

**BEFORE THE
NEW JERSEY BOARD OF PUBLIC UTILITIES**

**IN THE MATTER OF THE PETITION OF
JERSEY CENTRAL POWER & LIGHT COMPANY PURSUANT TO
N.J.S.A. 40:55D-19 FOR A DETERMINATION THAT THE
MONTVILLE-WHIPpany 230 KV TRANSMISSION PROJECT IS
REASONABLY NECESSARY FOR THE SERVICE, CONVENIENCE
OR WELFARE OF THE PUBLIC**

Direct Testimony

of

Lawrence A. Hozempa

Re: Electrical Need

1 **I. INTRODUCTION AND BACKGROUND**

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

3 A. My name is Lawrence A. Hozempa. My business address is 5001 NASA
4 Boulevard, Fairmont WV, 26554.

5 **Q. By whom are you employed and in what capacity?**

6 A. I am employed by FirstEnergy Service Company (“FirstEnergy”), as a Supervisor,
7 Transmission Planning in the Energy Delivery Planning and Protection (“EDPP”)
8 Department assigned to supervise the transmission planning of the Jersey Central
9 Power & Light Company, (“JCP&L” or the “Company”) and other FirstEnergy
10 companies. My responsibilities include supervising the employees responsible for
11 analyzing JCP&L’s transmission system to assure the future reliability of the
12 JCP&L system and related systems to which it is interconnected. I also supervise
13 the performance of transmission reliability studies to determine compliance with
14 reliability criteria established by the North American Electric Reliability
15 Corporation (“NERC”) as well as with reliability and operational criteria
16 established by PJM Interconnection, LLC (“PJM”) and JCP&L. Furthermore, I
17 supervise the coordination with neighboring transmission owners, in conjunction
18 with PJM, the analysis of the transmission system from a regional perspective.

19 **Q. Please describe your professional experience and educational background.**

20 A. I am a 1986 graduate of The Pennsylvania State University with a Bachelor of
21 Science Degree in Electrical Engineering. I am also a Registered Professional
22 Engineer with the Commonwealth of Virginia, the Commonwealth of
23 Pennsylvania, and the states of Maryland and West Virginia.

1 My experience with the Company includes Distribution Planning,
2 Distribution Operations and Maintenance and Transmission Planning. I started
3 with West Penn Power Company (“West Penn”) in February of 1987 as an
4 Engineer, Division Planning (E1) in the Allegheny-Kiski Division of West Penn.
5 I was transferred in 1988 to the Loyalhanna Division of West Penn and moved
6 back to the Allegheny-Kiski Division in 1989. During the Allegheny Power
7 reorganization in 1996, I was named Engineer, Planning (E3) with responsibilities
8 for several service centers located in the Northern Region of Allegheny Power’s
9 service territory. I moved in to the Transmission Planning Group of Allegheny
10 Power in 2000 where I was responsible for planning the Company’s electric
11 transmission system for southwestern Pennsylvania. In 2004, I was named
12 Service & Design Manager in the Jeannette Region. In 2005, I returned to the
13 Transmission Planning group as a Senior Engineer with the responsibility for
14 planning the Company’s extra high voltage system, and while in the group I was
15 promoted to Consulting Engineer in 2008. After the merger with FirstEnergy was
16 consummated in 2011, I was named to my present position.

17 My education, experience and qualifications are fully-set forth in
18 Appendix A to my testimony.

19 **Q. Have you previously testified in Board of Public Utilities (“Board” or “BPU”)**
20 **proceedings?**

21 A. No, but I adopted the pre-filed written testimony of Jeffrey Goldberg before the
22 BPU on behalf of Jersey Central Power & Light Company (“JCP&L” or the

1 “Company”) for the Oceanview 230 kV Transmission Project in Docket No.
2 EO14030281.

3 **Q. Have you testified in proceedings before other utility regulatory**
4 **commissions?**

5 A. Yes. In 2004, I testified before the Federal Energy Regulatory Commission
6 (“FERC”) in Case ER02-136 related to Direct Assigned Facilities charges for use
7 of non-transmission facilities by wholesale customers. In 2007, I testified before
8 the Public Service Commission of West Virginia (Case No. 07-0508-E-CN) and
9 the State Corporation Commission of the Commonwealth of Virginia (Case No.
10 PUE-2007-00033) related to the need to construct the Tran-Allegheny Interstate
11 Line, and the Public Utility Commission of Pennsylvania (Docket Nos. A-110172,
12 A-110172F0002, A-110172F0003, A-110172F0004, and G-00071229) related to
13 the need to construct the Trans-Allegheny Interstate Line and the Prexy Facilities.

14 I also filed written testimony in July 2014 with the State Corporation
15 Commission of the Commonwealth of Virginia related to the need to rebuild the
16 Millville-Old Chapel 138 kV line.

17 **Q. Would you describe the purpose of your testimony?**

18 A. The purpose of my testimony is to describe the electrical need for the Montville-
19 Whippany 230 kV transmission project (“Project”). On behalf of JCP&L, I will:

- 20 • Provide an overview of JCP&L’s service territory and its electric
21 distribution/transmission system;
- 22 • Describe the Project;

- 1 • Describe JCP&L’s involvement in the PJM regional transmission
2 expansion planning process that resulted in a determination that a new,
3 approximately 7.0-mile long Montville-Whippany 230 kV line is needed to
4 assure the electric reliability of JCP&L’s transmission facilities and the
5 PJM transmission system;
- 6 • Describe the alternatives considered; and
- 7 • Explain JCP&L’s perspective on the electrical need for the Montville-
8 Whippany 230 kV Transmission Project.

9 Although I will describe the general route of the Montville-Whippany 230 kV line,
10 the details of the specific route proposed by JCP&L are described and supported
11 by JCP&L witness Mr. Peter Sparhawk in his direct testimony.

12 **Q. Please identify and describe the exhibits to your testimony and summarize the**
13 **contents of those exhibits.**

14 A. I am sponsoring four exhibits with my direct testimony:

- 15 • Exhibit LAH-1 is an overview of the Project;
- 16 • Exhibit LAH-2 is the slide from PJM’s April 27, 2012 TEAC meeting
17 where the Project was announced;
- 18 • Exhibit LAH-3 is FE’s response to a November 26, 2012, PJM
19 Notification of Designation of Construction Responsibility for RTEP
20 Projects Approved; and
- 21 • Exhibit LAH-4 is a map showing the extent of the area impacted by
22 identified violations.

23

1 **II. BACKGROUND**

2 **Q. Can you provide an overview of JCP&L’s service territory and its electric**
3 **distribution/transmission system?**

4 A. The Company’s service territory encompasses approximately 3,300 square miles
5 in two distinct regions: the Central Region in central coastal New Jersey, and the
6 Northern Region, in the heavily-forested northwestern portion of the State. These
7 two regions are served by 14 operating districts. In total, JCP&L provides electric
8 distribution service to approximately 1.1 million residential, commercial and
9 industrial customers, representing approximately 25% of the metered electric
10 customers in New Jersey. The service territory includes all or parts of 13 counties
11 and 236 municipalities, equaling approximately 45% of the municipalities in the
12 State of New Jersey.

13 The Company operates and maintains over 35,000 conductor miles of
14 primary distribution circuits, over 1,802 circuit miles (5,406 conductor miles) of
15 sub-transmission circuits, in excess of 330,000 JCP&L-owned poles and
16 approximately 244,000 transformers. JCP&L operates 324 substations, 235 sub-
17 transmission circuits and 1,173 primary distribution circuits.

18 JCP&L’s transmission system provides a mechanism for delivery of bulk
19 electric power to the distribution circuits and sub-transmission circuits within the
20 Company’s service territory. The Bulk Electric System (“BES”) transmission in
21 the area is designed with three nominal voltages; 500 kV, 230 kV, and 115 kV.
22 There are approximately 60 substations connecting to the BES, with

1 approximately 18 pole-miles of 500 KV circuits, 446 pole-miles of 230 kV
2 circuits, and 138 pole-miles of 115 kV circuits.

