yes.

17 **Q. What is the purpose of your panel’s testimony?**

18 A. The New Jersey Department of the Public Advocate, Division of Rate Counsel (“Rate  
19 Counsel”) retained the McFadden Consulting Group, Inc. (“McFadden Consulting”)  
20 to review and evaluate Pivotal Utilities Holdings, Inc. d/b/a Elizabethtown Gas’s  
21 (“Elizabethtown,” “ETG,” or “the Company”) management of its gas distribution and  
22 transmission infrastructure, as it relates to the Company’s requested increase in gas  
23 rates.



- 1 • construction programs
- 2 • operations & maintenance programs

3 In today's environment, gas distribution companies ("GDCs") are faced with  
4 increasing pressure to improve or restructure their (i.e. the business side of their  
5 operations) due to the effects of deregulation, increased competition, merger and  
6 acquisition activity, eroding customer satisfaction, increasing energy costs, and  
7 pressure to increase shareholder value. In order to meet these challenges, it is  
8 necessary that GDCs optimize the efficiency of all physical assets, employees, and  
9 equipment.

10 In industries as capital intensive as GDCs, it is especially important to  
11 optimize physical assets, a process popularly termed "asset management." This is  
12 particularly applicable to a GDC such as ETG, which is experiencing relatively high  
13 growth in its Northwest Division, yet is rather stagnant in its Union Division. Also,  
14 ETG is no longer a relatively small GDC, but is part of a larger, more complex  
15 organization where many of its administrative services are being performed by an  
16 affiliate service company within the corporate structure in Georgia. Management  
17 practices that may have been acceptable in a small company, located in a relatively  
18 compact territory, are not necessarily adequate as ETG evolves into a more complex  
19 entity as part of a much larger, multi-state organization.

20 Additionally, as is true with the other GDCs in New Jersey, ETG operates in  
21 an environment of an aging infrastructure, comparatively high labor costs, and a  
22 relatively congested locale. As a result, a significant portion of the Company's capital  
23 expenditures is designated for replacement or upgrading of existing facilities. The

1 decision to either repair or replace facilities can have a significant impact on the  
2 Company's rates.

### 3 III. INFORMATION REVIEWED

4 **Q. Please describe the material or data sources analyzed in conducting your review**  
5 **and evaluation of the Company's management of its gas distribution and**  
6 **transmission infrastructure,**

7 A. McFadden Consulting reviewed ETG's Petition, including the testimony and exhibits  
8 filed by ETG in support of said petition. McFadden Consulting conducted a detailed  
9 review of the direct testimonies and exhibits submitted by the Company's witnesses,  
10 particularly those of Jodi Gidley, President of Elizabethtown Gas, and Donald F.  
11 Carter, Vice President and General Manager of Elizabethtown Gas.

12 Based on our review of these documents, and our experience and expertise in  
13 gas distribution company system planning, engineering, construction, and operations,  
14 we prepared 63 data requests seeking additional information and clarification on how  
15 ETG manages its physical facilities. We conducted a detailed review of ETG's  
16 responses to those data requests. Unfortunately, we are still waiting for responses to  
17 some of the discovery requests, and therefore we reserve our right to supplement  
18 testimony upon receipt of those responses.

19 On August 4 and 5, 2009 we conducted an onsite visit of ETG, during which  
20 time we reviewed documents and interviewed key personnel responsible for managing  
21 the Company's physical facilities. In attendance for the Company were Donald F.  
22 Carter, Mary Patricia Keefe, Vice President of Regulatory Affairs, and Michael P.

1 Scacifero, Manager of Engineering Design. Several others attended portions of the  
2 interviews, including ETG's counsel from Cullen and Dykman.

3 In addition to our management review in this docket, McFadden Consulting  
4 was retained by Rate Counsel to assist it in analyzing the various projects proposed  
5 for inclusion in the natural gas infrastructure acceleration program that was proposed  
6 by Governor Corzine to address concerns about New Jersey's ailing economy. In that  
7 proceeding, we reviewed ETG's petition filed January 20, 2009 in Docket Nos.  
8 EO09010049 and GO09010053. We also reviewed the Company's responses to the  
9 14 data requests we submitted to ETG in that case, and responses to the 27 data  
10 requests submitted by other consultants retained by Rate Counsel in that proceeding.  
11 We also reviewed the Board Staff's data requests in that proceeding. Finally, we also  
12 reviewed the Stipulation in the infrastructure proceeding filed April 14, 2009.

13 The review of this information and material, and the interviews we conducted,  
14 provide the basis for our findings.

#### 15 IV. FOCUS AREAS

16 **Q. Please describe your assessment of the Company's engineering and planning**  
17 **functions.**

18 A. McFadden Consulting's goal was to assess the complete process relating to capital  
19 projects, from identification of system issues that needed to be addressed,  
20 consideration of alternatives to address such issues, assessment of the alternatives  
21 from a system performance and economic perspective, planning and engineering of  
22 the preferred alternative, budgeting and approval of the project, construction of the  
23 project, and the job closeout.

1 In this regard, the onsite meetings were very helpful to the McFadden  
2 Consulting team. During the meetings, ETG personnel walked us through several  
3 actual capital projects from the estimating, budgeting, justification and approval  
4 phases, through engineering design, construction, and job closeout. We also  
5 discussed ETG's long term planning/budgeting tool such as an Integrated Resource  
6 Plan. ("IRP") Other areas of review were the allocation of Administrative and  
7 General Expenses ("A&G") and overheads to capital projects, the contractor bidding  
8 process, and the organizational communication between Elizabethtown Gas and AGL  
9 Resources, Inc. ("AGLR"), its parent company that performs most of ETG's  
10 administrative functions.

11 **Q. Please describe your review of the capital projects from an engineering design,  
12 cost estimate, construction, and budget approval process.**

13 A. McFadden Consulting selected five capital projects to focus on the procedures and  
14 documentation regarding issues such as the necessity and benefit the engineering  
15 design, the budget/cost estimations, and the construction/bidding process. The five  
16 projects reviewed include the completed Milford – Flemington 8-inch pipeline, the  
17 proposed Frenchtown distribution system, the proposed Hampton distribution system,  
18 the Sparta/Franklin 8-inch Interconnect, and the Washington/Newton 12-inch  
19 Interconnect. The last two were projects approved for inclusion in the Governor's  
20 infrastructure stimulus program previously discussed.

