



Agenda Date: 6/30/17
Agenda Item: 9K

STATE OF NEW JERSEY
Board of Public Utilities
44 South Clinton Avenue, 3rd Floor, Suite 314
Post Office Box 350
Trenton, New Jersey 08625-0350
www.nj.gov/bpu/

MISCELLANEOUS

IN THE MATTER OF THE TOWN CENTER DER) ORDER
MICROGRID INCENTIVE PROGRAM AUTHORIZATION)
OF INCENTIVE FUNDING TO CITY OF PATERSON,)
PASSAIC COUNTY FOR PHASE I FEASIBILITY STUDY) DOCKET NO. QO17060639

Party of Record:

Ben-David Seligman, Esq., Second Assistant Corp. Counsel, City of Paterson, Passaic County

BY THE BOARD:

The 2015 New Jersey Energy Master Plan Update (EMP Update) established a new overarching goal to "Improve Energy Infrastructure Resiliency & Emergency Preparedness and Response" in response to several extreme weather events that left many people and businesses without power for extended periods of time. These new policy recommendations included the following:

1. Increase the use of microgrid technologies and applications for Distributed Energy Resources ("DER") to improve the grid's resiliency and reliability in the event of a major storm; and
2. The State should continue its work with the USDOE, the utilities, local and state governments and other strategic partners to identify, design and implement Town Center DER ("TC DER") microgrids to power critical facilities and services across the State.

At its November 30, 2016 agenda meeting Docket number QO16100967, the Board authorized the release of staff's Microgrid Report ("Report"). The following recommendations in the Report specifically address the development of a TC DER microgrid feasibility study incentive program and pilot:

1. Develop and implement a TC DER microgrid feasibility study incentive program as part of the current New Jersey Clean Energy Program ("NJCEP") budget. This TC DER microgrid feasibility study incentive program should provide funding for the upfront feasibility and engineering evaluation project development costs of

a Town Center TC DER microgrid at the local level. This incentive should be a phased approach beginning with an initial feasibility study, followed by detailed engineering design phase. Staff should implement a stakeholder process to determine the terms and conditions of the TC DER microgrid feasibility study incentive program. This incentive should be provided through an MOU structure.

2. Initiate a TC DER microgrid pilot within each electric distribution company ("EDC") service territory. This should initially be limited to the municipalities within the 9 Federal Emergency Management Agency ("FEMA") designated counties or municipalities that meet the same criteria identified in the New Jersey Institute of Technology ("NJIT") report. These pilots should include, at a minimum, an initial feasibility study of the TC DER microgrid. This process should assist in the development of a TC DER microgrid tariff.

On August 5, Board staff issued a TC DER microgrid feasibility study draft application for public comment. On August 23, 2016, a public meeting was held to discuss the draft application and written comments were received and considered in the final application. Board staff's responses to the comments were published as part of the release of final application.

At its January 25, 2017 agenda meeting Docket number QO16100967 the Board authorized the release of TC DER microgrid feasibility study application. Incentive funding was capped at \$200,000 per feasibility study. The Board directed staff to release the application and to open a 60-day application submission window. Applications submitted during that period would be reviewed by Staff and selected on a competitive basis. Any application submitted after this time period would be accepted on a first-come-first-served basis subject to available fund. The 60 day period ended on March 27, 2017

Prior to March 27, 2017, the City of Paterson submitted an application to the Board.

The Great Falls Eco-Energy Resiliency Project (Project) was submitted by the City of Paterson. The Project core partners include Passaic County and the City of Paterson School Board. Additional potential partners include the US Government Service Administration (GSA), Saint Joseph's Medical Center and the Children's Hospital. The Project critical facilities include Paterson City Hall, Health and Human Services – Community Development Office, Paterson Recreational Offices, Paterson Fire Station HQ, Paterson Police Department, Paterson International High School, JFK High School, Passaic County Jail, Passaic County Courthouses, Passaic County Administration Buildings and Passaic County Social Services. Other potential critical facilities include Hinchliffe Stadium, the US GSA Federal Building, Saint Joseph's Medical Center and the Children's Hospital. Based on the list of partners and proposed critical facilities there are four FEMA category III or IV designated facilities within 0.5 miles that have a combined energy usage of approximately 90,000 Btu's per square foot. The estimated total peak demand for all the proposed critical facilities is 21,785 kW. The total estimated annual electricity usage is 16,101,067 kWh and the total estimated annual natural gas usage is 556,990 therms.

The existing technology for the proposed Project is the Great Falls Hydro-Electric Generation Plant ("Great Falls"). The Great Falls can generate between 3.5 to 7.0 MW of power depending

on water flow. The additional capacity could be provided through new power which may include solar, dispatchable generation such as combined heat and power ("CHP"), new distribution assets, storage, and other new electric infrastructure to allow the proposed Project to operate during normal and emergency conditions. The proposed microgrid modeling approach for this projects is to use the USDOE Lawrence Berkeley National Labs (LBNL) Distributed Energy Resource Customer Adoption Model (DER-CAM). The estimated timeframe to complete the feasibility study is 12 months. PSE&G is the electric and natural gas utility for the City of Paterson and PSE&G provided a letter of support (LOS) to participate in the feasibility study.

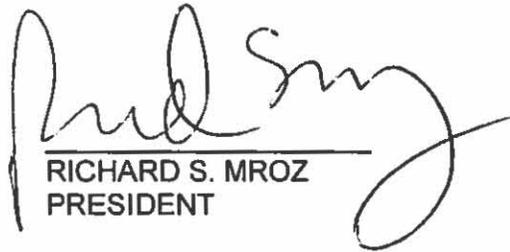
After review of the application Board Staff recommends that the Board approve the above-referenced application.

The Board **HEREBY ORDERS** the approval of the aforementioned application for the total incentive amount of \$173,000 for the City of Paterson, Passaic County and **AUTHORIZES** the President of the Board to execute the MOU attached hereto which sets forth the terms and conditions of the commitment of these funds.

