

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES
OFFICE OF ADMINISTRATIVE LAW

JERSEY CENTRAL POWER & LIGHT COMPANY
DOCKET NOS. ER02080506 & ER02080507

INITIAL TESTIMONY OF PETER LANZALOTTA

Filed on Behalf of

THE NEW JERSEY DIVISION OF THE RATEPAYER ADVOCATE

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November 16, 2004

1 Q. PLEASE STATE YOUR NAME, AFFILIATION AND BUSINESS ADDRESS.

2 A. Peter J. Lanzalotta, Lanzalotta & Associates LLC, 9762 Polished Stone,
3 Columbia, Maryland 21046.

4
5 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

6 A. I am a graduate of Rensselaer Polytechnic Institute, where I received a Bachelor
7 of Science degree in Electric Power Engineering. In addition, I hold a Masters
8 degree in Business Administration with a concentration in Finance from Loyola
9 College in Baltimore.

10
11 Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

12 A. I am a Principal of Lanzalotta & Associates LLC, which was formed in January
13 2001. Prior to that, I was a partner of Whitfield Russell Associates, with which I
14 had been associated since March 1982. My areas of expertise include electric
15 system planning and operation, cost of service study, and utility rate design. I am
16 a registered professional engineer in the states of Maryland and Connecticut. My
17 prior professional experience is described in Exhibit PJJ-1, which is attached
18 hereto.

19
20 I have been involved with the planning and operation of electric utility systems
21 and with utility regulatory matters, including cost of service, cost allocation, and
22 rate design, as an employee of and as a consultant to a number of privately- and
23 publicly-owned electric utilities, regulatory agencies, developers, and electricity
24 users over a period exceeding thirty years.

25
26 In the past ten years, I have led or assisted a number of projects focused on
27 electric utility reliability and service quality. I have worked for many years on
28 behalf of the City of Chicago on electric reliability-related matters, and I am
29 currently engaged by various government offices and agencies in the states of
30 Delaware, Maryland, and Pennsylvania, on an ongoing basis, to help develop
31 procedures for reporting on and evaluating electric distribution system reliability

1 performance and remedial actions, as well as to investigate specific electric
2 service reliability concerns.

3

4 Q. ARE YOU QUALIFIED TO OFFER EXPERT TESTIMONY IN ANY
5 JUDICIAL OR QUASI-JUDICIAL PROCEEDINGS?

6 A. Yes, I have presented expert testimony before the Federal Energy Regulatory
7 Commission and before regulatory commissions and other judicial and legislative
8 bodies in 16 states, the District of Columbia, and the Provinces of Alberta and
9 Ontario. My clients have included utilities, regulatory agencies, ratepayer
10 advocates, independent producers, industrial consumers, the United States
11 Government, and various city and state government agencies. The proceedings in
12 which I have testified are listed in Exhibit PJJ-2.

13

14 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

15 A. My testimony, on behalf of the New Jersey Division of the Ratepayer Advocate
16 (“Ratepayer Advocate”), addresses the following issues:

17

18 (1) Has Jersey Central Power and Light Company (“JCP&L” or “Company”)
19 proved it is in compliance with current service reliability and quality
20 standards set forth in N.J.A.C. 14:5-7? (Final Order, page 69)

21

22 (2) Are additional reliability performance standards required for JCP&L, such
23 as specified targets to improve JCP&L’s reliability and service quality in
24 the shore area, on both a short-term and long term basis, as well as to
25 improve service quality and reliability throughout JCP&L’s entire service
26 territory? (Final Order, page 69)

27

28 (3) Has JCP&L proved that all the expenditures and projects requested for
29 recovery to increase its system’s reliability were prudently incurred and
30 are they reasonable for rate recovery? (Final Order, page 69)

31

32 (4) Has the Company proved that the requested reliability projects/programs

1 have sufficiently improved and maintained system reliability so that the
2 Board of Public Utilities (“BPU” or “Board”) is justified in increasing the
3 allowed return on equity for ratemaking to 9.75%?, or has the reliability
4 deteriorated to justify a lowering of the allowed return on equity to
5 9.25%? (Final Order, page 39)

- 6
7 (5) How does JCP&L propose to measure the improvements? Is JCP&L’s
8 proposed method to measure service reliability improvements reliable?
9 (Final Order, page 39)

10
11 Q. PLEASE SUMMARIZE YOUR FINDINGS.

12 A. My findings are as follows:

- 13
14 (1) JCP&L has not proved it is in compliance with the reliability standards set
15 in N.J.A.C. 14:5-7. The Company’s SAIFI¹ reliability indices, which
16 indicate the number of service interruptions experienced by the average
17 customer, are in excess (higher is less reliable) of the Company’s
18 benchmark and are in excess of the minimum reliability levels as specified
19 in the regulations.