21 **Q. Did McFadden Consulting review the capital budgeting documentation?**

22 A. Yes. We reviewed the capital budget for 2009. Prior to the Company's infrastructure  
23 enhancement projects, the original 2009 budget was mostly composed of blanket type

1 items such as new business mains, services, meters, and cast iron main/bare steel  
2 service replacements totaled \$42.5 million. Another \$23.2 million was added as a  
3 result of the Governor's economic stimulus plan.

4 **Q. Please describe the Sparta/Franklin 8-inch and the Washington/Newton 12-inch**  
5 **interconnects, and explain how they are linked to ETG's petition in this docket.**

6 A. The stipulation in the infrastructure program that was approved by the Board for ETG  
7 included four projects. Two of the projects were for blanket items related to cast iron  
8 replacement programs. One was for replacing 29 miles of 10-inch and 12-inch EP  
9 cast iron main at a cost of \$25.2 million and the other was for replacing 41.9 miles of  
10 4-inch cast iron main at a cost of \$15.6 million. The cast iron replacement projects  
11 were part of an ongoing program. For the infrastructure proceeding, the Company  
12 simply requested to increase the level of spending on these programs.

13 The other two infrastructure projects were for specific construction projects.  
14 One was the Sparta/Franklin 8-inch interconnect and the other was the  
15 Washington/Newton 12-inch interconnect. The Sparta/Franklin line was an 8-inch  
16 high pressure line, approximately 6 miles in length, estimated to cost approximately  
17 \$4.8 million. The Washington/Newton line was a 12-inch high pressure line,  
18 approximately 20 miles in length, estimated to cost approximately \$14.8 million.

19 Paragraph 14 of the ETG's infrastructure stipulation states the projects shall  
20 be "...subject to a review of the prudence of the Qualifying Projects and expenditures  
21 made by Elizabethtown in its 2009 Base Rate Case."

22

1            Since the cast iron replacement projects were part of an ongoing Company  
2 program, McFadden Consulting examined the Sparta/Franklin and the  
3 Washington/Newton lines more closely from a prudency point of view. For  
4 maximum benefit, these two projects should be built at the same time. From an  
5 engineering design and system reliability perspective, it is McFadden Consulting's  
6 opinion that the two projects were probably not needed for another year or two.

7            While McFadden Consulting believes the pipelines seem to be sized  
8 appropriately for future growth and system flexibility, it appears the Company only  
9 considered these projects from a system reliability perspective. A significant benefit  
10 that seemed to be overlooked was the potential impact on the cost of gas that may be  
11 realized by providing the ability to connect with additional interstate pipelines.

12 **Q. Please explain your opinion of the documentation of ETG's capital budget.**

13 A. Elizabethtown Gas does not prepare a budget or forward looking forecast beyond the  
14 upcoming year. During the onsite meetings, the Company did show us a "tickler file"  
15 or spreadsheet identifying potential projects that did not make it into the current  
16 capital budget. However, most of the tickler file items related to vehicles, tools,  
17 instruments, and equipment, as opposed to actual construction projects. Most of the  
18 gas companies with which McFadden Consulting has experience have forward-  
19 looking capital budgets or forecasts. In fact, some state regulatory commissions  
20 require that three to five year budgets be submitted annually.

21 **Q. Please describe the procedures and processes used by ETG for approving capital**  
22 **projects.**

1 A. Proposed capital projects are submitted using an Authorization for Expenditure  
2 (“AFE”) form. The AFE describes the project, contains details such as pipe size,  
3 project costs, construction timing, budget estimate, and the justification for the  
4 project. The justification is also called a Necessity and Benefits (“N&B”), which  
5 provides an opportunity to explain the need for and the benefits of the project.

6 McFadden Consulting thought the AFE format was very useful, but believes  
7 there should be more detail provided in the areas of the budget estimate and the  
8 justification for the project. The budget estimates included in the AFEs we reviewed  
9 did not break out costs of materials, contractor versus company labor costs, and  
10 outside resource costs.

11 N&B is used by ETG and other companies with whom McFadden Consulting  
12 is familiar. The purpose of an N&B is to provide the justification for a proposed  
13 project. As the term suggests, there are two parts to an N&B. The necessity part  
14 should describe why the work must be done, usually from an engineering design or  
15 system reliability standpoint. It also may describe the consequences of not approving  
16 the project. Alternatives are usually described. The benefit part should provide  
17 potential benefits from the project. It should also quantify such benefits for the  
18 company, shareholders, and the customers.

19 McFadden Consulting reviewed the N&Bs for three multi-million dollar  
20 projects that had minimal justification, which included the completed  
21 Milford/Flemington 8-inch line, the proposed Sparta/Franklin 8-inch interconnect,  
22 and the proposed Washington/Newton 12-inch interconnect.

1           McFadden Consulting believes that while the necessity portion of the N&B  
2 was adequate, the benefit part of the N&B lacked sufficient documentation for  
3 executive review and approval. The projects appear to have been approved based  
4 solely on an engineering design perspective. There was virtually no mention or  
5 quantification of other potential benefits for the projects. For example, the larger  
6 pipeline reinforcement projects identified above, i.e., Milford-Flemington, Sparta-  
7 Franklin, and Washington-Newton projects, have the potential of delivering gas from  
8 an alternate interstate pipeline company. This would not only increase system  
9 reliability but could provide a significant quantifiable cost benefit.

10 **Q. Does McFadden Consulting have an opinion regarding Elizabethtown's**  
11 **engineering and design?**

12 A. McFadden Consulting believes the Company's engineering and design policies and  
13 procedures were essentially sound and up to industry standards. We examined the  
14 Company's Operations Procedural Manual and the Construction & Maintenance  
15 Manual. These two manuals define Company policies regarding engineering design,  
16 construction, and operations and maintenance. They appear to be up-to-date  
17 regarding Department of Transportation codes and regulations.

18           Mr. Peters, McFadden Consulting team member, spent some time in the  
19 engineering department, witnessing computer runs utilizing the SynerGee network  
20 modeling and analysis software (aka Stoner software) for the Milford – Flemington 8-  
21 inch and the two proposed Infrastructure Stimulus projects. He looked at the  
22 calculated system pressures before and after installation of these reinforcements.