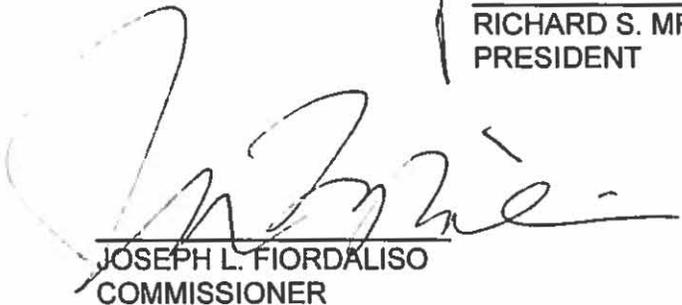
This effective date of this order is July 10, 2017.

DATED: 6/30/17

BOARD OF PUBLIC UTILITIES
BY:



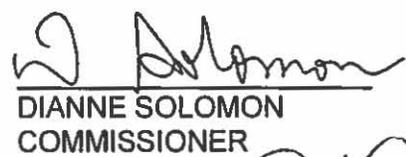
RICHARD S. MROZ
PRESIDENT



JOSEPH L. FIORDALISO
COMMISSIONER



MARY-ANNA HOLDEN
COMMISSIONER

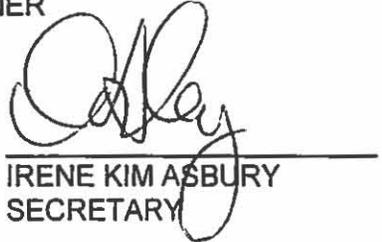


DIANNE SOLOMON
COMMISSIONER



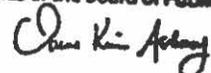
UPENDRA J. CHIVUKULA
COMMISSIONER

ATTEST:



IRENE KIM ASBURY
SECRETARY

I HEREBY CERTIFY that the within document is a true copy of the original in the files of the Board of Public Utilities



IN THE MATTER OF THE TOWN CENTER DER MICROGRID INCENTIVE PROGRAM
AUTHORIZATION OF INCENTIVE FUNDING TO THE CITY OF PATERSON FOR PHASE I
FEASIBILITY STUDY

SERVICE LIST

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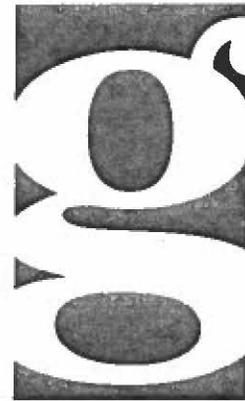
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James A. Boyd, Jr.
Counsel's Office
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Paterson Microgrid Conceptual Project Overview

Prepared for: City Of Paterson

March 24, 2016



gabel associates

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Mark Warner – Vice President
Pam Frank – Vice President**

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www.gabelassociates.com**

Gabel Associates Engaged To Explore The Potential For A Microgrid For Paterson:

- Identify Potential Benefits
- Evaluate How Hydro Plant Could Help Enable Project
- Inventory Potential Load Sites, Assess Resiliency Potential
- Propose A Conceptual Framework For Project Formation
- Identify Necessary Next Steps



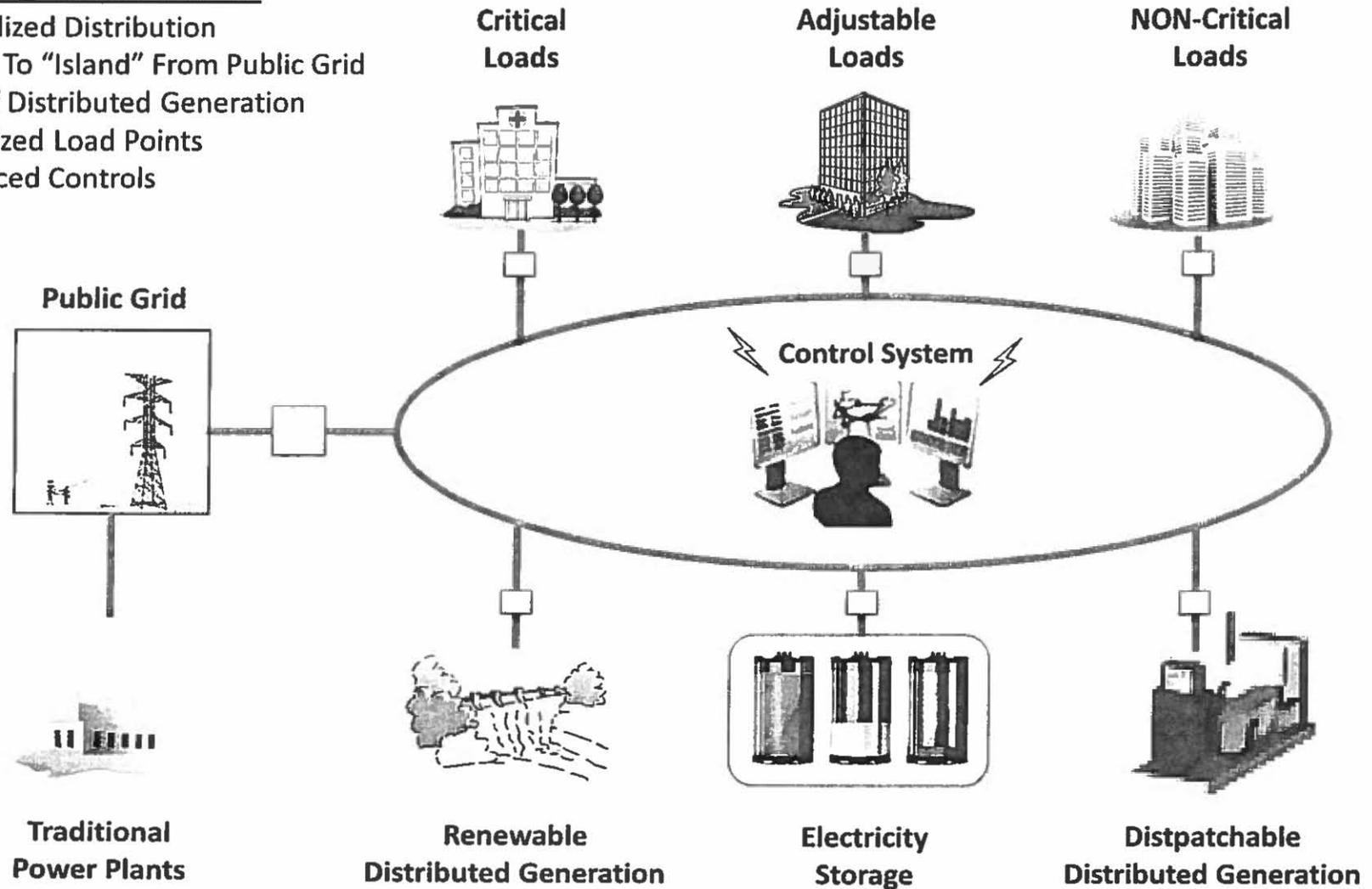
Paterson Has An Excellent Microgrid Opportunity