3 **III. DESCRIPTION OF PROJECT**

4 **Q. Please describe the Project.**

5 A. The Project involves the construction of a new 230 kV transmission line between
6 JCP&L's Montville substation and its Whippany substation, along with the
7 associated upgrades to these substations. The new 230 kV line will be
8 approximately 7.0 miles long. Approximately 89 percent (6.2 miles) of the new
9 230 kV line can be constructed entirely within or partially within existing
10 transmission ROW. JCP&L witnesses John M. Toth and Dave Kozy, Jr. describe
11 the project in more detail in their direct testimony.

12 **Q. What is the significance of the Project from an electrical perspective?**

13 A. This PJM baseline RTEP project (b2003) is a proposed criteria driven electric
14 reliability transmission enhancement to the JCP&L transmission system consisting
15 of a new 230 kV transmission line and expansion of two substations at the terminal
16 ends of the new 230 kV line, all to be constructed by JCP&L. The 230 kV
17 transmission line is required to connect certain electrical points, i.e. transmission
18 substations. Specifically, the line will establish a direct 230 kV path from the
19 highly-networked Whippany substation in East Hanover Township, Morris
20 County, New Jersey, to the presently loop-fed Montville substation in Montville
21 Township, Morris County, New Jersey. The proposed Montville-Whippany 230
22 kV line provides a new 230 kV source into Montville substation to supplement the
23 230 kV looped source that exists today.

1 Besides the line construction, which is the majority of the project, work at
2 both Montville and Whippany substations will be required. At Montville
3 substation, a 230 kV breaker will be installed in the existing ring bus to provide
4 for termination of the new line at Montville substation. At Whippany substation,
5 a 230 kV breaker will be installed in the existing ring bus to provide for
6 termination of the new line at Whippany substation. Expansion of the substations
7 will not be necessary for this work. The Montville-Whippany 230 kV Line
8 Project diagram is shown for illustrative purposes on Exhibit LAH-1.

9 **IV. PLANNING PROCESS AND ELECTRICAL NEED FOR THE PROJECT**

10 **Q. Is JCP&L required to plan the transmission system to meet mandatory**
11 **reliability standards?**

12 A. Yes, pursuant to Section 215 of the Federal Power Act, FERC has certified NERC
13 as the electric reliability organization to develop and enforce mandatory reliability
14 standards, subject to FERC review and approval. The FERC-approved NERC
15 reliability standards are mandatory. Failure to comply with the standards can
16 result in serious penalties.

17 PJM, a FERC-approved Regional Transmission Organization (“RTO”), is
18 responsible for ensuring the reliability of the electric transmission system under
19 its functional control and coordinating the movement of wholesale electricity in
20 all or parts of 13 states, including New Jersey. PJM is responsible for assuring
21 compliance with NERC planning and operating standards for the bulk electric
22 system (i.e., above 100 kV) within its control area. NERC reliability standards
23 require that the bulk electric system be designed to operate under approved

1 thermal and voltage criteria during anticipated peak loading conditions and in
2 consideration of credible outages of elements on the bulk electric system.

3 **Q. Please describe the relationship of JCP&L’s transmission facilities to the PJM**
4 **transmission system.**

5 A. JCP&L is a PJM Transmission Owner (“TO”) serving 1.1 million customers, and
6 a member of the PJM RTO. As a PJM TO, all JCP&L transmission BES facilities
7 are planned and operated by PJM. Furthermore, each TO agrees to remediate all
8 identified BES reliability criteria violations in accordance with the NERC
9 reliability standards, PJM planning criteria, and its own planning criteria.

10 **Q: Could you please describe PJM's role in overseeing transmission system**
11 **planning within the PJM footprint?**

12 A: Yes. PJM is the regional transmission Planning Coordinator and Transmission
13 Planner for the JCP&L Transmission Zone, which encompasses the geographic
14 area served by JCP&L. In this capacity, PJM applies an analytical approach to
15 identify the need and timing for transmission system upgrades to preserve the
16 reliability of the electricity grid. The PJM Regional Transmission Expansion Plan
17 (“RTEP”) process is a comprehensive series of detailed analyses to ensure
18 reliability under the applicable NERC, PJM and TO (i.e., JCP&L) reliability
19 criteria.

20 Through the RTEP process, PJM performs multiple analyses including a
21 five-year baseline analysis to assess (current year plus five years) compliance
22 with NERC, PJM and TO reliability criteria and identifies transmission upgrades
23 needed to meet near-term demand growth for customers’ electricity needs. The

1 RTEP process uses the PJM load forecasts, which take into consideration demand
2 response and energy efficiency levels, existing generation, and new resources
3 stemming from interconnection requests for new generating plants and merchant
4 transmission facilities.

5 **Q. Can you describe the planning criteria used in assessments performed by**
6 **JCP&L?**

7 A. Yes, the JCP&L transmission system must meet all applicable NERC, PJM, and
8 TO transmission planning criteria (“planning criteria”) that apply to transmission
9 systems. Using NERC standards as a guide, the following criteria must be met
10 during normal conditions and when NERC-defined outages occur on the bulk
11 electric system. These outage conditions and associated criteria are defined in
12 NERC standards as follows:

- 13 • NERC Category A, system performance under normal (No Contingency)
14 conditions, provides that the Planning Coordinator and Transmission
15 Planner (in this case, PJM) shall demonstrate, in collaboration with
16 JCP&L through a valid assessment, that its portion of the interconnected
17 transmission system is planned such that, with all transmission facilities in
18 service and with normal operating procedures in effect, the transmission
19 network can be operated to supply projected customer demands and
20 projected firm transmission services at all demand levels. This is the
21 normal day-to-day condition and configuration of the bulk electric system.
- 22 • NERC Category B contingencies are events resulting in the loss of any
23 single generating unit, transmission line, transformer, circuit breaker,

1 capacitor or single pole of a bi-polar DC line. These events shall not
2 cause the thermal loading of any bulk electric system facility to exceed its
3 seasonal emergency rating. In addition, for NERC Category B
4 contingencies, voltages must remain within a prescribed maximum
5 deviation and within the emergency minimum or maximum voltage limits.
6 Category B contingencies are also known as N-1 contingencies, where N
7 is the total number of transmission components in the network under
8 study. Planning criteria allow for a plus-or-minus 8 percent voltage
9 deviation and 0.92 per unit as the minimum voltage and 1.05 per unit as
10 the maximum voltage for facilities within the networked bulk electric
11 system at a 230 kV nominal voltage.

- 12 • NERC Category C contingencies are events resulting in the loss of any
13 double-circuit bulk electric system transmission line (i.e., common
14 structure), bi-polar DC line, faulted circuit breaker, bus section, or the
15 combination of a single generating unit, transmission line, transformer,
16 circuit breaker or capacitor followed by the loss of another single
17 generating unit, transmission line, transformer, circuit breaker or capacitor
18 (i.e., N-1-1). For these contingencies, thermal loading shall not exceed the
19 seasonal emergency rating of any networked facility; violate either the
20 maximum deviation or the emergency minimum or maximum voltage
21 criteria. Similar to the NERC Category B, planning criteria allow for plus-
22 or-minus 8 percent voltage deviation and 0.92 per unit as the minimum

1 voltage and 1.05 per unit as the maximum voltage for 230 kV facilities
2 within the networked bulk electric system.

- 3 • In addition, the transmission planning criteria stipulates that for any
4 NERC Category B or C event, the associated loss of load will be limited to
5 less than 300 MW.

6 **Q. As part of its RTEP process, did PJM identify a reliability criteria violation
7 in regard to the Montville 230 kV substation?**

8 A. Yes. In the 2012 RTEP, PJM identified reliability criteria violations of NERC
9 Category C contingencies for the N-1-1 outage of the Montville-Roseland (E2205)
10 230 kV line followed by the loss of either the Kittatinny-Newton (T2298) 230 kV
11 line with the 230-34.5 kV transformer and the 34.5 kV capacitor at Newton or the
12 Newton-Montville (N2214) 230 kV line. JCP&L confirmed this contingency may
13 result in more than 300 MW of load loss, which would violate the JCP&L
14 Planning Criteria as well as PJM planning criteria. The JCP&L-proposed Project
15 was confirmed by PJM that it adequately addresses the reliability criteria violation.

