



**STATE OF NEW JERSEY**  
**Board of Public Utilities**  
**Two Gateway Center**  
**Newark, NJ 07102**  
**www.nj.gov/bpu/**

ENERGY

IN THE MATTER OF THE NEW JERSEY  
DIRECT LOAD CONTROL PROGRAM )  
PROPOSAL – JERSEY CENTRAL POWER & )  
LIGHT )  
)  
)  
)  
)

ORDER

ADOPTION OF STIPULATION  
OF SETTLEMENT FOR THE  
CONTINUATION OF THE DLC  
PROGRAM & IMPLEMENTATION  
OF A DER PILOT PROGRAM

DOCKET NO. ER07060375

(SERVICE LIST ATTACHED)

BY THE BOARD

On February 1, 2008, Jersey Central Power and Light Company (“JCP&L” or “the Company”) filed a proposal for its *New Jersey Direct Load Control Program – JCP&L “Phase 1” Budget for EY2008*. The February 1, 2008 filing described the Company’s proposal for implementation of an upgraded Direct Load Control (“DLC”) Program, which the company proposed to characterize as an “Air Conditioner Cycling Program (“AC Cycling Program”). The February 1 filing included a projected budget for the AC Cycling Program for the period of June 2008 through May 2009 (“energy year 2008” or “EY2008”).

**BACKGROUND**

On June 7, 2007, three of New Jersey’s electric utilities, Atlantic City Electric Company (“ACE”), Public Service Electric and Gas Company (“PSE&G”), and JCP&L filed a proposed plan to implement a DLC program within each of their respective service territories, based on the recommendations in a report, *The New Jersey Air Conditioner Cycling Program Assessment – Final Report*, June 4, 2007, prepared by Summit Blue Consulting. (Docket No. ER07060375). In the June 7 filing, each utility committed to file individual DLC Program budgets with the Board. JCP&L’s February 1 filing was made in furtherance of the June 7 filing by the utilities, but certain provisions in the February 1 filing differed from the June 7 joint utility filing.

The Company responded to data requests submitted by Staff and the Division of Rate Counsel (“Rate Counsel”), and the Company, Rate Counsel and Board Staff (collectively, “the Parties”) held a number of discovery and settlement conferences to discuss the filing. The discussions included the possibility of a new “smart” grid pilot project, in conjunction with the continuation of

the existing DLC program, to further enhance the potential of such programs to deliver a greater amount of demand response during peak demand periods and to ensure greater reliability of the utility's delivery system.

On July 3, 2008, the Company, Rate Counsel and Board Staff entered into a Stipulation on all factual and legal issues pertaining to the continuation of the Company's existing Air Conditioning Cycling Program ("Direct Load Control Program" or "DLC") during summer 2008, including several changes from the Company's previous filings related to the existing DLC Program (Docket No. ER07060375). Furthermore, the Stipulation included terms for the implementation of *The Integrated Distributed Energy Resource Management Pilot Program* ("DER" or "pilot program") to test a version of a "smart" distribution system to demonstrate the viability of using targeted peak load management to improve system reliability. The Parties agreed that the Company should maintain the viability of the existing DLC Program for summer 2008, by inspecting a portion of existing DLC installations within its territory, and by replacing or repairing such equipment, as necessary. Furthermore, the Company will begin to test more advanced technology to better integrate the utility's direct load control operations with its electricity delivery system, so as to maximize the value of customer demand response.

## THE STIPULATION<sup>1</sup>

The Stipulation contains two sections: 1) Terms for the continuation of the existing DLC program; and 2) Provisions for the implementation of a Distributed Energy Resource Management Pilot ("DER pilot program")

### Terms for the Continuation of the Existing DLC Program

1. JCP&L will not implement the DLC program as described in its February 1, 2008 Phase 1 filing, but will continue to maintain the existing air conditioner cycling program under the following terms, which are set out in Attachment A to the Stipulation:

From June 2008 through May 2009 ("EY2008"), JCP&L will continue to maintain the existing DLC Program, with provision for the inspection, repair and replacement of a number of existing equipment.

JCP&L will perform inspections of approximately 500-600 existing equipment installations, as is prudently practicable within the accepted budget for the Existing AC Cycling Program.

JCP&L will repair or replace approximately 270 existing inoperable or defective thermostats and control switches.

- JCP&L will solicit competitive proposals through an RFP process for the purchase of the replacement equipment and the continuation of program support services. The Company reserves the right not to award contracts for equipment that exceed cost estimates.

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<sup>1</sup> This is only a summary of the key provisions. The Stipulation of Settlement is the controlling document, subject to the findings and conclusions set forth in this Order.

- Where load controls are missing, JCP&L will remove customers from current program participation, and place any willing customers on a “wait list” for enrollment in a successor program.
- JCP&L will prepare letters and newsletters for existing participants that will encourage continued enrollment and explain the inspection and repair process.
- JCP&L will continue to initiate up to 20 central air conditioner cycling events during summer 2008, for both reliability support and economic reasons using the following criteria:
  - PJM system emergencies;
  - Local distribution emergencies;
  - A combined high temperature and humidity index, along with high locational marginal prices (“LMP”) of \$250 per MWh forecasted in the day-ahead PJM market.