- Unique Ability To Leverage Hydro Plant Assets
- Beneficial Linkage With History & Re-Development Plans
- Compact “Urban Core”, Manageable Number Of Assets Creating Strong Resiliency Value
- Requires Additional Generation (Fueled And/Or Renewable), And Storage
- Probably New Distribution Assets
- Microgrid Delivers Value All Year, Not Just During Outage.
- Challenges Are Mostly Commercial And Regulatory, Not Technical

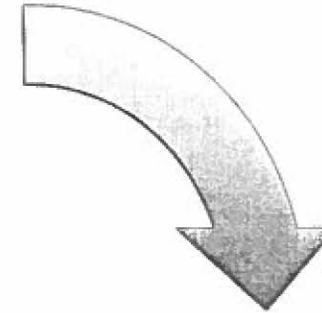
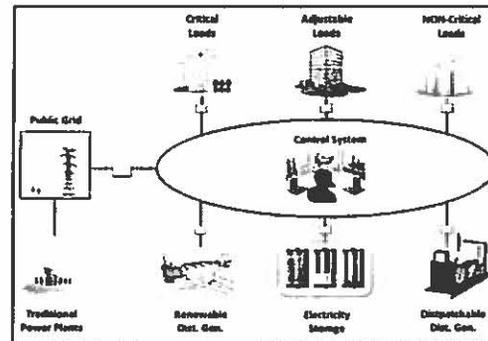
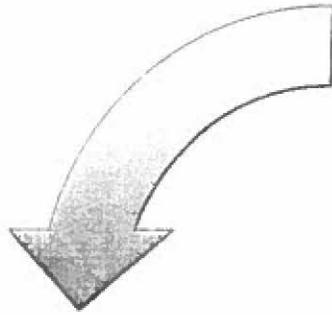
What Is A Microgrid?

Key Microgrid Elements:

- + Specialized Distribution
- + Ability To “Island” From Public Grid
- + Use Of Distributed Generation
- + Prioritized Load Points
- + Advanced Controls



Microgrid Energy Benefits



Routine Operation:

- Renewable Energy Available To Paterson Consumers
- Energy Services To Public Grid
- Long term cost control
- Energy Equity

During A Grid Outage:

- Critical Facilities Powered During Grid Black-Out
- Local Awareness And Operational Flexibility
- Renewable Energy Reduces Fuel Dependency
- Facilitates "Public Grid Recovery"

Microgrids, in addition to providing back up power, can deliver benefits to all ratepayers, not just the loads on the microgrid. This 24/7 value facilitates project finance.

A Microgrid Project Enhances Other Efforts:

- Powerful Way To Extend Paterson's Unique History
- Showcase For State Of The Art Energy Innovation
- Reinforce Redevelopment Efforts
- Provide Foundation For Future "Smart Growth" Planning
- Strategic Value Of Resilient Infrastructure
- Energy Equity

Technical Findings Of Study



Based On High Level Project Review:

- Existing Hydro Plant Provides Fairly Constant Power, And Significant Energy (20,000 – 30,000 MWHrs annually).
- Hydro Plant Can Likely Serve A Substantial Fraction Of Microgrid Loads With Clean, Stable-Cost Energy.
- Hydro Plant Historically Not Highly Reliable, Will Probably Need Additional Dispatchable (Fueled) Generation.
- Seasonal Output Of Hydro Can Be Balanced With Additional Solar PV.
- Strong Resiliency Assets, In Relatively Compact Urban Core.
- New Distribution Assets May Need To Be Built
- Ability To Re-use Existing Infrastructure To Be Determined in Detailed Study