1 Overall, the engineering system design strategy is appropriate, although the  
2 Company may be a little more conservative than GDCs in other parts of the country  
3 on maintaining the minimum pressures in its distribution system. McFadden  
4 Consulting understands designing and operating a gas distribution system is a  
5 balancing act between reliability and cost. It also understands that the trigger point  
6 for constructing system reinforcements is really a management judgment decision.

7 As background, GDCs typically establish the minimum pressures they would  
8 like to maintain in their distribution systems. Failure to maintain adequate pressures  
9 in the distribution system can result in losing customers, which creates safety issues.  
10 Appliance safety shut-off devices may malfunction, and older appliances may not  
11 have safety shut-off devices. Once the system pressure is restored, gas could flow  
12 into the house, creating a hazard. Also, relighting pilots can be costly. On the other  
13 hand, it is virtually impossible to design a system that is 100% reliable. Furthermore,  
14 the cost of installing, maintaining, and operating the system would be cost  
15 prohibitive.

16 During the interviews, the Company indicated it likes to maintain system  
17 pressures no lower than 20 to 25 psig on a peak design day for its Elevated Pressure  
18 ("EP") systems, which are rated for 60 psig. McFadden Consulting believes this is  
19 more conservative than system pressures used by other gas companies with whom it is  
20 familiar. McFadden Consulting is aware of other gas companies that use a threshold  
21 limit of 10 psig to 15 psig, and sometimes an even lower threshold if the risk is losing  
22 only a few customers. It is important to note that the threshold system pressures  
23 companies like to maintain is based on the design day requirements, which occurs

1 infrequently, (i.e.) once every 20 or 30 years. If ETG used lower threshold pressure  
2 levels, certain system reinforcements, that it otherwise may have installed, could be  
3 deferred for many years, especially in a low growth area. Additionally, it is possible  
4 that such reinforcements will never be needed if the number of customers is stagnant  
5 and usage per customer continues to decline because of more efficient gas appliances.

6 **Q. Did McFadden Consulting discuss capital project construction issues at the**  
7 **onsite meetings?**

8 A. Yes. We discussed the Company's construction practices. McFadden Consulting  
9 understands that Elizabethtown Gas solicits bids for engineering services on larger  
10 projects. They send out Request for Proposals ("RFP") for services such as  
11 permitting, base mapping and wetlands surveys.

12 Virtually all of ETG's capital projects are installed by one of four outside  
13 construction contractors. ETG stated that it has recently adopted a blanket bidding  
14 process for larger jobs as opposed to the more traditional specific project bidding  
15 process. Under the blanket bidding process, the contractor bids standard unit prices  
16 for different types of construction projects or activities. For example, the standard  
17 unit price for installing a 4" polyethylene main would be quoted on a cost per foot  
18 basis, regardless of the number or length of different installation projects. The  
19 standard unit price for installing a 12" steel main would be different than the cost per  
20 foot of installing a 4" polyethylene main. However, the blanket quote would still be  
21 based on a cost per foot basis. Individual items like meters, valves, and regulators  
22 would be based on a price per each unit basis.

1           McFadden Consulting believes that using the blanket bidding process would  
2           save time and money on the bidding process, but that such savings could be more than  
3           offset if it results in higher construction costs. The Company claims that the unit  
4           prices seem to be comparable with the specific project bids. It remains to be  
5           determined if blanket bids are cost effective. This new bidding process should be  
6           closely monitored. McFadden Consulting's concern is that unit costs are sometimes  
7           project specific. For example, cross-country vs. in-town construction, short  
8           reinforcements (a mile or two) vs. lengthy reinforcements (15 – 20 miles), terrain, and  
9           soil conditions are just a few areas that might impact a blanket type unit bid  
10          differently. A contractor would probably bid unit prices to account for his profit  
11          margin for the smaller jobs but could make a windfall on the larger projects.

12       **Q. Does McFadden Consulting have any observations and concerns regarding**  
13       **Elizabethtown Gas Company's approach to the design of major gas system**  
14       **extensions or reinforcements?**

15       A. Yes. In industries that are capital intensive, it is especially important to optimize  
16       physical assets. Also, the Company has an aging infrastructure, has comparatively  
17       high labor costs, and operates in a highly populated and congested environment.  
18       Elizabethtown Gas Company does a good job of addressing reliability and safety in its  
19       design of larger gas system extension or system reinforcement projects. However, it  
20       is McFadden Consulting's opinion that the Company must develop a mindset that  
21       takes a more global or comprehensive approach in analyzing and engineering its  
22       larger projects.

1 **Q. Please explain what you mean by developing a mindset that takes a more global**  
2 **or comprehensive approach.**

3 A. McFadden Consulting believes it would be beneficial for the Company to consider  
4 major capital projects from a more global perspective. The projects we reviewed  
5 appeared to only consider system impacts, such as safety and reliability. McFadden  
6 Consulting believes major projects should also consider impact on the total  
7 organization, such as customer cost of gas (i.e. pass-thru commodity costs), customer  
8 efficiencies, company earnings, potential growth in customers, and other similar  
9 factors.

10 For example, during McFadden Consulting's onsite visit, we were able to  
11 review the Company's engineering approach in its development of three of its major  
12 construction or reinforcement projects: the Milford-Flemington 8-inch pipeline, the  
13 Sparta/Franklin 8-inch interconnect, and the Washington/Newton 12-inch  
14 interconnect.

15 In each of these projects, ETG analyzed, engineered, and obtained approval  
16 based on improving system reliability. It did not consider other potential impacts.  
17 For example, Elizabethtown Gas is fortunate that its service territory is crisscrossed  
18 by multiple interstate gas transmission lines. Each of the three reinforcement projects  
19 described above has the potential of interconnecting with alternate pipeline suppliers.  
20 This type of environment provides the possibility of exerting increased competition  
21 on the Company's pipeline suppliers, which could lead to lower transportation rates,  
22 increased pipeline capacity, gas storage opportunities, and access to different supply

1 basins. All of these factors have the real potential of lowering gas costs, improving  
2 efficiencies, and increasing system reliability for the Company's customers.

3 **Q. Did you bring this concern to the Company's attention during your onsite visit?**

4 A. Yes. The Company was quite responsive. However, it indicated that all gas  
5 purchasing responsibilities were handled by AGL Resources in the corporate offices,  
6 and ETG assumed this concern would be reviewed at that level.