JCP&L will continue to pay participants during EY2008 the existing monetary incentive of \$4.00 per month for the 4 summer months, plus an additional \$1.00 per switch for each cycling event.

2. PJM has already accepted JCP&L’s registration of the existing air conditioning cycling program in the Interruptible Load for Reliability (“ILR”) program for capacity and energy credits, under the Full Emergency Load Response program option. All PJM energy payments from this program will be credited to reduce the DLC Program costs.
3. JCP&L will continue to register the DLC Program in the PJM ILR Program, or any PJM successor program, if the Board orders that the existing program continue after May 2009.
4. JCP&L is seeking authority from PJM to register as a curtailment service provider (“CSP”) and to register the DLC Program to participate in PJM’s Economic Load Response Program and to register the DLC Program to receive PJM payments from the energy market for “real-time” market cycling events, when electricity costs are high. Any energy revenues from PJM for such real-time events will be credited to the existing DLC Program to reduce Program costs.
5. JCP&L will propose, in a Company Specific Addendum in the 2008 Basic Generation Service (“BGS”) proceeding, that revenues from the PJM capacity payments related to participation in the PJM ILR program, or any successor program, will be credited to reduce DLC Program costs, beginning in EY2009 and thereafter.
6. JCP&L will cease replacing inoperable or defective equipment by May 31, 2009, unless there is further Board authorization to continue inspections and replace additional equipment.

7. The estimated EY2008 budget for the existing DLC Program is \$1.1 million, including the costs to cycle, customer incentives, replacement equipment, field inspections and equipment repairs.
8. JCP&L will continue to recover costs, deemed prudently incurred, under the current Rider System Control Charge ("SCC"). The Rider SCC provides for deferred accounting with interest on over- and under-recoveries. The next Rider SCC filing will be made contemporaneously with JCP&L's next Rider Societal Benefit Charge ("SBC").

### **Terms for the provision of a Distributed Energy Resource Management Pilot**

The DER pilot program will test an integrated systems approach to load management. The terms of the DER pilot program are set forth in Attachment B to the Stipulation, and include the following:

- 1) The pilot program will deliver reliability and market-based benefits through direct load control of residential and commercial customers' air conditioning systems and other non-critical customer electrical load.
- 2) The customer load devices will be integrated with certain "smart" grid utility operations to optimize system reliability.
- 3) The pilot program will demonstrate the value and viability of targeted peak load management as a source of improved system reliability for JCP&L distribution circuits, and will help demonstrate an alternative means of cost-effectively addressing demand response during critical peak periods.
- 4) The pilot program will consist of the following parameters:
  - The DER pilot program will deliver approximately 8 MW of demand response:
    - 5 MW from approximately 3,500 residential customers; and
    - 3 MW from 30-90 commercial/industrial customers.
  - All participants will be served by one or more substations in high growth areas with delivery congestion (not yet selected).
  - Customer participation will be voluntary.
  - Deployment will begin during summer 2008, with full customer enrollment by summer 2009.
  - The pilot will be operated for a minimum of two full peak load seasons for meaningful assessment, through summer 2010.
  - Customer control equipment will include temperature sensors, thermostat control switches, and two-way data communications architecture to verify operations.

- The DER system will allow JCP&L to monitor a distribution circuit to identify and manage efficiency and reliability requirements; monitor the wholesale market for high energy prices and/or capacity signals; and operate the load controls to optimize system operations.
- The pilot program is intended to test the ability of the BPL Global, Ltd. ("BPLG") integrated systems technology to deliver the estimated 8MW of centrally managed direct load control.
- Groups of participants served by the substation may be controlled differently to optimize system reliability, based upon local distribution loading conditions.
- Direct load control cycling operation in the DER pilot program will follow the criteria of the existing DLC Program, as described above, and in addition, JCP&L may also initiate cycling events at other times to gain greater understanding of the capabilities of the DER technology.
- Cycling events may continue for a period of up to six hours, unless a system emergency requires longer duration.
- The amount of direct load control resulting from the pilot will be counted as part of JCP&L's obligation to provide new demand response in 2009 and thereafter, as directed by the Board at its June 13, 2008 Agenda Meeting (*In the Matter of Demand Response Programs for the Period Beginning June 1, 2009—Electric Distribution Company Programs*, Docket No.EO08050326).

The total estimated budget of the DER pilot program is approximately \$3.48 million dollars.

JCP&L will recover actual reasonable and prudent costs associated with the pilot program through the current Rider SCC. The \$500,000 difference between the currently allowed SCC revenues of \$1.6 million annually and the \$1.1 million costs of the existing DLC Program will be applied to the prudently incurred DER pilot program costs. The remainder of the actual reasonable and prudent costs associated with the pilot program will be amortized over the number of years required to fully recover the actual costs, currently estimated to be six years.