16 **Q. Has PJM included the Project in its RTEP?**

17 A. Yes. PJM has assigned RTEP number b2003 to the Project as a baseline upgrade
18 in the JCP&L zone. PJM presented the Project at the April 27, 2012 TEAC
19 meeting as shown in Exhibit LAH-2. As indicated in the presentation, PJM
20 announced the NERC Category C contingency violates planning criteria and
21 initially established a June 1, 2015 PJM need date.

22 **Q. JCP&L has a target in-service date of June 1, 2017. Is the June 1, 2017 in-
23 service date agreeable to PJM?**

1 A. Yes. On February 22, 2013, JCP&L in response to a November 26, 2012, PJM
2 Notification of Designation of Construction Responsibility for RTEP Projects
3 Approved, submitted a projected June 1, 2017 in-service date, (see Exhibit LAH-
4 3). PJM has not changed their required date for the project, but has listed the
5 projected in-service date as June 1, 2017 in the RTEP Transmission Construction
6 Status database, which is available on-line at [http://www.pjm.com/planning/rtep-](http://www.pjm.com/planning/rtep-upgrades-status/construct-status.aspx)
7 [upgrades-status/construct-status.aspx](http://www.pjm.com/planning/rtep-upgrades-status/construct-status.aspx).

8 **Q. Did JCP&L identify planning criteria violations in the Montville area when**
9 **performing planning assessments?**

10 A. Yes, in 2012 both PJM and JCP&L identified a potential voltage collapse risk on
11 the system in the Greystone, Montville, Riverdale and Whippany areas with a
12 potential loss of load exceeding 400 MW resulting from the NERC Category C
13 contingency.

14 **Q. Please describe the assessment performed to identify the need for the project?**

15 A. During the PJM 2012 RTEP N-1-1 analysis for study year 2015 the power flow
16 study case diverged (i.e., did not solve) for the NERC Category C contingencies
17 mentioned previously, which indicates a potential voltage collapse. In
18 collaboration with PJM, JCP&L confirmed the potential voltage collapse violation
19 in the Montville and surrounding areas. In addition, due to the loss of the 230 kV
20 sources to the Iliff, Newton and Montville substations, JCP&L determined the
21 potential loss of load could exceed 400 MW. After study and evaluation, it was
22 determined the best overall solution was to construct a new 230 kV line into the
23 Montville substation.

1 **Q. What is the impact to the JCP&L service territory for the studied N-1-1**
2 **contingencies?**

3 A. In the worst case, the loss of the Montville-Roseland (E2205) 230 kV line
4 followed by the loss of the Kittatinny-Newton (T2298) 230 kV line with the 230-
5 34.5 kV transformer and the 34.5 kV capacitor at Newton creates a local area
6 voltage collapse on the underlying 34.5 kV system centered at Montville
7 substation, with loss of load exceeding 400 MW. Based on JCP&L's dynamics
8 analysis, Exhibit LAH-4 illustrates the extent of the area impacted in accordance
9 with the identified substations affected. There are approximately 86,719
10 customers served by the affected substations based on active connected customer
11 meters in August 2014. The table below lists the affected substations and
12 associated customer counts.

Substation	No. of customers
Ace	3
Andover	4,108
Boonton	1,788
Branchville	5,476
Chamor	1
Changebridge	8,400
Chapin Road	4,114
Denville	1,247
Doremus	1
Drew	2,433
East Newton	3,569
Edwards Road	2
Fox Hill	2,504
Green Bank	1
Hackensack Water	1
Halsey	3,059
Haskell	5,869
Holiday	2,501
Jacksonville	1,827

Jersey City Water	1
Lime Crest	1
Lincoln Park	3,823
Mohawk	2,579
Montville	2
Nabisco	2
North Newton	2,838
Parsippany	2,987
Passaic Stone	1
Pequannock	3,479
Pfizer	1
Pompton Lakes	2,493
Pompton Plains	3,011
Ramapo Water	2
Riverdale	7,084
Riverdale Quarry	1
Star Ledger	1
Sussex	3,042
Taylortown	2,356
Troy Hills	4,351
Wanaque Dam	4
Woodruffs Gap	1,756
Grand Total	86,719

1

2 **Q. What load forecast was used in the 2012 assessment?**

3 A. The load forecast used in the 2012 assessment was the PJM Load Forecast Report
4 dated January 2012. For the study year 2015, the JCP&L 50/50 summer peak load
5 was forecast to be 6,605 MW.

6 **Q. How does this load level compare to subsequent load forecasts?**

7 A. The PJM Load Forecast Report January 2013 lists the 2015 JCP&L 50/50 summer
8 peak load level at 6,503 MW. The PJM Load Forecast Report January 2014 lists
9 the 2015 JCP&L 50/50 summer peak load level at 6,494 MW. The January 2015
10 PJM Load Forecast Report lists the 2015 JCP&L50/50 summer peak load level at
11 6,269 MW.

1 **Q. Do the reduced forecasted load levels in 2015 in PJM’s 2013, 2014, and 2015**
2 **Load Forecast Reports indicate the Project is no longer necessary?**

3 A. No. Even though the PJM load forecast has been reduced from the level used in
4 the 2012 assessment, the violations identified in the 2012 assessment will still
5 arise. JCP&L has performed an independent analysis that it modeled with a 6,272
6 MW load level based on PJM’s January 2014 load forecast for 2014 summer peak
7 and found that the NERC C contingencies will cause a violation at this load level,
8 also. The PJM 2015 Load Forecast Report indicates the JCP&L 50/50 summer
9 peak load level in 2017 will be 6,435 MW.

10 **Q. Did JCP&L consider alternatives to the Project? If so, can you describe the**
11 **electrical alternatives?**

12 A. Yes, although let me clarify that I will only address the electrical alternatives
13 JCP&L considered. JCP&L witness Peter Sparhawk of Louis Berger addresses
14 the alternative routes JCP&L considered from a siting perspective in his
15 testimony and exhibits.

16 The Company considered one other electrical alternative. The Company
17 considered resolving the potential local voltage collapse resulting from the loss of
18 the Montville-Roseland (E2205) 230 kV line followed by the loss of either the
19 Kittatinny-Newton (T2298) 230 kV line including the 230-34.5 kV transformer
20 and the 34.5 kV capacitor at Newton or the Newton-Montville (N2214) 230 kV
21 line by constructing a Montville-Whippany 115 kV line. The two alternatives
22 were evaluated on their ability to address immediate and future needs in the
23 Montville area.

1 **Q. Why was the other alternative not selected?**

2 A. The other alternative was not selected because:

3 1. The Montville substation presently does not have any 115 kV
4 facilities, and therefore;

5 a. A new 115 kV yard would need to be developed, and

6 b. A 230/115 kV transformer would need to be installed at
7 Montville substation.

8 2. The 115 kV facilities at Whippany substation are not presently
9 designed for an additional 115 kV circuit so the 115 kV yard would
10 need to be expanded.

11 These two items make the 115 kV alternative slightly more complicated and costly
12 to construct and this alternative does not provide the same level of network
13 support as the 230 kV alternative.

14 **Q. Were any non-transmission alternatives considered?**

15 A. No. Based on the contingencies causing the violation, i.e. loss of two 230 kV
16 transmission lines, and the magnitude of the potential voltage collapse identified in
17 the analysis it was apparent that a third transmission line into the Montville area
18 would be required to affectively address the violation. It would take a significant
19 amount of reinforcement of the 34.5 kV system to provide the same level of
20 mitigation the Project will provide.

21 **Q. Based on the foregoing discussion, can you summarize the electrical need for**
22 **the Project?**

1 A. Yes. The Project is a PJM baseline RTEP project. The Project is needed to
2 resolve planning criteria violations for electrical reliability purposes. Specifically,
3 these facilities are needed to address identified criteria violations that can occur for
4 the loss of the Montville-Roseland (E2205) 230 kV line followed by the loss of
5 either the Kittatinny-Newton (T2298) 230 kV line with the 230-34.5 kV
6 transformer and the 34.5 kV capacitor at Newton or the Newton-Montville
7 (N2214) 230 kV line resulting in the loss of the 230 kV sources to the Lake Iliff,
8 Newton and Montville substations resulting in significant customer load loss.