7 **Q. What are your overall observations regarding these concerns after your onsite  
8 visit and feedback?**

9 A. McFadden Consulting believes it would be beneficial for ETG to take a more global  
10 or comprehensive approach when analyzing larger projects. We also believe that this  
11 approach needs to be pushed lower into the organization, particularly to and within  
12 the local level in New Jersey. Additionally, operating in an environment whereby  
13 construction projects are identified, engineered, and constructed at the local level in  
14 New Jersey, but administrative services, including determining the impact such  
15 projects have on gas purchasing strategies, rates, and the Company's finances are  
16 performed at the corporate level in Atlanta, can adversely affect communications with  
17 the Company's other stakeholders, such as the Board of Public Utilities and Rate  
18 Counsel. These concerns would be lessened if ETG adopted a formal Integrated  
19 Resource Plan as discussed in the next section.

## 20 V. INTEGRATED RESOURCE PLAN

21 **Q. Please describe a formal Integrated Resource Plan.**

22 A. Based on our review, McFadden Consulting believes ETG does not adequately  
23 document its planning activities. It is important to note that we have not identified

1 any significant problems with the actual planning and operations of the companies.  
2 Rather, we have found fault with the lack of analysis and documentation of its  
3 decisions relating to its planning functions.

4 McFadden Consulting suggests the Board consider adopting a formal IRP  
5 process for ETG. A formal IRP process forces a company to document not only its  
6 planning processes, but also the results of the planning processes on a regularly  
7 scheduled basis, i.e., annually. It also tends to be a tool that improves a company's  
8 planning processes. Documenting the process and results allows interested parties to  
9 review the same information and provide feedback and suggestions for improvement.  
10 Additionally, an IRP process improves communication between a company and its  
11 external audiences, such as the BPU and Rate Counsel. It can assist a company in  
12 obtaining acceptance of its planning processes and results, which can eliminate  
13 conflicts in several areas.

14 **Q. Please describe a typical IRP.**

15 A. A gas IRP typically has both a near-term, upcoming heating season focus and a longer  
16 term 3 to 5 year focus. Generally, it begins with a forecast of number of customers,  
17 design day requirements, and annual deliveries for the upcoming heating season.  
18 Annual deliveries would also be forecasted for normal, colder than normal, and  
19 warmer than normal conditions. The upcoming heating season data would also be  
20 used as the basis for the longer term forecast.

21 Generally, the longer term forecast is based on historical growth. However,  
22 for system planning and upstream pipeline services, it may be important for the long  
23 term forecast to identify the general location of the growth on the distribution system.

1 For example, in this case ETG would likely need to forecast by its separate operating  
2 divisions, i.e., Union and Northwest Divisions.

3 The forecast of customers, design day requirements, and annual deliveries  
4 provides the basis for near-term and longer-term gas supply procurement decisions.  
5 The near-term is used for gas supply purposes for the coming heating season. The  
6 longer term is used to determine the need for pipeline services and for distribution  
7 system improvements and reinforcements.

8 Additionally, the forecasted customers and deliveries, and the cost of system  
9 improvements and reinforcements would be used for financial forecasting.

10 **Q. Do you have an example of the functional areas covered in a typical gas IRP?**

11 A. Exhibit No. \_\_\_\_\_(MJM-1) contains an outline of the various areas that might be  
12 included in an IRP for ETG. This exhibit is not intended to be all inclusive and  
13 would need to be tailored specifically to ETG. However, it does outline the basic  
14 areas typically covered in a gas IRP.

15 McFadden Consulting believes that ETG currently performs all these tasks.  
16 However, the tasks are performed by different units within ETG and by organizations  
17 within AGLR. Because the functions are spread throughout ETG and AGLR,  
18 McFadden Consulting believes it is critical that ETG, in conjunction with AGLR, ,  
19 document its forecasting, system planning, and gas procurement activities in a formal  
20 process that is easily shared with the BPU, Rate Counsel, and other interested parties.

## 21 VI. RECOMMENDATIONS

22 **Q. Please summarize your recommendations regarding the Company's**  
23 **management of its gas distribution and transmission infrastructure.**

1 A. McFadden Consulting recommends that the BPU require ETG to implement a formal  
2 IRP process, in which the Company would document the results of its annual  
3 planning processes. The formal document would address, at a minimum, its forecast  
4 of number of customers, design day requirements, and annual requirements under  
5 normal, colder than normal, and warmer than normal conditions. The forecasted  
6 customers and requirements should be prepared for a one-year period and a five year  
7 period.

8 The formal IRP also should include identification of upstream pipeline  
9 services necessary to provide service to customers, based on the forecast for the  
10 coming year and subsequent years. Additionally, the formal IRP should identify the  
11 Company's distribution system projects needed to serve forecasted customers' needs  
12 in the coming year and subsequent years, including alternatives for meeting those  
13 requirements from both a supply-side and a demand-side perspective. The formal  
14 IRP should be filed with the BPU for consideration and approval. Interested parties  
15 should be permitted to participate in the review and the BPU decision approval  
16 process.

17 Additionally, the Company should be required to closely monitor the new  
18 blanket bidding process. McFadden Consulting recommends that a formal document  
19 be filed annually with the BPU detailing the Company's assessment of the new  
20 process. However, because of confidentiality concerns relating to the bidding  
21 process, participation in the review of the document should be limited to BPU Staff  
22 and Rate Counsel.

1 Q. Does this conclude your testimony?

2 A. Yes

EXHIBIT AND APPENDIX

- Introduction & Planning Overview
  - Company Overview
  - IRP Guidelines & Policies
  - Annual, Mid-Term, and Long-Term Planning Horizons
  - Resource Decision Making Overview
- Demand Forecast Annual Growth & Use per Customer Forecasts
  - Peak Day Forecasting
  - Forecast Results
    - Normal Weather
    - Colder than Normal
    - Warmer than Normal
  - Forecast Uncertainties
- Distribution System Enhancements
  - Distribution System Modeling
  - Planning Year Required System Reinforcements/Improvements
  - Long Term Required Future System Reinforcements/Improvements
  - Desirable Future System Reinforcements/Improvements
- Demand Side Resources
  - Demand Side Management Overview
  - Existing Energy Efficiency Programs
  - Potential DSM Measures and Their Costs
  - Conservation Potential Study Results
  - DSM Implementation Issues and Uncertainty
  - Environmental Externalities
- Upstream Pipeline Capacity Requirements
  - Overview of Existing Services & Contracts
  - Short-Term Potential Increased or Decreased Service Requirements
  - Long-Term Potential Increased or Decreased Service Requirements
- Supply Side Resources
  - Gas Supply Resource Options
  - Financial Derivatives
  - Portfolio Purchasing Strategy
  - Supply Side Uncertainties

# MICHAEL J. MCFADDEN

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## AREAS OF QUALIFICATION

Rates, regulatory affairs, strategic planning, gas and electric utility operations, corporate finance, financial analysis, asset valuation, fuel supply planning and procurement, accounting, and budgeting.