- JCP&L will attempt to register the pilot program with PJM to receive any applicable PJM credits/and or payments for the resulting demand response. If approved by PJM, any credits and/or revenues from participation in PJM programs or market opportunities will be used to reduce pilot program costs.

JCP&L will periodically report on the status of the pilot program, including registration efforts in the PJM programs, the technology tests, the amount of demand response created, and other relevant findings. Formal reports will include an Assessment Report to be filed in Fall 2009 and a Final Assessment Report to be filed by the end of 2010.

## DISCUSSION

Both the existing DLC Program and the proposed DER pilot program provide customer demand response when electricity prices are high and/or under emergency system conditions. These programs have the potential for lowering LMPs at peak times when electricity prices are very high; improving system reliability, by reducing the potential for blackouts; beneficially changing the load demand curve; positively impacting the BGS Auction, if bidders are certain that customer demand response will occur when electricity prices are high; and mitigating environmental impacts from energy consumption, especially on the state's air quality, by reducing the need for increased generation during peak times. Ultimately, such peak reduction programs can also reduce the need to build additional generation and transmission infrastructure, thus avoiding significant new costs, both monetary and environmental, on the State's ratepayers.

The existing DLC program and the DER pilot program will centrally control participating customers' central air conditioners under similar cycling criteria. However, the DER pilot program will test alternative technology to the existing equipment relied upon in JCP&L's DLC program. The DER pilot program will use newer, more advanced technology that will allow the utility to more fully integrate central air conditioner cycling with its distribution system to ensure improved reliability. The DER pilot program is the first step in developing a "smart" grid, with improved technology that could eventually supplant existing DLC program equipment, if proven effective and cost-efficient.

The DLC program and the DER pilot program will be funded by the Rider SCC, which is part of the BGS procurement process. The continuation of the DLC program and the implementation of the DER pilot program will not cause an increase in the SCC. The Stipulation allows for the utility's recovery of actual reasonable and prudent costs associated with the DER pilot program by using the difference between currently allowed SCC revenues and the existing DLC program costs. Under this method, the DER pilot program costs will be amortized over the number of years required to fully recover the actual reasonable and prudent costs associated with the pilot program.

Both the existing DLC program and the proposed DER pilot program are encouraged by the recently released Draft New Jersey Energy Master Plan ("EMP") and are in keeping with the mandates of that document to create greater amounts of customer demand response to reduce "peak" generation. These programs also follow the directives to this agency by Governor Jon Corzine to reduce the state's energy consumption; lower electricity usage during periods of great demand; reduce the impacts of energy generation and transmission; improve delivery reliability; and lower electricity costs, to the greatest extent possible, for the State's ratepayers.

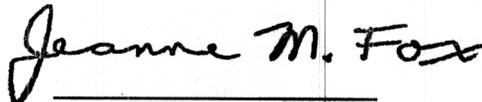
The Board has reviewed the attached Stipulation of the Parties in its entirety and HEREBY FINDS it to be reasonable and in the public interest. Accordingly, the Board HEREBY ADOPTS the Stipulation in its entirety. The Board ORDERS JCP&L to proceed with the implementation of the Stipulation terms in a timely manner to continue the existing DLC Program during EY2008 and to initiate the DER pilot program, so as to be operational no later than June 2009.

The DLC Program and the DER pilot program will be funded by the Rider SCC. The provisions of the Stipulation will have no impact on rates.

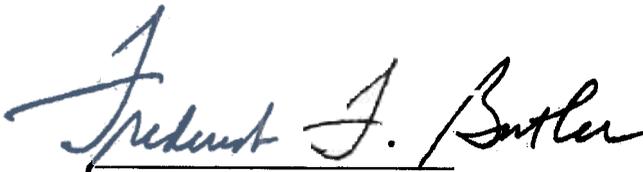
Furthermore, the Board DIRECTS JCP&L to continue to work with Board Staff, Rate Counsel and PJM, as appropriate, so as to realize the most value from the programs and to ensure their successful implementation. In addition to the required reports identified in the Stipulation, the Board DIRECTS the Company to file a progress report by no later than November 1, 2008.

DATED: **7/25/08**

BOARD OF PUBLIC UTILITIES  
BY:



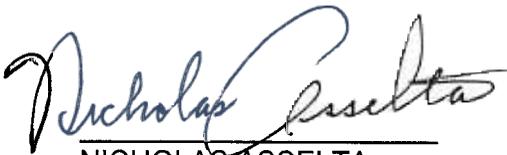
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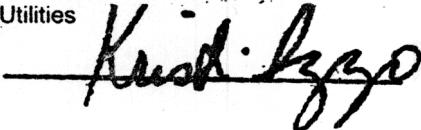
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COMMISSIONER

ATTEST:



KRISTI IZZO  
SECRETARY

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



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Docket No. ER07060375

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New Jersey Direct Load Control Program Proposal  
Docket No. ER07060375