9 **Q. Based on your reviews and assessments, have you formed an opinion**
10 **regarding the need for the Project?**

11 A. Yes. The Project is needed to avoid the identified potential voltage collapse in the
12 Montville area for the identified NERC Category C (N-1-1) contingencies.
13 Failure to construct the line by the June 1, 2017 in-service date could result in
14 extended interruption of electric service to a large block of customers due to the
15 loss of the Montville-Roseland (E2205) 230 kV line followed by the loss of either
16 the Kittatinny-Newton (T2298) 230 kV line with the 230-34.5 kV transformer and
17 the 34.5 kV capacitor at Newton or the Newton-Montville (N2214) 230 kV line.

18 **Q. Have there been previous events involving the loss of 230 kV supply to the**
19 **Montville substation?**

20 A. Yes. On July 21, 2004 at about 4:30 PM, JCP&L experienced the loss of both 230-
21 34.5 kV transformers at Montville substation. The Montville-Roseland (E2205)
22 230 kV line was opened for emergency tree trimming by PSE&G, and Bank 1 at
23 Montville had to be taken out of service to allow the line disconnect switch to be

1 opened. After Bank 1 was opened for clearance, Bank 2 tripped out and the G, K,
2 O, and D 34.5 kV lines all tripped at the remote ends. All of the load at Montville
3 and north in addition to all the load on the G, K, O, and D 34.5 kV lines was lost
4 as a result. This event is the equivalent of the loss of the Montville-Roseland
5 (E2205) 230 kV line followed by the loss of the Newton-Montville (N2214) 230
6 kV line.

7 **Q. Would the construction of other PJM RTEP or generation projects proposed**
8 **to be constructed either before or after the completion of the Project impact**
9 **the need for the Project?**

10 A. There are no proposed RTEP or generation projects that would eliminate the need
11 for the Project.

12 **Q. Can Demand Response (“DR”) or Energy Efficiency (“EE”) programs be**
13 **considered to defer or eliminate the need for the Project?**

14 A. No, DR and EE are used in the planning process and do not mitigate these
15 concerns. PJM already incorporates EE and DR into its forecast and
16 analysis. PJM offers three types of Load Response:

- 17 • Emergency Capacity (DR)
- 18 • Emergency Energy Only
- 19 • Economic

20 Only the Emergency Capacity (DR) product is modeled in PJM planning
21 studies. Emergency Capacity (DR) is an emergency procedure initiated by PJM
22 and compliance is mandatory.

23 PJM anticipates that only DR and EE resources that clear through the
24 Reliability Pricing Model (“RPM”) process will be available for their committed

1 planning year(s). Beyond the commitment period (3 years), DR and EE amounts
2 are held constant. Forecasted DR and EE are summarized in the tables in the PJM
3 Load Forecast Report.

4 **Q. How will the electric service reliability to customers within JCP&L's retail**
5 **service territory be affected if the Montville-Whippany 230 kV Transmission**
6 **Project is not constructed?**

7 A. Based on findings in the PJM 2012 RTEP analysis and the JCP&L analysis, the
8 loss of the Montville-Roseland (E2205) 230 kV line followed by the loss of either
9 the Kittatinny-Newton (T2298) 230 kV line with the 230-34.5 kV transformer and
10 the 34.5 kV capacitor at Newton or the Newton-Montville (N2214) 230 kV line
11 results in a potential local voltage collapse in the Montville area. This could result
12 in a service outage for approximately 86,719 JCP&L customers. The planning
13 studies have indicated a potential local loss of load that would exceed the planning
14 criteria limit under modeled case conditions. The Project resolves the criteria
15 concerns within the area and is necessary to provide safe and reliable service to
16 customers.

17 **Q. Does this conclude your direct testimony?**

18 A. Yes, it does.

Lawrence A. Hozempa**Education**

1986 The Pennsylvania State University, Bachelor of Science in Electrical Engineering

Experience

1987-1996 West Penn Power Company – Engineer, Division Planning
 1996-2000 Allegheny Power Service Corp. – Engineer, Distribution Planning
 2000-2004 Allegheny Power Service Corp. – Engineer, Transmission Planning
 2004-2005 Allegheny Power Service Corp. – Service & Design Manager
 2005-2008 Allegheny Power Service Corp. – Senior Engineer, Transmission Planning
 2008-2011 Allegheny Power Service Corp. – Consulting Engineer, Transmission Planning
 2011-Present FirstEnergy Service Corp. – Supervisor, Transmission Planning

PE Licenses

1999-Present Commonwealth of Pennsylvania – License Number PE055087E
 2007-Present The State of West Virginia – License Number 17150
 2007-Present Commonwealth of Virginia – License Number 0402043567
 2008-Present State of Maryland – License Number 35630

Previously Filed Testimony

Date	Matter	Subject
2002	ER02-136 before the Federal Energy Regulatory Commission	Direct assignment charges for use of non-transmission facilities for wholesale customers
2007	Case No. 07-0508-E-CN before the Public Service Commission of West Virginia	Need for constructing the Trans-Allegheny Interstate Line
2007	Case No. PUE-2007-00033 before the State Corporation Commission of Virginia	Need for constructing the Trans-Allegheny Interstate Line
2007	Docket Nos. A-110172, A-110172F0002, A-110172F0003, A-110172F0004, and G-00071229 before the Pennsylvania Public Utility Commission	Need for constructing the Trans-Allegheny Interstate Line and the Prexy facilities
2009	Case No. PUE-2009-00043 before the State Corporation Commission of Virginia	Need for constructing the Potomac Appalachian Transmission Highline
2009	Case No. 09-0770-E-CN before the Public Service Commission of West Virginia	Need for constructing the Potomac Appalachian Transmission Highline

2009	Case No. 9223 before the Maryland Public Service Commission	Need for constructing the Potomac Appalachian Transmission Highline
2010	Case No. PUE-2010-00115 before the State Corporation Commission of Virginia	Need for constructing the Potomac Appalachian Transmission Highline
2012	Case No. 9239 before the Maryland Public Service Commission	Support the modified scope of the Monocacy-Ringgold-Carroll Transmission line project.
2012	Case No. 9309 before the Maryland Public Service Commission	Need to rebuild the Maryland segments of the Doubs-Mt. Storm 500 kV transmission line
2014	Case No. PUE-2014-00070 before the State Corporation Commission of Virginia	Need for reconductoring/rebuilding the Millville-Old Chapel 138 kV transmission line
2014	Docket No. EO14030281 before the State of New Jersey Board of Public Utilities	Need for constructing the Oceanview 230 kV transmission project

Montville-Whippany 230 kV Line Project

Install 230 kV breaker position at Montville and Whippany
Build a 7 mile Montville-Whippany 230 kV Line with 1590 ACSR