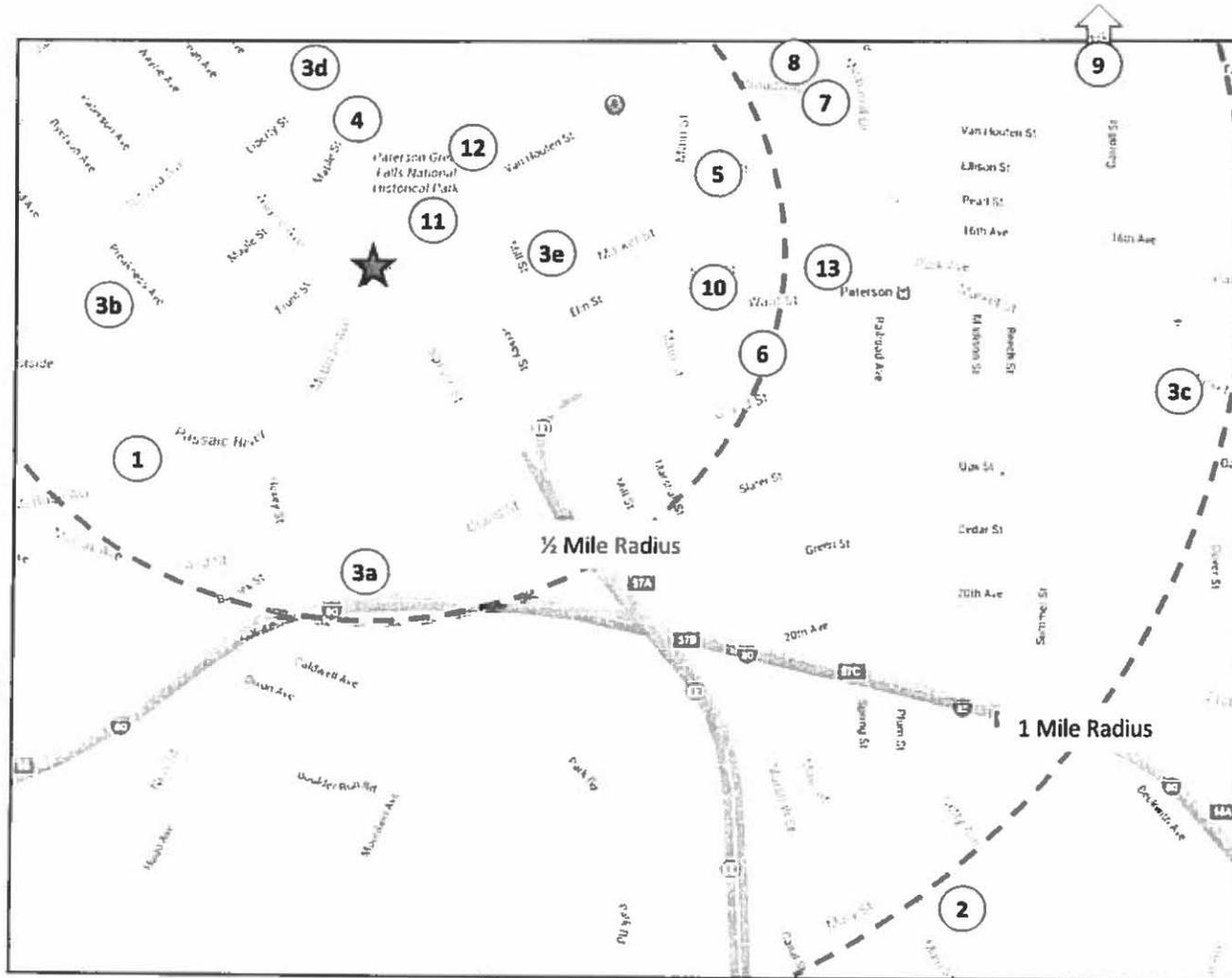
Potential Microgrid Facilities



Inventory Of Potential Customers Included (in order of resiliency value):

- New Fire station (OEM HQ)
- St. Joseph's Regional Medical Center
- Schools (International HS, JFK Complex, Eastside HS, ES #5, ES #2)
- Hinchcliffe Stadium
- Key Municipal Buildings
- Key County Buildings
- Passaic County Community College
- Elder Care Facilities, Possibly Low Income Housing
- Commercial Core
- National Park Area
- Nearby Redevelopment Areas (Quarry Field, Ruins Area)
- Federal Building

Potential Microgrid Load Sites

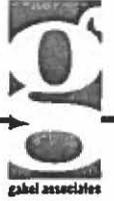


- 1 Fire Station/OEM HQ (2,300 ft)
- 2 St. Joseph's Medical (~1 mile)
- 3 Schools
 - a) International HS (2,100 ft)
 - b) JFK Complex (1,600 ft)
 - c) Eastside HS (~1 mile)
 - d) Elementary #5 (1,500 ft)
 - e) Elementary #2 (1,200 ft)
- 4 Hinchcliffe Stadium (1,000 ft)
- 5 Paterson City Hall (2,500 ft)
- 6 County Facilities (2,700 ft)
- 7 Community College (3,500 ft)
- 8 Paterson Police (3,100 ft)
- 9 Elder Care Facilities (>1 mile)
- 10 Commercial Core (2,400 ft)
- 11 National Park Area (1,000 ft)
- 12 Planned Redev. Area (1,200 ft)
- 13 Federal Building (3,000 ft)

Existing Electrical Sub-Station

★ Microgrid Anchor at
Great Falls Hydro Station

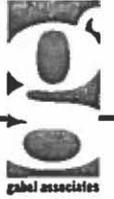
Key Issues



Key Issues For Microgrid Development:

- 1) Re-directing power sale from hydro plant
- 2) New distribution assets and power sale
- 3) Siting And Feasibility Of Renewable Generation
- 4) Commercial Roles and Responsibilities