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**STATE OF NEW JERSEY  
BOARD OF PUBLIC UTILITIES**

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**IN THE MATTER OF THE NEW  
JERSEY DIRECT LOAD CONTROL  
PROGRAM PROPOSAL - JERSEY  
CENTRAL POWER & LIGHT  
COMPANY**

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**: BPU DOCKET NO. ER07060375**

**STIPULATION  
OF  
SETTLEMENT**

**TO THE HONORABLE BOARD OF PUBLIC UTILITIES:**

This Stipulation of Settlement (“Stipulation”) is hereby made and executed as of the 1<sup>st</sup> day of July, 2008, by and among Jersey Central Power & Light Company (“JCP&L” or the “Company”), the Staff of the Board of Public Utilities (“Staff”) and the New Jersey Department of the Public Advocate, Division of Rate Counsel (“Rate Counsel”) (collectively, the “Parties”), in settlement of all factual and legal issues pertaining to the above-captioned proceeding insofar as it relates to JCP&L.

The Parties do hereby join in recommending that the Board of Public Utilities (“Board”) issue an Order approving this Stipulation, based upon the following stipulations

**Background**

On June 7, 2007, three of New Jersey’s electric distribution companies (“EDCs”), Atlantic City Electric Company (“ACE”), JCP&L and Public Service Electric and Gas Company, submitted to the Board a proposed plan to implement a Direct Load Control (“DLC”) Program within each of their service territories based on the recommendations included in the New Jersey Air Conditioner Cycling Program Assessment – Final Report prepared by Summit Blue

Consulting, LLC (“Summit Blue Final Report”). In the June 7, 2007 submission, each of the EDCs further committed to file individual EDC DLC Program budgets with the Board.

On February 1, 2008, the Company submitted its “New Jersey Direct Load Control (“DLC”) Program – Jersey Central Power & Light Company ‘Phase 1’ Budget Filing for EY2008” (“JCP&L Phase 1 Filing”). The JCP&L Phase 1 Filing described the Company’s proposal for implementation of an upgraded DLC Program, which JCP&L proposed to re-characterize as an “Air Conditioner Cycling Program” (“AC Cycling Program”). The JCP&L Phase 1 Filing also set forth a projected budget for the AC Cycling Program for the annual period of June 2008 through May 2009 (“EY2008”), which was based on certain assumptions used in the Summit Blue Final Report, as well as on actual, historical costs of the Company’s legacy DLC Program and certain other JCP&L assumptions/projections.

In addition to generic data requests relating to the EDCs’ June 7, 2007 submission, JCP&L has responded to numerous data requests propounded by Rate Counsel relating specifically to the JCP&L Phase 1 Filing and has provided additional information and data to Staff and Rate Counsel in connection therewith. A number of discovery/settlement conference calls were also conducted with Staff and Rate Counsel, which included, among other things, discussion of ideas for a possible new technology pilot program.

#### Stipulation

The undersigned Parties to this Stipulation agree that the data responses and other information provided by the Company during the process described above, both before and after the filing of the JCP&L Phase 1 Filing, provide ample support for this Stipulation. Therefore, the undersigned Parties DO HEREBY STIPULATE AND AGREE as to the following findings,

conclusions and determinations for purposes of a full, final and complete resolution of the issues raised in this proceeding insofar as it relates to JCP&L:

**I. Continuation of Existing DLC Program**

1 JCP&L shall **not** implement the DLC Program set forth in the JCP&L Phase Filing.

2 For EY2008, JCP&L will continue to maintain the existing DLC program as described in Attachment A hereto (hereinafter called the "Existing AC Cycling Program").

3. JCP&L will cease replacing inoperable or defective equipment under the Existing AC Cycling Program described in Attachment A by May 31, 2009 unless there is further Board authorization to continue inspections and equipment replacement in order to maintain the Existing AC Cycling Program beyond that date. JCP&L will, however, continue to make the incentive payments provided for in section "g" of Attachment A to participating customers beyond May 31, 2009 and will be entitled to recover the associated costs as provided for in this Stipulation.

4. JCP&L is currently seeking to renew authority from PJM by June 2008 to participate in PJM's Economic Load Response program as a curtailment service provider ("CSP") and to re-register the Existing AC Cycling Program thereunder for "real-time" events so as to receive energy/economic payments from PJM in connection with Existing AC Cycling Program events. In addition, PJM has already accepted JCP&L's registration of the Existing AC Cycling Program for PJM Interruptible Load for Reliability capacity and energy credits under PJM's Full Emergency Load Response program ("Emergency Program") option, which requires mandatory participation when a PJM emergency event is called. JCP&L will credit any energy/economic payments it receives from PJM associated with the Existing AC Cycling

Program, as a result of its participation as a CSP in PJM's Economic Load Response program or its participation in PJM's Emergency Program, to its Rider SCC in order to reduce Existing AC Cycling Program costs. Any capacity payments resulting from participation of the Existing AC Cycling Program in PJM's Emergency Program will be treated in accordance with paragraph 5 below

5. JCP&L reiterates its agreement, as set forth in the JCP&L Phase 1 Filing, to propose, in its Company Specific Addendum filed in connection with the 2008 Basic Generation Service ("BGS") proceeding (addressing the anticipated 2009 BGS auction), that revenues from PJM capacity payments associated with the Existing AC Cycling Program be credited to reduce Existing AC Cycling Program costs beginning in EY2009 (i.e., June 2009 through May 2010) (the "EY2009 Proposal") for the load included in the 2009 BGS auction. JCP&L's EY2009 Proposal will appropriately take into account currently applicable Board Orders and existing BGS Supplier Master Agreements, pursuant to which such revenues are currently being provided to winning BGS FP suppliers. The Parties acknowledge that implementation of JCP&L's EY2009 Proposal will require approval of the Board during the course of the 2008 and subsequent BGS proceedings.