## EMPLOYMENT HISTORY

- President, McFadden Consulting Group, Inc., 1995-present
- Chairman, Colorado Low-Income Energy Assistance Commission, appointed as member by Governor Owens 2005-2008. Commissioner 2002-2008.
- Board of Directors, Chairman Audit Committee & Treasurer, Energy Outreach Colorado, formerly the Colorado Energy Assistance Foundation, 2003-present
- University of Phoenix, Colorado Division, Faculty Member, 1982-2005, Finance Area Chair, 1992-1993, Accounting Area Chair, 2000-2004
- Board of Advisors, Full Power Corporation, Los Angeles, CA, 1998-2000
- Senior Advisor, Hagler Bailly Consulting, Inc., Boulder, CO, 1995-2000
- Metropolitan State College, Denver, CO, Adjunct Faculty Member, 1989-1995
- Principal, Hagler Bailly Consulting, Inc., Boulder, CO, 1993-1995
- Vice President, Treasurer, Secretary and Member of the Board of Directors, WestGas Gathering, Inc., WestGas InterState, Inc., WestGas TransColorado, Inc., 1989-1993
- Manager, Financial Services and Administration, Assistant Treasurer and Assistant Secretary, Western Gas Supply Company, 1989-1993
- Staff Assistant to Senior Vice President, Finance and Chief Financial Officer, Public Service Company of Colorado, 1986-1989
- Regis University, Adjunct Faculty Member, 1981-1982
- Director, Rate Regulatory Services Department, Public Service Company of Colorado, 1974-1986

## EDUCATION

- University of Denver, MBA, Business Administration, 1973
- Regis University, BS, Business Administration, 1972

## PROFESSIONAL EXPERIENCE

**Michael J. McFadden** is a rate, regulatory affairs, finance, strategic planning, and utility operations expert with 35 years experience in the electric utility and natural gas industries. He has appeared as an expert witness and provided testimony in numerous hearing before the Federal Energy Regulatory Commission (FERC), regulatory Commissions in Arkansas, Colorado, Georgia, Indiana, Kansas, New Jersey, Ohio, Texas, Wyoming, Utah, and British Columbia, and the United States District Court. He has also filed testimony in Montana and

Ontario. Mr. McFadden headed a combination gas, electric, and steam heat utility company's rate regulatory services department where he was responsible for various submittals to regulatory agencies that had jurisdiction over the company's rates, facilities, and services. In addition, he previously served as chief financial officer for a natural transmission, gas gathering, and processing company where he was responsible for rate and regulatory affairs, financial and managerial accounting, financial policy and planning, business opportunity and financial analysis, strategic planning, and information and computer administration. He has dealt with such issues as Order 636 restructuring strategies, customer choice programs, development of gas transportation tariffs, practices and procedures, development and implementation of gas purchasing strategies, development of avoided costs, mains extensions policies, and producer take or pay issues. On the electric side of the business, he has participated in numerous rate cases and regulatory proceedings and has been involved in such issues as the utilization of purchased power, economic dispatching of generating stations, coal inventory measurement and management, generating station performance measures, incentive cost recovery mechanisms for a nuclear generating plant, generating plant maintenance schedules and management, unit coal train economics and management, and the development and administration of electric cost adjustment mechanisms. Mr. McFadden was also on the advisory board of Full Power Corporation, an electric marketing company serving the California markets. He previously served as the accounting area chair and the finance area chair for the University of Phoenix, Colorado Division. He is a past Chair and commissioner of the Colorado Commission on Low-Income Energy Assistance. Mr. McFadden is currently a member of the Board of Directors, Chairman of the Audit Committee, and Treasurer for Energy Outreach Colorado, a non-profit organization helping low-income energy users. He has a BS in business administration from Regis University and an MBA from the University of Denver.

### **SPECIAL TRAINING**

- > Cornell University, Johnson Graduate School of Management. Merger and Acquisitions Forum. 1989.
- > Irving Trust Company, New York City. Financial Seminar. 1985. Security analysis, types of securities, method of offering securities, project financing, capital structure and financial policy and others.
- > University of Idaho, Moscow, Idaho. Executive Development. 1982. Financing through capital markets, strategic planning and management, managing human resources, financial management and others.

### **PRESENTATIONS AND TESTIMONY**

“The Difference between Pipelines and Gas Distributors: What You Need to Know.” New Mexico State University Center for Public Utilities. Basic Utilities Course. October 2008.

Testimony in New Jersey Natural Gas Company's rate case proceeding on the management of its gas distribution and transportation infrastructure on behalf of the New Jersey Division of the Rate Counsel. Newark, New Jersey. June 2008.

Testimony and cross-examination cost impact of Tri-State Transmission and Generation Association, Inc. proposed 115 KV transmission line before the Public Utilities Commission of Colorado. April 2008.

Testimony and cross examination on Columbia Gas of Ohio's gas supply planning and procurement practices before the Ohio Public Utilities Commission. January 2007.

Testimony on cost allocation and rate design issues before the Texas Railroad Commission in Atmos Energy Corporation's request to increase rates for its Mid-Tex division in Texas on behalf of the City of Dallas, Texas. Austin, Texas. November 2006.

Testimony in Public Service Electric and Gas Company's rate case proceeding on the management of its gas distribution and transportation infrastructure on behalf of the New Jersey Division of the Ratepayer Advocate. Newark, New Jersey. July 2006.

Testimony on electric and gas department revenue requirement, cost allocation, and rate design analyses on behalf of Cheyenne Light, Fuel and Power Company before the Wyoming Public Service Commission. Cheyenne, Wyoming. October 2005.

Testimony on decoupling, revenue forecasting and rate design issues before the Georgia Public Service Commission in Atmos Energy Corporation's request to increase rates in Georgia. Atlanta, Georgia. October 2005.

Testimony on revenue forecasting, cost of service, and rate design issues before the Georgia Public Service Commission in Atlanta Gas Light Company's rate application. Atlanta, Georgia. March 2005.