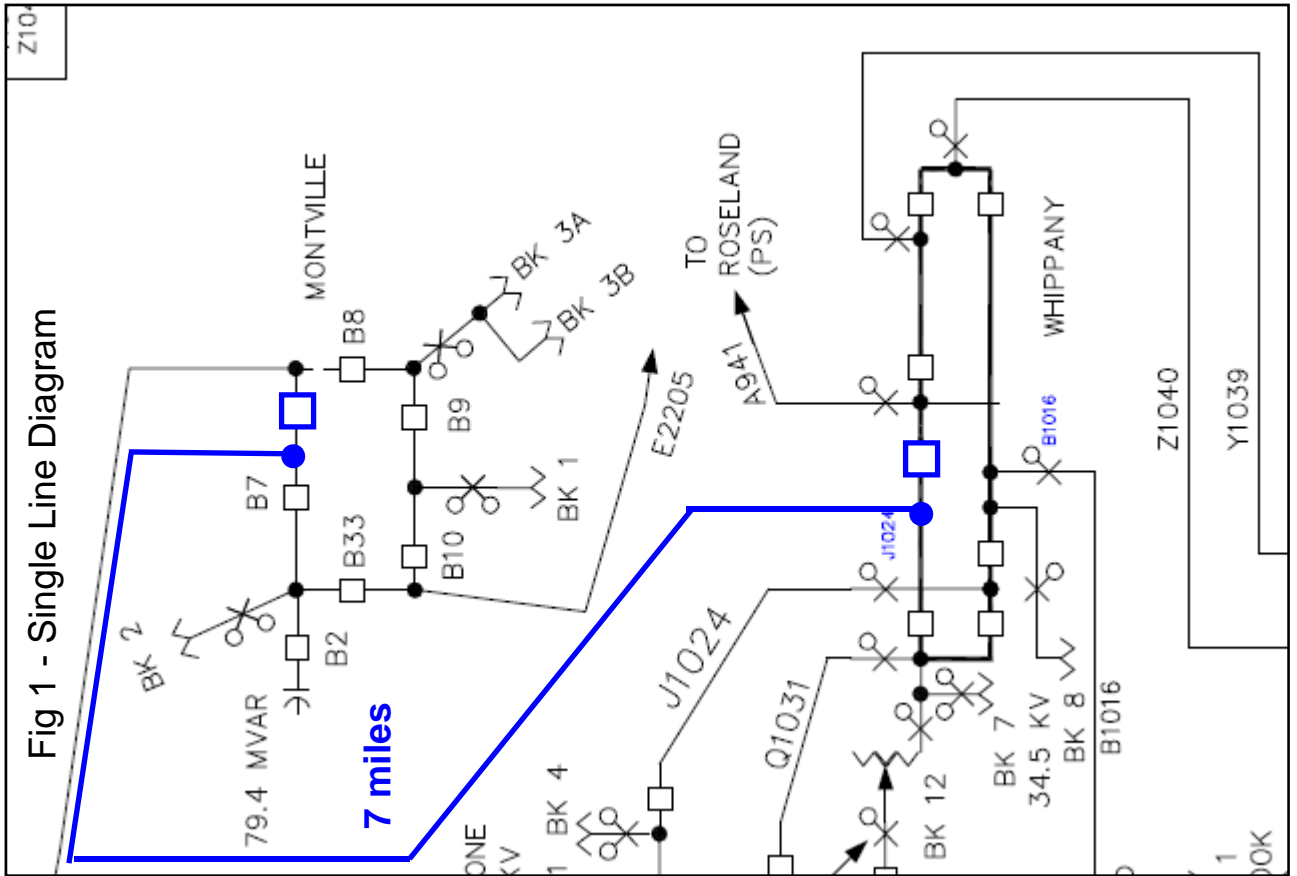


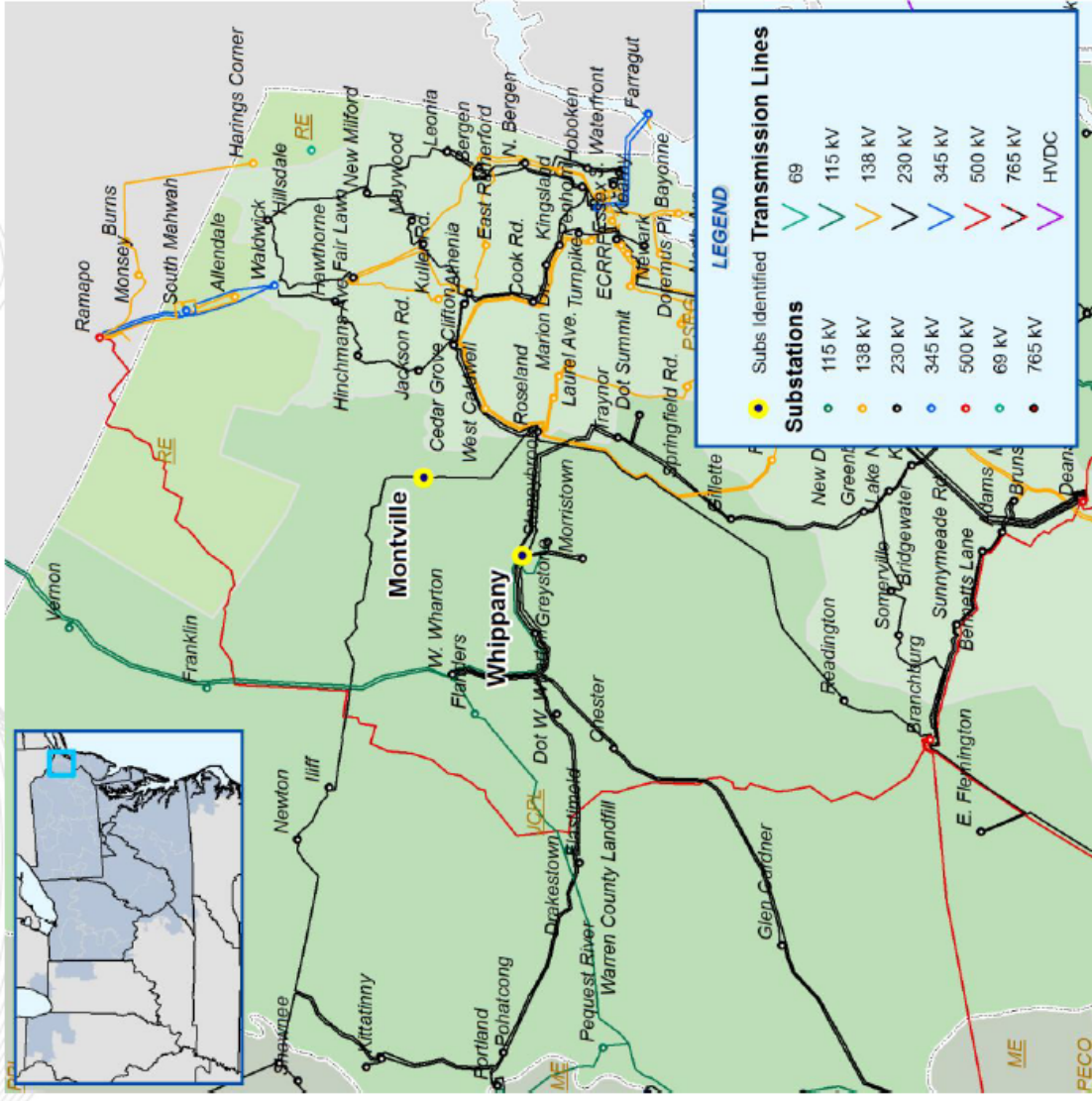
Fig 1 - Single Line Diagram

Z10



JCPL Transmission Zone Reinforcement

- N-1-1 case divergence issue due to the loss of Montville – Roseland 230 kV line followed by the loss of Kitattiny – Newton 230kV line + Newton 230/34.5 kV transformer and shunt at Newton 34.5kV.
- Construct a Whippany to Montville 230 kV line (6.4 miles)
- Estimated Project Cost: \$37.5M
- Projected in-service date: 6/1/2015





76 South Main Street
Akron, Ohio 44308

James R. Haney
Vice President

330 384-2454
Fax: 330 384-5909

February 22, 2013

Paul McGlynn
Director, System Planning
PJM Interconnection
955 Jefferson Drive
Norristown, Pa 19403-2497

Re: November 26, 2012 PJM Notification of Designation of
Construction Responsibility for RTEP Projects Approved

Dear Mr. McGlynn:

In accordance with Section 4.2 of the Consolidated Transmission Owners Agreement, FirstEnergy and its transmission-owning affiliates operating in the APS, ATSI, JCP&L, Met-Ed, and Penelec transmission zones acknowledge receipt of the above-referenced notification and accept designation of construction responsibility for the Baseline Upgrade projects identified in the notification subject to the modifications noted in the attached schedule. These projects will be constructed by the designated FirstEnergy transmission owner and/or an affiliate.