6. As stated in Attachment A hereto, in order to continue to maintain the Existing AC Cycling Program, JCP&L will (i) issue a Request for Proposal ("RFP") for the provision of replacement equipment and (ii) extend or continue the existing field support service contract supporting the Existing AC Cycling Program, consistent with the terms of this Stipulation, promptly upon receipt of Board approval of this Stipulation.

7. JCP&L's estimated EY2008 budget for the Existing AC Cycling Program is \$1.1 million dollars to cover the program costs, including, among other things, the costs of cycling

events, customer incentives, replacement equipment, field inspections and equipment repairs. The Parties agree that the reasonable and prudent costs actually incurred in connection with the repair or replacement of equipment found to be inoperable during EY2008, as part of the Existing AC Cycling Program, shall be recovered through JCP&L's Rider SCC.

8. For the avoidance of doubt, during EY2008 (i.e., covering the summer of 2008), JCP&L shall **not** adopt the revision it had proposed in the JCP&L Phase Filing to change the operating criterion trigger #3 set forth in Item (e)(3) of Attachment A hereto. As proposed, the revised third trigger would have provided for the initiation of a cycling event when temperatures are high (dry bulb temperature in excess of 90 degrees Fahrenheit) and the JCP&L system load exceeds 5,700 MW as part of the Existing AC Cycling Program.

9. The Parties agree that JCP&L is entitled to current recovery through its Rider SCC of the costs associated with the Existing AC Cycling Program implemented pursuant to paragraph 7 above. Rider SCC provides for deferred accounting with interest on over- and under-recoveries. JCP&L shall be entitled to recover only its actual prudently-incurred costs, as determined through periodic reviews of annual costs in appropriate proceedings in which Staff and Rate Counsel shall be entitled to participate. The next Rider SCC filing will be made contemporaneously with JCP&L's next Rider SBC filing.

## **II. The Integrated Distributed Energy Resource Management Pilot Program**

10. In addition to continuing to maintain the Existing AC Cycling Program during EY2008, as and to the extent set forth in Section I above and Attachment A hereto, JCP&L shall also implement an Integrated Distributed Energy Resource Management Pilot Program (the "Pilot Program") as described in Attachment B hereto

The Pilot Program is a collaboration between JCP&L and BPL Global, Ltd. (“BPLG”) in the use of BPLG’s distributed energy resource integration management software and technology, as a demonstration of the viability and efficacy of a smart grid distributed energy resource management system. The Parties agree that the Pilot Program, through a variety of implementation options, will be useful to develop additional and valuable experience and understanding in integrating customers’ electric load with utility operations by utilizing distributed energy resource load management devices, such as the control devices for central air conditioning systems described in Attachment B, for customers served by a particular substation in a selected high growth area. The Pilot Program will be carried out in all material respects in accordance with the terms of the Integrated Distributed Energy Resource (DER) Management Pilot Program Agreement between JCP&L and BPLG, dated June 12, 2008 (“Pilot Program Agreement”). JCP&L will notify Staff and Rate Counsel of any material deviations from the Pilot Program Agreement during the course of implementation of the Pilot Program.

12. The Parties agree that the Pilot Program will allow for the demonstration of the value and viability of targeted peak load management as a source of improved system reliability for JCP&L distribution circuits, as set forth under “Cycling Operations” in Attachment B, and, therefore, will help demonstrate, among other things, alternative means of cost-effectively addressing demand response during critical peak periods.

13. The Pilot Program is intended to test the ability of the BPLG integrated systems technology to deliver approximately 8MW of centrally managed direct load control from approximately 3,500 residential customers and up to 90 commercial and industrial customers, with costs currently estimated to be approximately \$3.48 million dollars. The Parties agree that the amount of direct load control resulting from the Pilot Program shall be counted towards

JCP&L's obligation to provide new demand response in 2009 and thereafter pursuant to the Board's directive at its June 13, 2008 Agenda Meeting.

14. The Parties agree that JCP&L will recover actual reasonable and prudent costs associated with the Pilot Program through the current Rider SCC using the difference between currently allowed SCC revenues of \$1.6 million annually and the Existing AC Cycling Program costs of \$1.1 million, with Pilot Program costs to be amortized over the number of years required to fully recover the actual reasonable and prudent costs associated with the Pilot Program, currently anticipated to be six years.