Presentation to the Tennessee Valley Public Power Association, which is comprised of 158 municipal and cooperative distribution system served by the Tennessee Valley Authority on TVA's Cost of Service Methodologies. Franklin, Tennessee. November 2004.

Presentation to the Tennessee Valley Authority Board of Directors on TVA's Cost of Service Methodologies. Knoxville, Tennessee. August, 2004.

Testimony before the Arkansas Public Service Commission on Arkansas Oklahoma Gas Corporation's gas supply planning and procurement activities. Little Rock, Arkansas. May 2004.

Testimony on cost of service and rate design issues before the Georgia Public Service Commission in Atlanta Gas Light Company's earnings review proceeding. Atlanta, Georgia. April 2002.

Testimony before the Public Utilities Commission of Colorado in KN Wattenberg Transmission LLC application for a CPCN to operate facilities it constructed to serve two industrial customers within the city limits of Fort Morgan, Colorado. June 2001.

Testimony on behalf of the Colorado Office of Consumer Counsel before the Public Utilities Commission of Colorado in its investigation into price stabilization mechanisms of regulated gas utilities. June 2001.

Testimony before the Public Utilities Commission of Colorado in Totem Gas Storage Company, LLC's Application for a Certificate of Public Convenience and Necessity to Construct and Operate a Gas Storage Using Competitive Market-Based Rates. Denver, Colorado. June 2000.

Testimony before the Utah Public Service Commission in Questar Gas Company's Application for an Increase in Rates and Charges in Docket No. 99-057-20. Salt Lake City, Utah. June 2000.

Testimony before the Kansas Corporation Commission on Kansas Gas Service Company's Application for Approval to Restructure Gas Supply Contracts. Topeka, Kansas. March 2000.

Presentation to City Council on Proposed Electric and Gas Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. January 2000.

Testimony on Questar Gas Company's Application to Recover Costs Associated with Constructing a CO<sub>2</sub> Extraction Plant. Salt Lake City, Utah. June 1999.

Presentation to City Council on Proposed Electric and Gas Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. October 1998.

"Potholes on the Road to Unbundling" presented to the 57th Annual Western Conference of Public Service Commissioners. Sunriver, Oregon. June 1998.

Testimony on Incorporating Riders in Performance-Based Rate Mechanisms for Atlanta Gas Light Company. Atlanta, Georgia. March 1998.

Testimony on the Management and Financial Review of Atlanta Gas Light Company's Manufactured Gas Plant Site Environmental Clean-Up Efforts. Atlanta, Georgia. March 1998.

Keynote address on Electric Utility Restructuring at the University of Kansas' 21st Annual Economic Outlook Conference. Lawrence, Kansas. October 1997.

"An Analysis of the Impact of Retail Wheeling on the State of Kansas" presented to the Kansas Legislative Task Force on Retail Wheeling. Topeka, Kansas. August 1997.

A presentation to the Rocky Mountain Natural Gas Strategy Conference and Marketing Fair on restructuring of natural gas and electric utility industries. Denver, Colorado. August 1997.

Testimony on the Public Utilities Commission of Colorado's proposed rules on gas cost adjustments. Denver, Colorado. February 1997.

"Restructuring of the Natural Gas Industry" presented to the Governor's Energy Assistance Reform Task Force. Denver, Colorado. February 1997.

"The Feasibility of Allowing Nondiscriminatory Access to Retail Natural Gas Distribution Services in Colorado" presented to the Colorado Legislative Council. Denver, Colorado. December 1996.

Presentation to Rocky Mountain Natural Gas Association on the issues associated with providing transportation service to residential and small commercial customers. Denver, Colorado. October 1996.

Testimony and cross-examination on the Public Utilities Commission of Colorado's proposed rules on cost allocation between regulated and non-regulated affiliates. Denver, Colorado. July 1996.

"Planning in a Competitive Environment." Power Engineering Society, Institute of Electrical and Electronic Engineers Summer Conference. Denver, Colorado. July 1996.

Presentation to City Council on Proposed Electric Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. May 1996.

Testimony and cross examination on East Ohio Gas Company gas planning and procurement practices before the Ohio Public Utilities Commission. December 1995.

"Economic Impact of Fuel Switching at Selected Denver Area Power Plants," presented on behalf of Colorado Oil and Gas Association before the Colorado Air Quality Council and the Regional Air Quality Council. Denver, Colorado. November 1995.

Presentation to City Council on Proposed Gas Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. November 1995.

Testimony and cross examination on BC Gas Utility, Ltd. extension policy before the British Columbia Utilities Commission. Vancouver, BC. June 1995.

Testimony and cross examination on BC Gas Utility, Ltd. avoided costs before the British Columbia Utilities Commission. Vancouver, BC. June 1995.

"Development of Long Run Avoided Costs for a Gas Distributor." Gas Research Institute Avoided Cost Conference. Milwaukee, Wisconsin. June 1994.

## **PROFESSIONAL AFFILIATIONS**

- Board of Directors, Chairman of Audit Committee & Treasurer, Energy Outreach Colorado
- Commissioner, Colorado Commission on Low Income Energy Assistance
- Rocky Mountain Natural Gas Association
- Colorado Association of Commerce and Industry, 50 For Colorado
- American Gas Association, former member
- Interstate Natural Gas Association of America, former member of Rate and Policy Committee
- Regis University Alumni Association
- Former Member, Regis University Business and Industry Group
- University of Denver Alumni Association
- Listed in *Who's Who in America*, *Who's Who in Executives and Professionals*, *The National Registry of Who's Who*, and *Who's Who International*

## **A. E. MIDDENTS**

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### **AREAS OF QUALIFICATION**

Gas operations, gas industry restructuring, supply planning and procurement, regulatory matters, engineering, marketing, transportation, business development, and strategic planning.