Please note proposed modifications to several in-service dates, construction costs and FirstEnergy transmission zone are specified in the attached schedule. Should you have any questions or need additional information, please contact Jeff Mackauer directly at 330.761.4316.

Sincerely,

Jim Haney
Vice President
Compliance & Regulated Services

Enc.

cc: Carl Bridenbaugh
Rick O'Callaghan
Jeff Mackauer
John Syner
Michelle Henry

**PJM Construction Responsibility Designation - FE Zone
November 26, 2012 Letters**

Letter Page	Zone	Upgrade ID	Description	PJM Projected In-service date	Cost Estimate	Planning Comments on Information contained in pdf file
1	ATSI	NA	Cover Letter	-	-	-
2	ATSI	b1814	Replace Pleasant Valley 138 kV breaker 194-B-3	6/1/2015	0.18	ok
3	ATSI	b1815	Replace West Ravena 138 kV breaker 59-B-15	6/1/2015	0.18	Completed 12/28/2012
4	ATSI	b1820	Replace the Ironvillo 138 kV breaker '33-B-13208'	6/1/2016	0.18	ok
5	ATSI	b2042	Add (6) 138 kV breakers + relaying at Leroy Center	6/1/2015	3.3	Duplicate to b1938
6	ATSI	b1926	Build a new Harmon - Brookside + Harmon - Longview 138 kV line	6/1/2015	9.2	PJM informed via e-mail on January 22, 2013 that this project is no longer required and will be cancelled and presented at a future TEAC meeting. This project is no longer needed because the AEP Ghost Town Project alleviated the need.
7	ATSI	b1938	Place Addl (6) 138 kV breakers + relaying on a portion of the the 138 kV at Leroy Center 345/138 kV project into service by summer 2015	6/1/2015	8.3 3.3	Updated Description. This project is also a duplicate of b2042. b2042 to be cancelled. Cost estimate updated by design group; original estimate was high level budgetary estimate.
8	ATSI	b1937	Build a new Leroy Center 345/138 kV substation by looping in the Perry - Harding 345 kV line	6/1/2016	35.0 46.0	Cost estimate updated by design group; original estimate was high level budgetary estimate.
9	ATSI	b1936	Build new Allen Jct - Midway - Lemoyne 345 kV line (48 miles of open tower position)	6/1/2016	33.0 86.3	Cost estimate updated by design group; original estimate was high level budgetary estimate.
10	ATSI	b1935	ATSI AEP 138 kV Substation on near territory border + 138 kV from new substation to Longview approx 8 miles	6/1/2015	47.7	PJM informed FE via e-mail on January 22, 2013 that this project is being deferred and a rescope solution including b1958 and a smaller reconductor project resolves the criteria issues and enables deferral until driven by future generation Interconnection projects. PJM will cancel as a baseline project.
11	ATSI	b1934.2	New 345/138 kV transformer at Niles	6/1/2015	14.6	Spread costs between parts
12	ATSI	b1934.1	Loop 10.2 miles of 345 kV into Niles substation of the Highland - Shenango 345 kV line	6/1/2015	0.3	Updated Description and spread costs between parts.
13	ATSI	b1934	Build a new 345/138 kV Substation at Niles	8/1/2015	14.9 32	Cost estimate updated by design group; original estimate was high level budgetary estimate also spread costs between parts
14	ATSI	b1933	Replace 336.4 ACSR SCCIR at Richland to upgrade the Richland - Naomi 138 kV line	6/1/2015	0.04	ok
15	ATSI	b1932	Change the transformer tap settings on the Maclean 138/89 kV transformers	6/1/2015	0.05	ok
16	ATSI	b1931	Reconductor Cloverdale - Harmon #2 and #3 138 kV lines with 795 ACSS or greater conductor 6 miles total + Terminal upgrades	6/1/2015	5.6 3.6	Cost estimate updated by design group; original estimate was high level budgetary estimate
17	ATSI	b1930	Increase design temperature limitation on the Avery - Hayes 138 kV line by raising the existing structures	6/1/2015	0.13	ok
18	ATSI	b1929	Install a 138/89 kV transformer at the Avery station	6/1/2015	3.2	ok
19	ATSI	b1913	Convert Eastlake units 1, 2, 3, 4 and 5 to synchronous condensers	6/1/2015	100	ok
20	ATSI	b1927	Create a new Five Points Area 345/138 kV substation by looping in the Lemoyne - Midway 345 kV line	6/1/2015	30	ok
21	ATSI	b1926	Reconductor ATSI portion of South Canton - Harmon 345 kV line	6/1/2015	6	PJM informed via e-mail on January 22, 2013 that this project is no longer required and will be cancelled and presented at a future TEAC meeting. This project is no longer needed because the AEP Ghost Town Project alleviated the need.
22	ATSI	b1925	Create a new Harmon 345/138/89 kV substation by looping in the Star - South Canton 345 kV line	6/1/2015	39.6 46	Cost estimate updated by design group; original estimate was high level budgetary estimate
23	ATSI	b1924	Build a new Mansfield - Northfield - Glenwillow Area 345 kV line	6/1/2015	137.3 484.6	Updated Description to Glenwillow. Cost estimate updated by design group; original estimate was high level budgetary estimate.
24	ATSI	b1923	Create a new Northfield - Glenwillow Area 345 kV switching station by looping in the Eastlake - Juniper 345 kV line and the Perry - Inland 345 kV line	6/1/2015	15.0 37.5	Updated Description to Glenwillow. Cost estimate updated by design group; original estimate was high level budgetary estimate.

**PJM Construction Responsibility Designation - FE Zone
November 26, 2012 Letters**

Letter Page	Zone	Upgrade ID	Description	PJM Projected In-service date	Cost Estimate	Planning Comments on information contained in pdf file
25	ATSI	b1922	Install a 2nd 345/138 kV transformer at the Bayshore station	6/1/2014	9.9 7.2	Cost estimate updated by design group; original estimate was high level budgetary estimate.
26	ATSI	b1921	Install a 2nd 345/138 kV transformer at the Allen Junction station	6/1/2014	11.1 7.2	Cost estimate updated by design group; original estimate was high level budgetary estimate.
27	ATSI	b1920	Re-conductor the Galion - GM Mansfield - Ontario - Cairns 138 kV line with 477 ACSS	6/1/2014	11.4 8.8	Cost estimate updated by design group; original estimate was high level budgetary estimate.
28	ATSI	b1919	Re-conductor the Galion - Leaside 138 kV line with 336 ACSS	6/1/2014	4.9	ok
29	ATSI	b1918	Upgrade terminal equipment on the Avon - Crestwood 138 kV line	6/1/2013	0.3	ok
30	ATSI	b1917	Install a 138 kV circuit breaker at the Inland Q-11 station	6/1/2013	0.9	ok
31	ATSI	b1916	Install a 345/138 kV transformer at the Inland Q-11 station	6/1/2013	5.2 7.2	Cost estimate updated by design group; original estimate was high level budgetary estimate.
32	ATSI	b1915	Install a 50 MVAR capacitor bank at the Maclean 138 kV station	6/1/2013	1.0 3.0	Cost estimate updated by design group; original estimate was high level budgetary estimate.
33	ATSI	b1914	Convert Lakeshore 18 to a synchronous condenser	6/1/2015	20	ok
34	ATSI	b1928	Install a 50 MVAR capacitor at Hayes 138 kV	6/1/2015	1.5	ok
35	ATSI	b1939	Reconductor the Barberton - West Akron 138 kV line with 477 ACSS or greater (7.3 miles) + Terminal upgrades at Barberton	6/1/2016	2.9 4.23	Cost estimate updated by design group; original estimate was high level budgetary estimate.
36	ATSI	b1977	Build new Toronto 345/138 kV substation by looping in the Sammis - Wylie Ridge 345 kV line and tie in four 138 kV lines	6/1/2017	51.2 44.8	Cost estimate updated by design group; original estimate was high level budgetary estimate.
37	ATSI	b1977.1	Build a new Toronto-Harmon 345kV line	6/1/2017	225.2 218.3	PJM has informed FE via the December TEAC and an e-mail on December 18th to suspend development activities on this project until PJM can finalize its analysis as part of the 2013 RTEP. Cost estimate updated by design group; original estimate was high level budgetary estimate.
38	ATSI	b1978	Reconductor Inland - Clinic Health Q-11 138 kV line	6/1/2015	1.1	ok
39	ATSI	b1981	Replace relay on the Highland - G689 138 kV line	12/31/2012 6/1/2013	0.05	FE adjusted ISD due to workload and prioritization.
40	ATSI	b1962	Reconductor the Hoydale - Newcastle 138 kV lines #1 and #2 with 795 ACSS	6/1/2015	7.5 4.8	Cost estimate updated by design group; original estimate was high level budgetary estimate.
41	ATSI	b1983	Add 150 MVAR SVC and a 100 MVAR capacitor at New Castle	6/1/2015	31.7	ok
42	ATSI	b1964	Install a 50 MVAR capacitor at the Boardman 138 kV bus	6/1/2015	1.7	ok
43	ATSI	b1959	Build a new West Fremont-Groton-Hayes 138kV line	6/1/2018	45	ok