Building The Paterson Microgrid

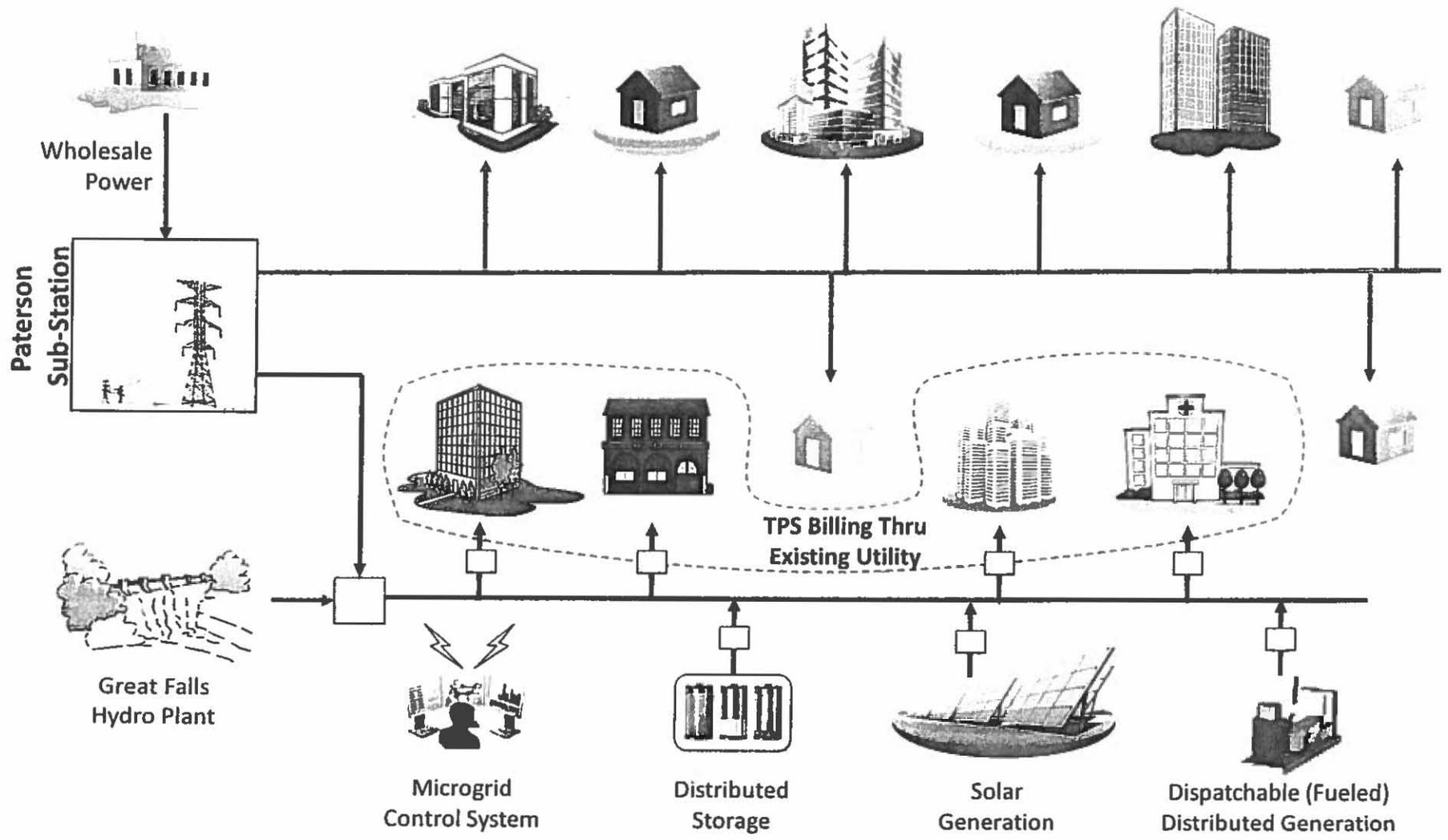


Potential Framework For Building A Microgrid (“MG”):

- Great Falls Hydro Plant is “anchor” of the MG, and “point of connection” with the grid.
- Current power output from hydro plant re-directed into MG.
- Storage and dispatchable (fueled) generation are added to the MG to increase reliability.
- Re-use existing distribution assets if possible, OR build a new MG backbone to connect critical facilities (could be built by PSE&G).
- Form a specialized Third Party Supplier (TPS) that sells electricity to all MG customers. The TPS buys its power from the hydro plant and other sources to fully meet MG needs.
- Customers pay PSE&G bill, which includes: paying the TPS for supply, and PSE&G for the specialized MG-distribution system.
- The MG is managed to earn additional revenues from PJM, and to improve local grid quality and enhance project financing options.

This Approach Meets Technical Needs Through An Existing Commercial Framework. It Provides An Ongoing Role For Eagle Creek And PSE&G Consistent With Their Existing Business Models.

Electric Supply With A Microgrid (conceptual)



Conclusions



Numerous Factors Have Aligned To Make An Advanced Microgrid At Paterson Both Desirable And Relatively Feasible:

- Hydro Plant A Good Starting Point For Microgrid
- Numerous benefits, 24/7 and during an outage
- Primary Challenges Are Commercial And Regulatory, Not Technical

We Have Developed A Innovative Framework That Could Facilitate Project Formation.

Key Next Step: Attracting Funding For More Detailed Study

- Identifying And Engaging Key Study Participants
- Approaching Potential Funders Of Detailed Study



State of New Jersey
BOARD OF PUBLIC UTILITIES
44 SO. CLINTON AVENUE
THIRD FLOOR, SUITE 314 – P.O. BOX 350
TRENTON, NEW JERSEY 08625-0350

CHRIS CHRISTIE
GOVERNOR

KIM GUADAGNO
LT. GOVERNOR

RICHARD S. MROZ
PRESIDENT
TEL: (609) 777-3310
FAX: (609) 292-2264

April 17, 2017

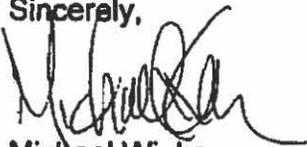
Ben David Seligman, 2nd Assistant Corporate Counsel
City of Paterson
155 Market Street
Paterson, NJ 07505

Dear Mr. Seligman:

The NJBPU Town Center DER Microgrid Evaluation Team (Evaluation Team) has received your application for a TC DER microgrid feasibility study incentive.

BPU has received 13 proposals for feasibility study incentives. The Board's approved DER microgrid line item budget is \$1 million. The 13 proposals significantly exceed that budget. The TC DER evaluation team is requiring that you submit a best and final offer (BAFO) for your proposal. This BAFO should include your estimated breakdown of the budget for the prime investigator and all subcontracts including any estimated fees to be paid to the EDC/GDC. The above noted items, the BAFO and the budget breakdown of the prime investigator and subcontractors should be submitted to TCDERmicrogrid@bpu.nj.gov by close of business (COB) 5:00 p.m. on May 1, 2017. Non-submittal of the additional items, the BAFO and budget breakdown will result in a non-completeness determination of the proposal.

As noted in the TC DER microgrid feasibility study application, the Board has the sole discretion over the approval of projects and awards of incentives, and may change criteria or available funding at any point during the duration of the program.

Sincerely,

Michael Winka
Senior Policy Advisor

**CITY OF PATERSON
DEPARTMENT OF LAW**

CITY HALL
155 MARKET STREET
PATERSON, NJ 07505-1479
PHONE: (973) 321-1366
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José "joey" Torres
Mayor

DOMENICK STAMPONE
Corporation Counsel

ROBERT BRIGLIADORO
First Assistant Corp. Counsel
Chief Municipal Prosecutor

BEN-DAVID SELIGMAN
Second Assistant Corp. Counsel

April 28, 2017

Michael Winka
New Jersey Board of Public Utilities
44 S. Clinton Avenue
Trenton, New Jersey 08625

**RE: City of Paterson Response to BPU Request
for Additional Information**

Mr. Winka:

In response to the BPU's letter of April 17, 2017, the City of Paterson is pleased to provide additional information about our previously submitted application to the Town Center Distributed Energy Resource (TC-DER) Microgrid Study Solicitation.

We have worked with our project team to prepare a "Best and Final Offer" regarding the funding requested, and to break out the project budget in more detail. Our original proposal was for \$180,000 in funding. **We hereby revise our proposal to be \$173,000 in requested funding.** There is no change to the project or study scope.