15. The Pilot Program represents an integrated systems approach to load management, which JCP&L has not yet registered or qualified for PJM energy/economic payments and capacity credits or payments. JCP&L expects that this integrated systems approach will qualify for applicable PJM credits and/or payments, but cannot assure that it will. JCP&L will attempt to register and qualify the Pilot Program with PJM. If JCP&L is successful in registering and qualifying the Pilot Program for PJM energy or capacity credits or payments, JCP&L shall apply any credits and/or payments that it receives from PJM, associated with this new Pilot Program, to reduce Pilot Program costs. JCP&L will report on the status of the Pilot Program, including the status of its registration and qualification efforts with PJM, during April 2009.

#### Conclusion

16. The Parties agree that this Stipulation contains mutual balancing and interdependent clauses and is intended to be accepted and approved in its entirety. In the event any particular provision of this Stipulation is not accepted and approved in its entirety by the Board, or is modified by a court of competent jurisdiction, then any Party aggrieved thereby shall

not be bound to proceed with this Stipulation and shall have the right, upon written notice, to be provided to all other Parties within ten (10) days after receipt of any such adverse decision, to litigate all issues addressed herein to a conclusion. More particularly, in the event this Stipulation is not adopted in its entirety by the Board in an appropriate Order, or is modified by a court of competent jurisdiction, then any Party hereto is free, upon the timely provision of such written notice, to pursue its then available legal remedies with respect to all issues addressed in this Stipulation, as though this Stipulation had not been signed.

17. The Parties agree that this Stipulation shall be binding on them for all purposes herein.

18. It is specifically understood and agreed that this Stipulation represents a negotiated agreement and, except as otherwise expressly provided for herein:

- a. By executing this Stipulation, no Party waives any rights it possesses under any prior Stipulation, except where the terms of this Stipulation supersede such prior Stipulation.
- b. The contents of this Stipulation shall not in any way be considered, cited or used by any of the undersigned Parties as an indication of any Party's position on any related or other issue litigated in any other proceeding or forum, except to enforce the terms of this Stipulation.

19. This Stipulation may be executed in any number of counterparts, each of which shall be considered one and the same agreement, and shall become effective when one or more counterparts have been signed by each of the Parties.

WHEREFORE, the Parties hereto have duly executed and do respectfully submit this Stipulation to the Board and recommend that the Board issue a Final Decision and Order adopting and approving this Stipulation in its entirety in accordance with the terms hereof.

**Jersey Central Power & Light Company**

By: Marc B. Lasky  
Marc B. Lasky  
Thelen Reid Brown Raysman &  
Steiner LLP

Dated: July 1, 2008

Ronald K. Chen  
Public Advocate of New Jersey

Stefanie A. Brand  
Director, Rate Counsel

By: Diane Schube  
Dated: 7/3/08

Anne Milgram,  
Attorney General of New Jersey  
Attorney For  
Staff of The Board of Public Utilities

By: Geoffrey Gersten  
Geoffrey Gersten  
Deputy Attorney General

Dated: 7/5/08

Attachment A

**JCP&L Existing Air Conditioner Cycling Program Description for EY2008**

- a) JCP&L will continue to maintain the existing Air Conditioner Cycling Program (the "Existing AC Cycling Program") for the annual period of June 2008 through May 2009 ("EY2008").
- b) **Inspection, repair and replacement plan for controls :**
  - i) **Inspections:** JCP&L will perform inspections of approximately 500-600 existing installations, as is prudently practicable within the accepted budget for the Existing AC Cycling Program. JCP&L will not add new participants to the program.
  - ii) **Repairs:** Any currently installed communicating thermostat that is defective or inoperable will be modified or replaced with a new communicating thermostat, regardless of the age of the air conditioner. For outdoor switches found to be inoperable, replacement components will be installed. JCP&L will replace only "functional" elements of the equipment, (i.e., elements that are necessary for the equipment to perform its essential demand response functions). In carrying out these activities, JCP&L anticipates that it will repair an aggregate of approximately 270 thermostats and switches during EY2008.
  - iii) **Missing Controls:** With respect to participating customer locations where the controls are missing, as opposed to inoperable or defective, JCP&L will remove the customer from current program participation. If the customer wishes to continue participation, the customer will be placed on a "wait list" for possible enrollment and participation in an approved future program that accepts new participants.
- c) **Procurements for Replacement Controls and Continuation of Support Services**

**Contract:** JCP&L will solicit proposals for equipment consistent with paragraph 6 of the Stipulation. The procurement will include provisions for early termination. JCP&L reserves the right to not award contracts for equipment that exceed cost estimates. The existing field support services contract will be continued in order to provide the appropriate level of service for Existing AC Cycling Program participants and also provide for the requisite number of inspections.