**PJM Construction Responsibility Designation - FE Zone
November 26, 2012 Letters**

Letter Page	Zone	Upgrade ID	Description	PJM Projected In-service date	Cost Estimate	Planning Comments on information contained in pdf file
1	APS	NA	Cover Letter	-	-	
2	APS	b1816.2	Adjust the control settings of all existing capacitors at Mt Airy 34.5kV, Monocacy 138kV, Ringgold 138kV served by Polomac Edison's Eastern 230 kV network to ensure that all units will be on during the identified N-1-1 contingencies	6/1/2013	0.05	ok
3	APS	b1816.1	Replace 50FD Fault Detector relay at Carroll substation relaying at the Mt. Airy substation on the Carroll - Mt Airy 230 kV line and change the CT ratio at Mt Airy	6/1/2013	0.1	The TEAC dated January 10, 2013 rescoped this project description to be more specific
4	APS	b1816.3	Replace existing unidirectional LTC controller on the No. 4, 230/138 kV transformer at Carroll substation with a bidirectional unit	6/1/2013	0.05	ok
5	APS- ME	b1816.4	Isolate and bypass the 138 kV reactor at Germantown Substation	6/1/2013	0.05	Corrected PJM Zone assignment
6	APS	b1816.6	Replace 336.4 ACSR conductor on the Catactin - Carroll 138 kV line using 556.5 ACSR (26/7) or equivalent on existing structures (12.7 miles), 800 A wave traps at Carroll and Catactin with 1200 A units, and 556.5 ACSR SCCIR (Sub-conductor) line risers and bus traps with 795 ACSR or equivalent	6/1/2013	7.4 4.3	Cost estimate updated by design group; original estimate was high level budgetary estimate
7	APS	b0347.33	Replace Meadow Brook 138kV breaker 'MD-1'	6/1/2014 12/1/2013	0.19	June 1, 2011 is in the past. FirstEnergy is currently budgeting/project scheduling for year 2013 and beyond and would propose a date of December 1, 2013
6	APS	b0347.34	Replace Meadow Brook 138kV breaker 'MD-2'	6/1/2014 12/1/2013	0.19	June 1, 2011 is in the past. FirstEnergy is currently budgeting/project scheduling for year 2013 and beyond and would propose a date of December 1, 2013
9	APS	b1822	Replace the 1200 A wave trap, line risers, breaker risers with 1600 2000 A capacity terminal equipment at Reid 138 kV SS	6/1/2015	0.1	Updated Description to clarify 2000A capacity
10	APS	b1823	Replace the 800 A wave trap with a 1200 A wave trap at Millville 138 kV substation	6/1/2015	0.05	ok
11	APS	b1833	Replace the 1200 A line side and bus side disconnect switches with 1600 A switches, replace bus side, line side, and disconnect leads at Lime Kiln SS on the Doubs - Lime Kiln 2 (231) 230 kV line terminal	6/1/2016	0.15	ok
12	APS	b1832	Replace the 1200 A line side and bus side disconnect switches with 1600 A switches, replace bus side, line side, and disconnect leads at Lime Kiln SS on the Doubs - Lime Kiln 1 (207) 230 kV line terminal	6/1/2016	0.15	ok
13	APS	b1826	Change the CT ratio at Double Toll Gate 138 kV SS on MDT line	6/1/2013	0.05	ok
14	APS	b1824	Reconductor Grand Point - Guilford 138kV line approximately 7.2 miles of 556 ACSR with 795 ACSR	6/1/2016	3.75	Updated Description.
15	APS	b1825	Replace the 800 Amp line trap with 1200 Amp line trap at Butler 138 kV Sub on the Cabot East 138 kV line	8/1/2012	0.05	Completed 6/8/2012
16	APS	b1827	Change the CT ratio at Double Toll Gate 138 kV SS on MBG line	6/1/2013	0.05	ok
17	APS	b1828.1	Reconductor the Bartonville - Stephenson 3.03 mile 138 kV line of 556 ACSR with 795 ACSR	6/1/2016	1.85	ok
18	APS	b1828.2	Reconductor the Stonewall - Stephenson 2.08 mile 138 kV line of 556 ACSR with 795 ACSR	6/1/2016	1.25	ok
19	APS	b1828	Replace the existing 138 kV 556.5 ACSR substation conductor risers with 954 ACSR at the Redbud 138 kV substation, including but not limited to the line side disconnect leads	6/1/2016	0.05	ok
20	APS	b1830	Replace 1200 A wave trap and 1024 ACAR breaker risers at Halfway 138 kV substation, and replace 1024 ACAR breaker risers at Paramount 138 kV substation	6/1/2018	0.1	ok
21	APS	b1835	Reconductor 14.3 miles of 556 ACSR with 795 ACSR from Old Chapel to Millville 138 kV and upgrade line risers at Old Chapel 138 kV and Millville 138 kV end replace 1200 A wave trap at Millville 138 kV	6/1/2016 6/1/2015	9.3 7.8	PJM advanced ISD to 6/1/2015 at the TEAC held on November 5, 2012. FE concurred with this advancement. Cost estimate updated by design group; original estimate was high level budgetary estimate
22	APS	b1836	Replace 1200 A wave trap with 1600 2000A wave trap at Reid 138 kV SS	6/1/2016	0.1	Updated Description to clarify 2000A capacity
23	APS	b1838	Replace the 1200 A Bedington 138 kV line air switch and the 1200 A 138 kV bus tie air switch at Nipetown 138 kV with 1600 2000A switches	6/1/2016	0.1	Updated Description to clarify 2000A capacity
24	APS	b1839	Install additional 33 MVAR capacitors at Grand Point 138 kV SS and Guilford 138 kV SS	6/1/2016	2	ok