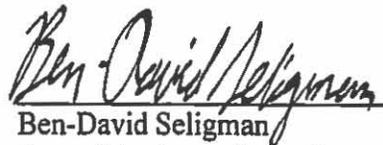
Our project is supported by two consultants: Burns Engineering and Gabel Associates. Based on the revised overall budget, \$91,000 is allocated to Burns as the project lead, and \$82,000 to Gabel. There are no other sub-contractors identified for the project. The utility (PSE&G) has submitted a letter of support, but has not asked for funding for their participation in the study, and no funding is planned to support their involvement.

We appreciate the opportunity to provide this revised budget and break-out to the BPU. Please feel free to contact me at bseligman@patersonnj.gov or 973-321-1366.

CC:
MAYOR JOSÉ "JOEY" TORRES
BUSINESS ADMINISTRATOR NELLIE POU
HISTORIC PRESERVATION DIR. GIANFRANCO ARCHIMEDE
BURNS ENGINEERING
GABEL ASSOCIATES

Very truly yours,
DOMENICK STAMPONE
CORPORATION COUNSEL

BY:



Ben-David Seligman
Second Assistant Corp. Counsel

Town Center Distributed Energy Resources Microgrid Feasibility Study Report Requirements

As set forth in the MOU the Town Center (TC) Distributed Energy Resource (DER) Microgrid Feasibility Study Report should be of sufficient detail to demonstrate how the TC DER Microgrid's functional and technical requirements will be executed, the proposed approach to solve technical problems, and how project goals will be accomplished.

The TC DER Microgrid Feasibility Study Report should include an Executive Summary including all project definitions and special terms used in the Report.

The full report must include, but is not necessarily limited to, the following

1. Table of Contents
2. Project Name
3. Project Applicant – This should be the local government or state agency that is the MOU signatory.
4. Project Partners – This should include any agreements entered into by the partners.
5. Project location – This should include a detailed mapping of the boundaries on the TC DER microgrid within the municipality.
6. Project Description including a detailed description of all included critical facilities with a description of why they are critical facilities within the proposed TC DER Microgrid. The Project Description should include the following:¹
 - i. The electrical and thermal loads for each critical facility over the month and year. This should include a description and illustration of any variability in loads including daily, weekend or seasonal loads that impact on the peak, minimum and average loads.
 - ii. The electric and thermal load of the total microgrid project over the month and year. This should include a description and illustration of any variability in loads including daily, weekend and seasonal loads that impact on the peak, minimum and average loads as well as the coincident loads of the overall system.

¹ The energy data in this section and the full report should be provided through metered data were available but may also be provided through simulated data from models such as EnergyPlus. If the data is simulated the specific software and model should be identified and available.

- iii. The monthly and annual energy costs for each critical facility and the overall project including both energy and demand costs. This should include the monthly cost and any variations over the year that could impact demand costs.
- iv. The square footage of each building and the total project.
- v. The overall boundaries of the proposed project and distance between critical facilities should be provided. A map should be provided showing the locations of any Right of Way (ROW) crossings.
- vi. The size of the available emergency shelter facilities and for what periods they can serve during and after an emergency.
- vii. The specific FEMA Category Classification of each building and whether they are a state or federal designated critical or emergency facility.
- viii. A listing of all potential permits, permit issuing agency, and general timeframe for issuance.
- ix. Any previously installed EE or energy conservation measure (ECM) or currently implemented demand response (DR) measure.

6. A detailed description of the ownership/business model for the overall project including all procurement issues between the various local government and state government partners. This should include a detailed description of the statutory and regulatory provisions of proposed ownership models, EDC/GDC utility roles, as well as any billing systems for electricity and thermal energy.

7. A detailed description of the technology, business and operational protocol to be developed and/or utilized and the location within the TC DER Microgrid. This should include the following:

- i. A detailed description of the proposed connections (electric, gas and/or thermal) of the critical facilities and the DER technologies.
- ii. A one line diagram of the microgrid and location of the electrical connections to the EDC's facilities/equipment.
- iii. A detailed description of the type of distribution system the TC DER would be interconnecting into (radial or network) and the interconnection procedures and requirements.
- iv. A detailed description of how the TC DER will black start and operate and over what time period in island mode and in sync with the distribution system.

v. A detailed description of the NJBPU and EDC tariff requirements/issues including any smart grid or distribution automation upgrades proposed or under development by the EDC.

vi. A detailed description of the FERC and PJM tariff requirements/issues.

8. A detailed description of the overall cost including site prep, equipment and equipment installation, construction, operations and maintenance including a detailed construction schedule. This should include a detailed description of the overall energy costs for each critical facility and the overall project as well as any proposed ECM or DR measure to be constructed or operated within each critical facility and the overall project and its impact of the overall operation costs.

(Both 7 and 8 should be detailed through an available microgrid modeling efforts. Applicants must also demonstrate that their proposed project is consistent with the use of the Societal Benefit Charge as set forth in N.J.S.A. 48:3-60(a)(3)).

9. A detailed cash flow evaluation. This should also include a description of the potential revenue markets for any ancillary services, demand response including EE, capacity or energy markets and any available emission or energy certificate trading markets.

10. A detailed description of the potential financing of each location/critical facility and/or the overall project.

11. A detailed description of the benefits of the proposed Town Center DER Microgrid as well as the need for the proposed project. This should include an estimate of the value for reliability, resiliency, flexibility, sustainability including avoided environmental impacts such as air emissions, water usage, wastewater discharges, land use and waste generation, affordability and security.²

12. A general description of the communication system between the TC DER microgrid and the EDC's system. This should include a detailed description of distribution management systems and controls and all building controls.

13. The estimated timeframe for the completion of the construction and commencement of operations of the individual critical facilities and the overall project.

14. A description of the on-going work with the EDC and GDC.

The overall quality of the TC DER microgrid feasibility study report and the data provided will be one factor used by the Board to determine which projects proceed to a Phase 2 – Detailed Engineering Design and TC DER microgrid pilot.

² This valuation should follow the Grid Services and Technologies Valuation Framework developed by the USDOE in their Grid Modernization Initiative.