- 20
21 (2) There are a number of changes in reliability-related reporting that I
22 recommend, including (a) reporting reliability index data that includes all
23 customer interruption data, including interruptions during Major Events, in
24 addition to the currently reported reliability index data, and (b) in addition
25 to continuation of the Annual System Performance Report (“ASPR”), add
26 a quarterly performance report similar to the annual report, but include a
27 list of the worst performing distribution circuits (i.e., feeders) and the
28 Company’s plan for improving reliability, and (c) include in the ASPR an
29 analysis of significant differences between the Company’s reported

¹ SAIFI is the acronym for “System Average Interruption Frequency Index” which will be fully defined below.

1 reliability-related performance and that reported by other major New
2 Jersey electric utilities.

3
4 (3) JCP&L has not proven that all the expenditures and projects requested for
5 recovery were prudently incurred or that they are reasonable for recovery.
6 My testimony supports the exclusion from rates at this time all of the
7 expenditures and investments contemplated for 2005 as being premature
8 to charge ratepayers for. In addition, (a) selected portions of the
9 incremental tree trimming expenses attributed to 2003 and 2004 are
10 unreasonable for recovery, (b) selected portions of the distribution system
11 investment contemplated for 2004 is deemed to be unreasonable for
12 recovery at this time, and (c) the emergency diesel generation expenses
13 attributed to the barrier peninsula for 2003 and 2004 are deemed to be
14 unreasonable for recovery.

15
16 (4) The Company has not proven that the requested reliability
17 projects/programs have improved or even maintained system reliability
18 such that the Board is justified in increasing JCP&L's return on equity to
19 9.75%. However, the Company has shown improvement in one
20 reliability-related area such that no decrease in JCP&L's return on equity
21 from 9.5% seems justified.

22
23 (5) JCP&L's proposed use of the Circuit Reliability Index ("CRI") as a means
24 of measuring improvements in the level of reliability performance is
25 flawed and has not been shown to have any meaningful relationship with
26 the SAIFI and CAIDI² reliability indices specified by current New Jersey
27 regulations. The CRI goals provided for in the June 2004 Stipulation of
28 Settlement³ fail to address reliability levels on the worst 20% of the
29 JCP&L system and they tend to hide decreases in reliability performance

² CAIDI is the acronym for "Customer Average Interruption Duration Index" which will be fully defined below.

³ Stipulation of Settlement dated June 8, 2004 in BPU Docket Nos. EX02120950 & EX03070503.

1 in individual reliability indices, such as SAIFI or CAIDI. In fact, the
2 Company's most recently provided CRI indicates improvement even
3 though SAIFI numbers are deteriorating.
4

5 I will address each of these findings in more detail below.
6

7 **Compliance With Current Standards**

8 Q. HAS JCP&L PROVED IT IS IN COMPLIANCE WITH CURRENT SERVICE
9 RELIABILITY AND QUALITY STANDARDS SET OUT IN N.J.A.C. 14:5-7?

10 A. No. JCP&L has not demonstrated that it is in complete compliance with current
11 service reliability and quality standards as set forth in N.J.A.C. 14:5-7.
12

13 My review of JCP&L's reliability performance looked at the Company's
14 reliability indices that were provided in discovery responses, and that were
15 included in the Company's Annual System Performance Report ("ASPR").
16

17 Q. WHAT SERVICE RELIABILITY STANDARDS ARE SET FORTH IN N.J.A.C.
18 14:5-7?

19 A. N.J.A.C. 14:5-7 ("BPU Regulations" or "Interim Electric Distribution Service
20 Reliability and Quality Standards"), included as Exhibit PJL-3, measure reliability
21 primarily in terms of two reliability indices, SAIFI and CAIDI.
22

23 SAIFI refers to the System Average Interruption Frequency Index, and is a
24 measure of the frequency of customer outages. For a calendar year period, SAIFI
25 represents the average number of outages per customer during that period. SAIFI
26 is calculated by dividing the total number of sustained customer service
27 interruptions by the total number of customers served. SAIFI may be calculated
28 for time periods other than a calendar year as well.
29

30 CAIDI refers to the Customer Average Interruption Duration Index, which is the
31 average duration of a customer outage, measured in minutes. It is sometimes

1 calculated in hours, rather than in minutes. For a calendar year, CAIDI is
2 calculated by dividing the sum of the individual customers' minutes of sustained
3 electric service interruption in that year by the total number of individual
4 customer interruptions. CAIDI represents the average number of minutes of
5 electric service interruption for each customer service interruption and may
6 alternatively be calculated for time periods other than a calendar year.