  - i) **Steps supporting competitive proposals:** Although the procurement contemplated in connection with the Existing AC Cycling Program for EY2008 is narrowly focused on replacement equipment, in general, JCP&L supports steps to ensure that the process for soliciting and selecting vendors and applicable equipment and/or technology is competitive. As stated in the Summit Blue Final Report, whether there are multiple suppliers in the market will depend upon the evolution of technology and technical specifications. In addition, the ability to integrate the existing operating system platform with that of a competitive vendor must be assessed.
  - ii) **Cost estimates supporting the program:** Cost estimates for the continued maintenance of the Existing AC Cycling Program ultimately will be replaced by actual costs resulting from the competitive solicitation process for replacement parts and replacement control devices and actual costs incurred under the current field

support services contract. The ratemaking for the Existing AC Cycling Program will continue to true-up such cost estimates to actual costs in accordance with existing clause recovery and deferred accounting conventions.

d) **Communications to Participants Supporting Continued Program Participation:** Communications strategies supporting continued participation by customers already enrolled in the Existing AC Cycling Program may include a newsletter or letters to participants to schedule inspections as appropriate. JCP&L will work with Staff and Rate Counsel, as appropriate, to develop message themes. JCP&L will provide opportunity for Staff and Rate Counsel review and comment before a newsletter is sent to customers. In addition, field visits to the program participants' homes will be preceded by a letter that will be similarly developed with the input of Staff and Rate Counsel. The letter will outline the inspection and replacement process, and encourage continued participation.

e) **Cycling Operations:** For EY2008, under the Existing AC Cycling Program, JCP&L will continue to initiate up to 20 cycling events for reliability support and economic energy management using the following criteria:

1) PJM's declaration of a system emergency; or

2) Local distribution emergencies; or

3) A combination of a high WTHI of at least 80 (or, for simplicity, a dry bulb temperature in excess of 90 degrees Fahrenheit), with high LMPs of at least \$250/MWh forecasted in the day-ahead PJM market (average value over the period between 2PM and 4PM) in the EDC zone.

Cycling duration is expected, generally, to be up to six hours, but longer durations may be required under certain limited circumstances in the event of system emergencies and the like.

f) **Interactions with PJM:**

i) **PJM Operability Studies:** JCP&L will utilize records from inspections performed under the Existing AC Cycling Program to document system operability and, if the Existing AC Cycling Program continues after May 2009, JCP&L will incorporate revised operability data in registering the program for capacity credits in 2009/10.

ii) **PJM Load Study:** The current estimated load response impact per control is based upon values published in the "Deemed Savings Estimates for Legacy Air Conditioning and Water Heating Direct Load Control Programs in PJM Region" ("Deemed Savings Report," see PJM Manual 19, PJM's Manual 19 <http://www.pjm.com/contributions/pjm-manuals/pdf/m19.pdf>).

(1) The current load response impact per control accepted by PJM is based on an average of the impact for high use customers (>1600 kWh per summer month) and moderate use customers (<1600 kWh per summer month). High use customers have an estimated impact of 1.03 KW per control and the moderate use customers have an estimated impact of 0.48 KW per control, yielding the blended rate of 0.72 KW per control. These impacts are based on load control with no adjustment for line loss or operability. JCP&L will investigate whether

segmenting participants by energy usage would enhance the average 0.72 KW per control impact.

- iii) **Program Registration for 2009/10:** Regulatory directives regarding the status and continuation of the Existing AC Cycling Program received prior to March 2, 2009, the PJM ILR deadline for 2009/10, will determine whether JCP&L will re-register the Existing AC Cycling Program for capacity credit with PJM.
- g) **Program Incentives:** For the EY2008, Existing AC Cycling Program switch participants will continue to receive fixed incentives of \$4 per switch each month for 4 summer months plus \$1 per switch for each event day.
- h) **Explanation of Rate Treatment:**
  - i) For EY2008, the current Rider SCC cost recovery mechanism, under which costs are recovered on a current basis, will continue to be used for the Existing AC Cycling Program cost recovery.
  - ii) Costs to be expensed could include load control thermostats and switches and associated repair components, including installation costs (labor, materials, any required permits, etc.), communications/operating systems, administrative and operating costs, participation incentives, marketing, evaluation and on-going customer care costs (e.g., call center, communications, service calls, operability studies, etc.).
  - iii) Existing AC Cycling Program incentives associated with any of the 13,150 "Pre-DSM" switches, which are not removed or replaced following inspection, will continue to be excluded from the program costs charged through Rider SCC. All other costs associated with the inspection, repair or replacement of controls, including for "Pre-DSM" customers, will be recovered as program expenses through Rider SCC.

### **JCP&L Integrated Distributed Energy Resource Management Pilot Description**

JCP&L will implement an Integrated Distributed Energy Resource (“DER”) Management Pilot (the “Integrated DER Pilot”) that delivers operational and market based benefits through direct load control of residential and commercial customers’ space conditioning systems and other non-critical customer electrical loads. The Integrated DER Pilot will develop experience and understanding integrating customers and their electric equipment consistent with smart grid utility operations based on pre-defined operational rules. The Integrated DER Pilot leverages deployment of individual DER components and traditional T&D equipment for system needs and optimum resource utilization.