### **EMPLOYMENT HISTORY**

- Senior Consultant, McFadden Consulting Group, Inc., Denver, CO, 1996-present
- Independent Natural Gas Industry Consultant, Greenwood Village, CO, 1996-present
- Vice President, Technical Services, Northern Pipeline Construction Company, 1995-1996
- Independent Consultant, 1993-1995
- Senior Vice President, Public Service Company of Colorado, 1988-1993
- Vice President Gas Operations, Public Service Company of Colorado, 1986-1988
- Manager, Engineer and Construction, Western Gas Supply Company, 1983-1986
- Engineering Manager, Western Gas Supply Company, 1981-1983
- Assistant to the President, Fuelco, 1981-1983
- Assistant to the Vice President Gas Operations, Public Service Company of Colorado, 1980-1981
- Gas Distribution Operations Manager, Public Service Company of Colorado, 1976-1980
- Superintendent of Gas Utilization, Public Service Company of Colorado, 1976
- Superintendent, Division Gas Distribution, Public Service Company of Colorado, 1972-1976
- Superintendent, Planning and Analysis, Public Service Company of Colorado, 1970-1972
- Supervisor, System Planning, Public Service Company of Colorado, 1966-1970
- Various positions, Public Service Company of Colorado, 1960-1966

### **EDUCATION**

- Iowa State University, BS, Industrial Engineering
- University of Colorado, Business Courses
- University of Colorado, Executive Education Program for the Gas Industry
- University of Michigan, Public Utility Executive Program

### **PROFESSIONAL EXPERIENCE**

A. E. "Pete" Middents has 42 years of broad experience in all segments of the natural gas industry. This includes the entire spectrum of technical and economic issues associated with the utilization of natural gas, including engineering and construction, gas supply, gas contracts, transmission and distribution, storage, compression, processing, economic feasibility, regulatory issues, long-range planning, and operations issues.

Mr. Middents was previously employed by Northern Pipeline Construction Company as Vice President, Technical Services. NPL is headquartered in Phoenix, Arizona and was acquired by Southwest Gas Corporation, headquartered in Las Vegas, Nevada in 1996. He was responsible

for the overall management of Northern's Technical Services Division as well as marketing and new product development.

Mr. Middents was an independent consultant specializing in the natural gas industry from 1993 to 1995. His consulting assignments have primarily been in the areas of new business development, gas industry restructuring, economic feasibility and evaluation, overall planning and engineering design (pipeline processing and distribution), and natural gas marketing. Recent clients include:

- > Utah Committee of Consumer Services
- > Questar Pipeline Corporation, Salt Lake City, UT
- > New Jersey Rate Counsel
- > Arkansas Public Service Commission
- > Northern Pipeline Construction Company, Phoenix, AZ
- > K & M Engineering and Consulting Corp., Washington, D.C.
- > Premier Enterprises, Inc., Englewood, CO
- > U.S. Agency for International Development (U.S. State Department), Washington, D.C. and Montevideo, Uruguay
- > Benjamin Schlesinger and Associates, Bethesda, Maryland
- > Minister of Industry, Energy and Minerals, Government of Uruguay, Montevideo, Uruguay

In 1993 he exercised an early retirement option from Public Service Company of Colorado. As Senior Vice President of Gas Operations for Public Service Company (a combination gas and electric utility serving the majority of the state of Colorado), Mr. Middents had full executive responsibility for the Company's natural gas operations. He was also President and a Director of Western Gas Supply Company (WestGas, a gas gathering, processing, and transmission subsidiary company), President and a Director of Fuel Resources Development Company (Fuelco, a gas and oil exploration and production subsidiary company), Chairman and a Director of Natural Fuels Corporation (a full service natural gas vehicle subsidiary company), and Vice President and a Director of Cheyenne Light, Fuel and Power Company (a combination gas and electric utility serving a portion of Wyoming). Mr. Middents also served as chairman and director of the following companies: WestGas Interstate Gas Company, WestGas Gathering, Inc. and WestGas TransColorado, Inc.

Mr. Middents joined the Public Service Company in 1960 as a gas engineer. He held numerous management positions with WestGas and Public Service Company prior to his election as Vice President in 1986. He was promoted to Senior Vice President in 1988.

#### **PROFESSIONAL AFFILIATIONS**

- > Past Chairman of the Board, Midwest Gas Association
- > American Gas Association
- > Board of Directors, Interstate Natural Gas Association of America
- > Industrial Technical Advisory Committee, Gas Research Institute
- > Board of Directors, Natural Gas Vehicle Coalition

- Past President and Director, Rocky Mountain Gas Association

### **PRESENTATIONS AND TESTIMONY**

Mr. Middents has appeared as an expert witness and provided testimony in hearings before the Federal Energy Regulatory Commission (FERC), the United States District Court in Iowa, South Dakota, and Washington, and state regulatory Commissions in Colorado and Utah. During the past ten years, these included:

- Testimony in New Jersey Natural Gas Company's rate case proceeding on the management of its gas distribution and transportation infrastructure on behalf of the New Jersey Division of the Rate Counsel. Newark, New Jersey. June 2008.
- Filed testimony and testified before the State of New Jersey Board of Public Utilities in 2006, regarding Public Service Electric and Gas Company's application for Approval of an Increase in Gas Rates, Depreciation Rates for Gas Property, and for Changes in the Tariff for Gas Service. (State of New Jersey Board of Public Utilities; BPU Docket No. GR05100845).
- Filed an expert report and made depositions in the civil case of Northwester Public Service, a Division of Northwestern Corporation -vs- Union Carbide Corporation in 2002 (United States District Court District of South Dakota, Southern Division; Civil No. 99-4182).
- Filed testimony before the Public Utilities Commission of Utah in 1999, regarding Questar Gas Company's application to recover costs associated with constructing a CO2 extraction plant (Public Service Commission of Utah; Docket No. 98-057-12).
- Filed an expert report and made depositions in the civil case of MidAmerica Energy Company-vs- Union Carbide Corporation in 1998 (United States District Court District for Black Hawk County, Iowa; Case No. LACV076851).
- Filed an expert report and testimony in the civil case of March Point Cogeneration Company -vs- Puget Sound Power & Light Company in 1997 (United States District Court District, State of Washington; specific case number unknown).

Prior to 1997, Mr. Middents' expert witness and testimony experience included the following (specific dates and case numbers are not available):

- Numerous testimonies on gas transmission tariff issues on behalf of Public Service Company before the Public Utilities Commission of Colorado from 1986 thru 1993.
- Numerous testimonies on gas department tariff issues on behalf of Western Gas Supply Company before the Public Utilities Commission of Colorado from 1986 thru 1993.
- Numerous intervening testimonies before the Federal Energy Regulatory Commission regarding gas transmission tariff issues filed by Colorado Interstate Gas Company from 1985 thru 1993.