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MEMORANDUM OF UNDERSTANDING
BETWEEN AND AMONG
THE NEW JERSEY BOARD OF PUBLIC UTILITIES,
AND
CITY OF PATERSON

THIS MEMORANDUM OF UNDERSTANDING (“MOU”), is made this ____ day of _____, 2017, by and between The CITY OF PATERSON (“Recipient”) and The NEW JERSEY BOARD OF PUBLIC UTILITIES (“BPU” in general or “Board” when referring to Board of Commissioners) (collectively the “Parties”) setting forth the roles and responsibilities of the Parties in connection with the Town Center Distributed Energy Resource (TCDER) Microgrid Feasibility Study Incentive Program (“Program”).¹

WHEREAS, the BPU is charged with the authority to ensure that safe, adequate, and proper utility services are provided at reasonable, non-discriminatory rates to all members of the public who desire such services and to develop and regulate a competitive, economically cost effective energy policy that promotes responsible growth and clean renewable energy sources while maintaining a high quality of life in New Jersey; and

WHEREAS, as set forth in N.J.S.A. 48:2-13, BPU is responsible for regulatory oversight of all necessary services for transmission and distribution of electricity and natural gas including but not limited to safety, reliability, metering, meter reading and billing; and

WHEREAS, the BPU is chair of the Energy Master Plan Committee and is responsible for the preparation, adoption and revisions of the Energy Master Plan (EMP) regarding the production, distribution, and conservation of energy in this State; and

WHEREAS, the BPU 2015 Energy Master Plan Update (EMP Update) established a new overarching goal to “Improve Energy Infrastructure Resiliency & Emergency Preparedness and Response” in response to several extreme weather events that left many people and businesses without power for extended periods of time. One “Plan for Action” policy

¹ Acronyms related to this program are referred to herein are as follows: Town Center (TC); Distributed Energy Resource (DER);

30 recommendation included in the EMP Update is to “Increase the use of microgrid technologies
31 and applications for Distributed Energy Resources (DER) to improve the grid’s resiliency and
32 reliability in the event of a major storm.”; and

33 **WHEREAS**, specifically, this new policy recommends that:
34
35 “The State [of New Jersey] should continue its work with the [United States Department of
36 Energy], the utilities, local and state governments and other strategic partners to identify, design
37 and implement Town Center DER microgrids to power critical facilities and services across the
38 State.”; and

39 **WHEREAS**, The Board approved the FY17 Clean Energy Program Budget
40 which established as part of the Office of Clean Energy Distributed Resources Program, the
41 Town Center DER Microgrid Program and budget.; and

42 **WHEREAS**, The BPU staff has, under the direction and approval of the Board,
43 issued a full report and recommendations regarding the utilization of TCDER Microgrids and
44 subsequently issued an application for this Program; and

45 **WHEREAS**, the Recipients who are Parties to this MOU freely and voluntarily,
46 in full consideration of the costs and benefits incident hereto, submitted an application to
47 participate in the Program; and

48 **WHEREAS**, BPU Staff issued a draft application for public comment regarding
49 this Program on August 5, 2016, a public meeting to discuss the draft application on August 23,
50 2016, and written comments were received and considered and staff responses were published;
51 and

52 **WHEREAS**, the Board, by virtue of proper procedure, and execution of this
53 MOU, has determined that the Recipient’s application is approved and incentive funds will be
54 awarded to the Recipient, pursuant to the terms included herein;

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NOW THEREFORE, in consideration of the promises and mutual representations, warranties, and covenants herein contained, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

I. INCORPORATION

All of the above recitals, the entirety of the TCDER Micrigrd Feasibility Study Incentive Program Application (attached hereto as Appendix A), the entirety of the Recipient’s submitted application (Sumbittal letter which references recipient’s application is attached hereto as Appendix B), The Best and Final Offer request letter and recipient’s response thereto (attached hereto as Appendix C), and final Feasability Study Report Requirements (attache hereto as Appendic D) are hereby incorporated by reference into this MOU as if set forth at length herein.

II. SCOPE OF THE AGREEMENT

This MOU applies only to the Feasibility Study phase of the Program which encompasses the incentive award funding for the satisfactory completion and submission of the Recipient’s TCDER Microgrid Feasibility Study only. Conformance to the terms of this MOU and timely completion of the Feasibility Study does not guarantee Recipient’s future participation in this Program or any other related programs. Furthermore, the terms and conditions included herein represent the entire scope of this agreement and supersede all former representations whether written or verbally communicated.

III. DUTIES OF THE PARTIES

A. The Recipient will submit a complete and final TCDER Microgrid Feasibility Study (The Study) in accordance with the terms and conditions of this MOU and incorporated documents.

79 B. The Recipient shall have one (1) year from the date that this MOU is executed to
80 complete The Study, unless a timely request for extension is submitted by the recipient for good
81 cause and is granted by Board Staff.

82 C. Recipient shall include in the Feasibility Study a Conceptual Design that should
83 be of sufficient detail to demonstrate how the TCDER Microgid functional and technical
84 requirements will be executed, the proposed approach to solve technical problems, and how
85 project goals will be accomplished. The Recipient's Conceptual Design shall include at a
86 minimum: (1) Design Analysis including design narrative and design calculations for all
87 disciplines, an intended specifications list, environmental permitting memorandum that identifies
88 any and all required permits and the detailed outline of process required to obtain the identified
89 permits; (2) Schematic or one-line concept drawings; (3) Conceptual cost estimate; (4)
90 Preliminary construction schedule in bar chart format; and, (5) Project definitions and special
91 conditions.

92 D. Recipient shall report to Board Staff regarding the status and progress of The
93 Study upon request.

94 E. The Recipient is solely responsible for fully complying with the terms and
95 conditions of this MOU, the above-referenced incorporated documents, and any and all duly
96 executed subsequent agreements between the Parties.

97 F. Effective upon execution of this MOU, BPU agrees to firmly commit the sum of
98 \$173,000, to cover costs to be incurred by the Recipient to administer, complete, and deliver the
99 Feasibility Study.