**PJM Construction Responsibility Designation - FE Zone
November 26, 2012 Letters**

Letter Page	Zone	Upgrade ID	Description	PJM Projected In-service date	Cost Estimate	Planning Comments on information contained in pdf file
25	APS	b1840	Extend Install a new Buckhannon - Glen Falls Weston 138 kV line to West Milford Substation and construct ring bus at West Milford	6/1/2016	13.5 17.5	ok
26	APS	b1941	Loop the Homer City-Handsome Lake 345 kV line into the Armstrong substation and install a 345/138 kV transformer at Armstrong	6/1/2014	20.8 27.8	Cost estimate updated by design group; original estimate was high level budgetary estimate.
27	APS	b1942	Change the CT ratio at Millville to improve the Millville - Old Chapel 138 kV line ratings	6/1/2015	0.05	ok
28	APS	b1964	Convert Moshannon substation to a 4 breaker 230 kV ring bus	6/1/2014	6.5	ok
29	APS	b1965	Install a 44 MVAR 138 kV capacitor at Luxor substation	6/1/2014	1.5	ok
30	APS	b1986	Upgrade the AP portion of the Elrama - Mitchell 138 kV line by replace breaker risers on the Mitchell 138 kV bus on the Elrama terminal	6/1/2015	0.05	ok
31	APS	b1987	Reconductor the Osage-Collins Ferry 138 kV line with 795 ACSS. Upgrade terminal equipment at Osage and Collins Ferry	6/1/2015	1.8	ok
32	APS	b1988	Raise structures between Lake Lynn and West Run to eliminate the clearance de-rates on the West Run - Lake Lynn 138 kV line	6/1/2015	0.32	ok
33	APS	b1989	Raise structures between Collins Ferry and West Run to eliminate the clearance de-rates on the Collins Ferry - West Run 138 kV line	6/1/2015	0.32	ok
34	APS	b1837	Replace 750 CU breaker risers with 795 1024 ACSR at Marlowe 138 kV and replace 1200 A wave traps with 1600 A wave traps at Marlowe 138 kV and Badington 138 kV	6/1/2013	0.6	Updated Description.
35	APS	b1902	Replace line trap at Stonewall on the Stephenson 138 kV line terminal	6/1/2014	0.08	ok
1	PENELEC	NA	Cover Letter	-	-	-
2	PENELEC	b1821	Replace the Erie South 115 kV breaker 'Union City'	6/1/2016	0.15	ok
3	PENELEC	b1994	Convert Lewis Run-Farmers Valley to 230 kV using 1033 5 ACSR conductor. Project to be completed in conjunction with new Farmers Valley 345/230 kV transformation	6/1/2015 12/31/2015	18.3 46.8	Cost estimate updated by design group; original estimate was high level budgetary estimate. FE current construction schedule is targeting a 12/31/2015 ISD due to delays in routing, siting, and permitting.
4	PENELEC	b1943	Construct a 115 kV ring bus at Claysburg Substation Bedford North and Saxton lines will no longer share a common breaker	6/1/2015	5.25	ok
5	PENELEC	b1996.4	Change CT Ratio at Ridgway	6/1/2015	0.3 0.9	Cost estimate provided by design group
6	PENELEC	b1997	Replace 600 Amp Disconnect Switches on Dubois-Harvov Run-Whetstone 115 kV line with 1200 Amp Disconnects	6/1/2015	0.2	ok
7	PENELEC	b1996.3	Replace Wave Trap at Ridgway.	6/1/2015	0.3 0.9	Cost estimate provided by design group
8	PENELEC	b1996.2	Reconductor Ridgway and Whetstone 115 kV Bus.	6/1/2015	0.2	ok
9	PENELEC	b1996.1	Replace 600 Amp Disconnect Switches on Ridgway-Whetstone 115 kV line with 1200 Amp Disconnects	6/1/2015	0.5	ok
10	PENELEC	b1995	Change CT Ratio at Claysburg	8/1/2015	0.002	ok
11	PENELEC	b1993	Rearrange Relocate the Erie South and Wayne 345 kV line terminals at Erie West Substation	6/1/2015	1.9 4.3	Updated description to better describe project scope. Cost estimate updated by design group; original estimate was high level budgetary estimate.
12	PENELEC	b1992	Reconductor Cambria Slope-Summit 115kV with 795 ACSS Conductor	6/1/2015	4.8	ok
13	PENELEC	b1991	Construct Farmers Valley 345/230 kV and 230/115 kV substation. Loop the Homer City-Stolle Road 345 kV line into Farmers Valley	6/1/2015	41.2 29.6	Cost estimate updated by design group; original estimate was high level budgetary estimate
14	PENELEC	b1990	Install a 25 28.9 MVAR 115 kV Capacitor at Grandview	8/1/2015	0.9	Updated Capacitor size
15	PENELEC	b1967	Replace the Blairsville 138/115 kV transformer	8/1/2014	4.2	ok
16	PENELEC	b1966	Replace the 1200 Amp Line trap at Lewistown on the Raystown-Lewistown 230 kV line and replace substation conductor at Lewistown	12/1/2013	0.15	ok
17	PENELEC	b1944	Reconductor Eclipse substation 115 kV bus with 1033 kcmil conductor	8/1/2013	0.15	ok
18	PENELEC	b1998	Install a 75 MVAR 115 kV Capacitor at Shawville	6/1/2015	1.5	ok
19	PENELEC	b1945	Install second 230/115 kV autotransformer at Johnstown	6/1/2015	4.5	ok

**PJM Construction Responsibility Designation - FE Zone
November 26, 2012 Letters**

Letter Page	Zone	Upgrade ID	Description	PJM Projected In-service date	Cost Estimate	Planning Comments on information contained in pdf file
1	ME	NA	Cover Letter	-	-	-
2	ME	b1816-5	Replace SCGR (Sub-conductor) at Hunterslow Substation on the No. 1, 230/115 kV transformer	6/1/2013	0.4	PJM informed via e-mail on January 11, 2013 that this project is no longer required and has been cancelled due to revised rating.
3	ME	b2023	Construct a new North Temple - Riverview - Cartech 69 kV line (4.7 miles) with 795 ACSR	6/1/2015	6.9 4.82	Cost estimate updated by design group. original estimate was high level budgetary estimate.
4	ME	b2024	Upgrade 4/0 substation conductors at Middletown 69 kV	6/1/2014	0.03	ok
5	ME	b2025	Upgrade 4/0 and 350 Cu substation conductors at the Middletown Junction terminal of the Middletown Junction - Wood Street - Tap Swatara 69 kV line	6/1/2014	0.02	Updated revised location name.
6	ME	b2026	Upgrade an OC protection relay at the Baldy 69 kV substation	6/1/2014	0.05	ok
7	ME	b1999	Replace limiting wave trap, circuit breaker, substation conductor, relay end current transformer components at Northwood	6/1/2015	0.9	ok
8	ME	b2000	Replace limiting wave trap on the Glendon - Hosensack line	6/1/2015	0.05	ok
9	ME	b2001	Replace limiting circuit breaker and substation conductor transformer components at Portland 230kV	6/1/2015	0.4	ok
10	ME	b2002	Northwood 230/115 kV Transformer upgrade	6/1/2015	4	ok
1	JCPL	NA	Cover Letter	-	-	-
2	JCPL	b1853	Install new 135 MVA 230/34.5 kV transformer with one 230 kV CB at Eaton Crest and create a new 34.5 kV CB straight bus to feed new radial lines to Locust Grove and Interdate/Woodbine	6/1/2014	19.4 17.9	Cost estimate updated by design group; original estimate was high level budgetary estimate.
3	JCPL	b1854	Readington 1737 34.5 kV Line - Parallel existing 1250 CU UG cable (440 feet)	6/1/2012	0.35	Completed 5/25/12
4	JCPL	b1855	Oceanview Substation - Relocate the H216 breaker from the A bus to the B bus	6/1/2012 6/1/2013	0.09	FE adjusted ISD due to workload and prioritization.
5	JCPL	b1856	Madison Tp to Madison (N14) line - Upgrade limiting 250 Cu substation conductor with 795 ACSR at Madison sub	6/1/2012	0.08	Completed 5/22/12
6	JCPL	b1857	Montville substation - Replace both the 397 ACSR and the 500 Cu substation conductor with 795 ACSR on the 34.5 kV (M117) line	6/1/2012	0.01	Completed 5/09/12
7	JCPL	b1858	Reconductor the Newton - Mohawk (2702) 34.5 kV line with 1.9 miles of 397 ACSR	6/1/2013	1.2 0.71	Cost estimate updated by design group; original estimate was high level budgetary estimate.
8	JCPL	b2003	Construct a Whippany to Montville 230 kV line (6.4 miles)	6/1/2016 6/1/2017	28.8 37.5	Cost estimate updated by design group; original estimate was high level budgetary estimate. FE current construction schedule is targeting a 6/1/2017 ISD. Currently developing route. Siting/permitting/ROW planned for 2013-2015, Construction planned for fall 2016 thru March 2017
9	JCPL	b2015	Build a new 230 kV circuit from Larrabee to Oceanview	6/1/2016 6/1/2017	55.8 78.33	Cost estimate updated by design group; original estimate was high level budgetary estimate. FE current construction schedule is targeting a 6/1/2017 ISD. Currently developing route. ISD assumes ROW is able to be acquired in a timely manner.