**Pilot Scope:** The Integrated DER Pilot will integrate DER load management devices for customers served by a substation in a selected high growth area. Participation will be voluntary. The system (“Integrated DER System”) which will be implemented under the Integrated DER Pilot will be managed locally for distribution operations or market benefits using criteria comparable to conditions used for the Existing-AC Cycling Program, but with additional input from local distribution loading conditions. Groups of customers will be controlled differently to support evaluation of load impacts.

Integrated DER Pilot technology will be installed in participants’ facilities providing JCP&L with the ability to monitor and control non-critical customer electrical loads at a granular level. The control device for central air conditioning systems includes temperature sensors, thermostat control switch and a two-way data communications architecture to verify operations, detect tampering and document impacts, and, upon purchase, will be owned by JCP&L. JCP&L will utilize the Integrated DER System, through a variety of implementation options, to monitor the local distribution circuit in order to identify, assess and manage efficiency and reliability requirements, monitor wholesale energy market for price and/or capacity signals for market opportunities and for system reliability; and operate controls as necessary to optimize system operations.

The Integrated DER Pilot will deliver an estimated 8 MW of direct load control – comprised of 5 MW from approximately 3,500 residential customers and 3 MW from 30-90 C/I customers. Actual results will depend on the number of customers enrolled, and the impact per customer measured using the Integrated DER System.

Customer enrollment will begin as soon as practicable, with full enrollment anticipated by 2009. The Integrated DER Pilot will be partially deployed during summer 2008 and operated for a minimum of two peak load seasons for pilot assessment.

**Cycling Operations:** Under the Integrated DER Pilot, JCP&L will initiate direct load control cycling events for reliability support and economic energy management using the following criteria:

- 1) PJM’s declaration of a system emergency; or
- 2) Local distribution emergencies; or
- 3) A combination of a high WTHI of at least 80 (or, for simplicity, a dry bulb temperature in excess of 90 degrees Fahrenheit ), with high LMPs of at least \$250/MWh

forecasted in the day-ahead PJM market (average value over the period between 2PM and 4PM) in the EDC zone.

JCP&L may also initiate direct load control cycling events at other times in order to better understand the capabilities of the DER technology.

Cycling duration is expected, generally, to be up to six hours, but longer durations may be required under certain limited circumstances in the event of system emergencies and the like.

JCP&L will advise Staff and Rate Counsel about the methodology for implementing cycling events when it is formulated during implementation of the Integrated DER Pilot.

**Expected Value:** The Integrated DER Pilot will demonstrate the value and viability of targeted peak load management as a source of improved system reliability and energy efficiency for JCP&L distribution circuits. The Integrated DER Pilot will help demonstrate alternative means of cost-effectively addressing critical 2020 goals related to demand response. The Integrated DER Pilot utilizes open architecture consistent with EPRI IntelliGrid standards and serves as an industry smart grid demonstration.

**Reports:** JCP&L will submit a report on the status of the Integrated DER Pilot during April 2009 and will provide an interim Integrated DER Pilot Assessment by the end of 2009 and a final Assessment by the end of 2010.

**Budget:** \$3.475 million. Projected contractor O&M costs beginning in 2009 are \$250k annually (included in the \$3MM of contracted services costs in the table below). While no definitive decisions have been made, residential customers are expected to receive a \$25-\$50 pilot participation incentive in conjunction with installation and following completion of surveys at the conclusion of the first full peak season under the Integrated DER Pilot in Fall of 2009. Participation incentives for C/I customers remain to be determined.

|                                 | <b>Estimated Pilot Budget</b> |
|---------------------------------|-------------------------------|
| JCP&L Labor & Expenses Costs    | \$100,000                     |
| Participation Incentives (Res)  | \$175,000 (est.)              |
| Participation Incentives (C/I)  | \$200,000 (est.)              |
| Contracted Services (all costs) | \$3,000,000                   |
| <b>Total</b>                    | <b>\$3,475,000</b>            |

#### **Interactions with PJM:**

**PJM Studies:** Consistent with paragraph 17 of the Stipulation, JCP&L will utilize data collected in 2008, to the extent available, to support registration of the Integrated DER Pilot resource for ILR capacity credits in March of 2009 for 2009/10. JCP&L will work with PJM and the Integrated DER Pilot contractor to register the Integrated DER Pilot resource for capacity credit by March 2, 2009, the PJM ILR deadline for 2009/10. JCP&L will also work with PJM and the Integrated DER Pilot contractor in an attempt to register the resource for participation in economic load response markets at the earliest practicable date.

**Explanation of Rate Treatment:**

JCP&L will recover actual reasonable and prudent costs associated with the Integrated DER Pilot through the current Rider SCC. The difference between current Rider SCC revenues (*i.e.*, \$1.6 million) and Existing AC Cycling Program costs (estimated at \$1.1 million) will be applied to the Integrated DER Pilot. Integrated DER Pilot costs will be amortized over the number of years required to fully recover all of the actual reasonable and prudent costs associated with the Pilot, currently anticipated to be six years.