# JOHN N. PETERS

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## AREAS OF QUALIFICATION

Gas operations, supply planning and procurement, engineering design, construction management, bid proposal & contract preparation, permit & ROW acquisition, material specification & procurement, training, and operations support.

## EDUCATION

- University of Colorado, BS, Mechanical Engineering
- University of Colorado, Business Courses
- University of Colorado, Executive Education Program for the Gas Industry
- University of Idaho, Public Utilities Executive Course

## PROFESSIONAL EXPERIENCE

**John N. Peters** has 45 years experience in the natural gas utility industry. He has extensive experience in the engineering, design, construction, and operation of gathering, transmission, and distribution systems, including compressor stations and processing plants. Mr. Peters was division manager of gas operations for a natural gas gathering and transmission company, responsible for 180 employees and an annual O&M budget of \$15 million and capital budgets up to \$50 million. In addition, Mr. Peters developed a Natural Gas Vehicle (NGV) program and took it through a very critical and successful research, testing, development, and implementation phase, resulting in the conversion of more than 600 fleet vehicles to natural gas and the genesis of a fueling station infrastructure throughout Colorado. In recent years, Mr. Peters has been working as a consultant to the natural gas industry and has been involved in various projects in Arizona, Alaska, Nevada, Maryland, and Wyoming.

## EMPLOYMENT HISTORY

### **Consultant to the Natural Gas Industry** 9/94 to present

Independent consultant providing technical support on various projects in Alaska, Arizona, Maryland, Nevada, and Wyoming. Responsibilities include feasibility studies, engineering design, bid proposal & contract preparation, permit & ROW acquisition, material specification & procurement, construction management, training and operations support.

### **Manager, Operations Division - WestGas/Public Service Company of Colorado**

3/83 to 9/94

Responsible for the operations and maintenance of natural gas gathering, transmission, processing, and storage facilities including gas plants, CO<sub>2</sub> processing plants, meter stations, and more than 2100 miles of pipelines. Also responsible for an operations support staff involved with hazardous material coordination, operations training, and the gas

dispatching function performed at the Gas Load Control Center. Key accomplishments included:

- Served as member of the WestGas senior management team helping develop business plans, marketing plans, supply strategies, and financial forecasts
- Responsible for the operations of six geographic divisions within Colorado with a work force of approximately 180 employees
- Responsible for a \$12 - \$15 million annual O&M expense and capital budget
- Initiated cost management programs that more than doubled productivity in less than 9 years, saving \$8-10 million
- Developed a Products and Services Program that generated revenues approaching \$3 million
- Involved in labor union grievance hearings, arbitrations, and negotiations
- Developed an extremely proactive safety team whose programs resulted in significant reduction in the number of accidents
- Responsible for the corporate natural gas vehicle program during a very critical and successful research, development, and implementation phase -- involved with live TV news conferences with the mayor and governor

**Administrative Assistance to the President - WestGas** 12/81 to 3/83

This was a temporary assignment designed to enhance executive management skills. Provided research and support as follows:

- Participated in the design and implementation of new employee evaluation and compensation system
- Assisted with FERC rate hearings in Washington, D.C.
- Assisted attorneys with franchise disputes, law suit investigations, and settlements
- Provided support to the gas exploration subsidiary
- Filled in for gas managers during lengthy vacations and illnesses

**Engineering Manager - Western Slope Gas Co.** 1/78 to 12/81

Responsible for the budgeting, engineering, and construction of all WSG pipelines, plants, and treating facilities. Key accomplishments included:

- Structured a new engineering group to streamline and standardize engineering and design
- Set up policies and procedures to be responsive to changes in gas codes and regulations
- Managed and oversaw the design and installation of a major underground gas storage facility
- Testified as an expert witness in court and at PUC hearings

**Operations Superintendent - Western Slope Gas Company** 1/73 to 1/78

Responsible for the operation and maintenance of gathering and transmission facilities in the Durango division. Oversaw the operation of facilities on the Southern Ute Indian Reservation.

**Senior Engineer - Western Slope Gas Company** 12/70 to 1/73

Responsible for O&M engineering and troubleshooting on Western division facilities, equipment, controls, and telemetering. Also constructed meter stations, plant modifications, well connects, and several hundred miles of pipeline.

**Distribution Engineer - Public Service Company of Colorado** 6/69 to 12/70

Responsible for the design of distribution facilities in the Denver metro area. Constructed 20 miles of 20 & 24-inch intermediate pressure pipeline. Was on call to respond to gas emergencies, explosions, and outages.

**Engineer - Public Service Company of Colorado** 5/68 to 6/69

As Engineer-in-Training, worked in eight different gas departments within Public Service Company. Designed a low cost, one-piece, house meter bracket that is still in use today. Also worked with plastic pipe and plastic/steel transition fittings. Designed a mobile unit for flame ionization gas leak detection.

**Senior Technician - Public Service Company of Colorado** 2/65 to 5/68

Responsible for setting up a gas analysis lab in the Gas Utilization and Standards Department. Conducted gas quality tests using instruments such as the gas chromatograph, supercompressibility apparatus and the specific gravity balance. Also given special projects such as designing an impact tester for plastic pipe. Tested natural gas appliances and gas regulators/meters for performance at high altitude.

**Technician - Public Service Company of Colorado** 3/62 to 2/65

Responsible for the industrial gas customers in the Denver metro area, installing automatic chart changers, testing meters, and conducting gas quality tests.

**PRESENTATIONS AND TESTIMONY**

In the last five years, Mr. Peters has testified before various courts and county planning commissions, as follows:

- June 2009 – Testimony in New Jersey Natural Gas Company’s rate case proceeding on the management of its gas distribution and transportation infrastructure on behalf of the New Jersey Division of the Rate Counsel. Newark, New Jersey.
- September 2007 – Ted Koutsoubos v. Kinder Morgan before the Pitkin County (Colorado) Planning Commission regarding the final route selection and easement of the Snowmass pipeline across landowner’s property.
- April 2007 – Six Landowners v. Williams Overland Pass Pipeline - Immediate Possession Hearing before Yuma County.
- May 2006 – Protect Marshall Group v. Xcel Energy (Public Service Co. of Colorado) before Boulder County Planning Commission regarding the proposed site of the Foothills Compressor Station.

- > March 2006 – Ted Koutsoubos v. Kinder Morgan - Immediate Possession Hearing before the Pitkin County (Colorado) regarding Snowmass pipeline across landowner's property.