100 G. All requisitions, pay applications, and invoices submitted for costs or expenses
101 associated with the Feasibility Study shall be subject to review and approval by Recipient
102 according to its standard procedures. Upon approval, Recipient shall promptly submit to BPU for

103 payment all such requisitions, pay applications and invoices. In reviewing, approving, submitting
104 and paying such requisitions, pay applications, Recipient and BPU shall be cognizant of and
105 shall comply with the requirements of the New Jersey Prompt Payment Act, N.J.S.A. 2A:30A-1
106 et seq.

107 H. Recipient shall submit all final invoices of expenditures and a final draft of the
108 Study within one year of the execution of this MOU or at the end of an approved extension
109 pursuant to Section III B of this MOU.

110 I. Upon receipt of the Study and final invoices of expenditures, BPU Staff shall
111 determine if the Study meets the requirements of the program and the MOU at Section III C. If
112 BPU Staff determines that the Study does not meet any requirement(s), BPU Staff shall provide
113 to Recipient a list of requested revisions which recipient shall forward to the consultant that
114 completed the Study. The consultant shall then be afforded a reasonable period of time to make
115 the requested revisions and will then resubmit the Study. Final payment shall be made upon
116 BPU Staff approval of the Study.

117 J. Incentive funds for this program may not be diverted to pay for any work
118 conducted prior to the date of execution of this MOU. Furthermore, Incentive funds must only
119 be used in furtherance of the completion of the Feasibility Study specifically.

120 K. Recipient shall procure the services necessary to complete the Feasibility Study in
121 compliance with N.J.S.A. 52:32-2, N.J.S.A. 52:34-9.1, et seq., and N.J.S.A. 52:35-1, et seq.,
122 and any and all applicable State and local procurement laws, rules, and procedures.

123 L. The BPU reserves the right to withhold or deny incentive funding for any invoice
124 items submitted by Recipient that BPU determines to be unlawful or otherwise inappropriate for
125 this Program.

127 **IV. DESIGNATED REPRESENTATIVES**

128 Written communication between the Parties for the purpose of this MOU as defined
129 above shall be delivered to the following representatives.

130 New Jersey Board of Public Utilities
131 Attn: Michael Winka Sr Policy Advisor
132 44 S. Clinton Ave, Trenton, NJ 08625
133 Michael.Winka @bpu.nj.gov
134

135 City of Paterson
136 Attn:
137 Addresss
138 XXXX.YYY@abc.gov
139

140 **V. MISCELLANEOUS**

141 A. No Personal Liability. No official or employee of BPU shall be charged
142 personally by Recipient, its employees, agents, contractors, or subcontractors with any liability
143 or held liable to Recipient, its employees, agents, contractors, or subcontractors under any term
144 or provision of this MOU or because of its execution or attempted execution or because of any
145 breach or attempted or alleged breach of this MOU.

146 No official or employee of Recipient shall be charged personally by BPU, its employees,
147 agents, contractors, or subcontractors with any liability or held liable to BPU, its employees,
148 agents, contractors, or subcontractors under any term or provision of this MOU or because of its
149 execution or attempted execution or because of any breach or attempted or alleged breach of this
150 MOU.

151 C. Captions. The captions appearing in this MOU are inserted and included solely
152 for convenience and shall not be considered or given effect in construing this MOU, or its
153 provisions, in connection with the duties, obligations, or liabilities of the Parties or in
154 ascertaining intent, if a question of intent arises. The preambles are incorporated into this
155 paragraph as though set forth in verbatim.

156 D. Entirety of Agreement. This MOU and its attachments represent the entire and
157 integrated agreement between the Parties and supersedes any and all prior agreements or
158 understandings (whether or not in writing). No modification or termination hereof shall be
159 effective, unless in writing and approved as required by law.

160 E. Amendments. This MOU may be amended by the written request of any Party
161 and with the consent of the other Party. Any proposed amendment of this MOU shall be
162 submitted by one Party to the other Party at least five (5) business days prior to formal discussion
163 or negotiation of the issue. Any agreed amendment of this MOU shall be set forth in writing and
164 signed by an authorized representative of each Party in order to become effective.

165 F. No Third-Party Beneficiaries. This MOU does not create in any individual or
166 entity the status of third-party beneficiary, and this MOU shall not be construed to create such
167 status. The rights, duties, and obligations contained in this MOU shall operate only between the
168 Parties and shall inure solely to the benefit of the Parties. The provisions of this MOU are
169 intended only to assist the Parties in determining and performing their obligations under this
170 MOU. The Parties intend and expressly agree that only the Parties shall have any legal or
171 equitable right to enforce this MOU, to seek any remedy arising out of a Party's performance or
172 failure to perform any term or condition of this MOU, or to bring any action for breach of this
173 MOU.

174 G. No Assignment. This MOU shall not be assignable, but shall bind and inure to
175 the benefit of the Parties hereto and their respective successors.

176 H. Governing Law. This MOU and the rights and obligations of the Parties shall be
177 interpreted, construed, and enforced in accordance with the laws of the State of New Jersey.

178 I. Authority. By execution of this MOU, the Parties represent that they are duly
179 authorized and empowered to enter into this MOU and to perform all duties and responsibilities
180 established in this MOU.

181 J. Term. This MOU shall be effective as of the date hereinabove written and, unless
182 terminated sooner as set forth below, shall remain in effect until the completion of the Feasibility
183 Study and payment of funds as set forth in Section III.

184 K. Termination. Board Staff and the Recipient may terminate this contract in whole,
185 or in part, when both parties agree that the continuation of the project would not produce
186 beneficial results commensurate with the expenditure of funds. The two parties shall agree upon
187 the termination conditions including the date on which the termination shall take effect, and, in
188 case of partial terminations, the portion to be terminated.

189 K. Counterparts. This MOU may be executed in duplicate parts, each of which shall
190 be an original, but all of which shall together constitute one (1) and the same instrument.

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[SIGNATURE PAGE FOLLOWS]

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IN WITNESS WHEREOF, the parties have signed this Memorandum of Understanding the date first written above.

Witness: City of Paterson

By: _____
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Dated: _____

Witness: New Jersey Board of Public Utilities

By: _____
Richard S. Mroz, President

Dated: _____

APPROVED AS TO FORM:
Andrew Kuntz
Attorney General, State of New Jersey

By: _____