7

8 Q. HOW ARE THE SAIFI AND CAIDI RELIABILITY INDICES USED TO SET
9 RELIABILITY STANDARDS?

10 A. The Board's Interim Service Reliability and Quality Standards established a
11 benchmark reliability level for each electric utility that reflects that utility's
12 performance during the period from 1990 through 1999. The JCP&L benchmark
13 reliability levels are 0.78 customer interruptions per customer for SAIFI and 129
14 minutes per customer interruption for CAIDI.

15

16 These benchmarks, and the ten years of data that go into each, are then used to
17 determine a "minimum" reliability level, which equals the benchmark plus 2
18 standard deviations of the ten years of underlying data. The minimum reliability
19 levels established for JCP&L are 1.11 customer interruptions per customer for
20 SAIFI and 180 minutes per customer interruption for CAIDI. These minimum
21 reliability levels reflect considerably less reliable service than the ten-year
22 average reliability level reflected in the benchmark. Where SAIFI and CAIDI are
23 concerned, a higher value reflects less reliable service.

24

25 Q. ARE ALL CUSTOMER INTERRUPTIONS REFLECTED IN THE
26 CALCULATION OF THE RELIABILITY INDICES?

27 A. No. Customer interruptions that occur during Major Events, where at least 10%
28 of the customers in an operating area are interrupted, are excluded from the
29 calculation of the reliability indices. Major Events are deemed by the BPU
30 Regulations (N.J.A.C. 14:5-7.2) to result from conditions beyond the control of
31 electric utilities, and may include, but are not limited to, thunderstorms, tornados,

1 hurricanes, heat waves, or snow and ice storms. The exclusion of customer
2 interruptions that occur during Major Events from the calculation of the SAIFI
3 and CAIDI reliability indices results in lower reported values for these indices
4 than would be the case if all outage data were included in these calculations. A
5 lower value for SAIFI reflects fewer customer interruptions while a lower value
6 for CAIDI reflects shorter outage durations. In either case, lower index values
7 reflect more service reliability. Excluding electric service interruptions that occur
8 during Major Events from the calculation of the reliability indices results in
9 reliability indices that reflect a higher level of electric service reliability than is
10 actually being experienced by customers.

11

12 Q. WHAT LEVEL OF RELIABILITY PERFORMANCE IS INDICATED BY
13 RECENT JCP&L SAIFI AND CAIDI RELIABILITY INDICES?

14 A. Table 1, shown below, reflects the Company's SAIFI performance from 1999 to
15 the present. The figures in Table 1 reflect the number of service interruptions of
16 longer than five minutes experienced by each customer on average during each
17 one year period reflected in the Table. Table 1 also reflects the benchmark and
18 minimum reliability levels established for JCP&L.

19

20

Table 1

JCP&L SAIFI	
1999	0.66
2000	2.22
2001	1.03
2002	1.18
2003	1.47
12 Months Ending 9-30-04	1.57
Benchmark	0.78
Min. Reliability Level	1.11

21

22 Table 1 shows that JCP&L's SAIFI values have exceeded (been less reliable than)
23 its minimum reliability level in 2002, 2003, and in the 12 months ending

1 September 30, 2004 and have been increasing (becoming less reliable) over the
2 entire period. This means that JCP&L customers have suffered more frequent
3 outages than the minimum amount allowed by BPU Regulations. Therefore,
4 JCP&L is not in compliance with the BPU Regulations. I note that JCP&L's
5 minimum reliability level for SAIFI, 1.11, reflects 42% more customer
6 interruptions per customer than the average performance reported by JCP&L
7 during the benchmark period, 0.78. By comparison, in 2003, JCP&L's SAIFI was
8 1.47, and in the 12 months ending on September 30, 2004, JCP&L's SAIFI was
9 1.57, both of which exceed (are less reliable than) JCP&L's minimum reliability
10 level of 1.11 for SAIFI. This trend towards an increasing frequency of customer
11 interruption continues unchanged.

12
13 Q. HAS THE COMPANY PROVIDED ANY EXPLANATION FOR ITS
14 DECLINING SAIFI PERFORMANCE?

15 A. Yes. In its supplemental response to Staff Verbal Request No. 1, the Company
16 attributes its increase in SAIFI to a series of specific events in 2003 and 2004.
17 Among the 2003 events are (1) the Point Pleasant bus tie failure on June 25, (2)
18 the cable failures associated with the outages on the 4th of July holiday period on
19 the New Jersey shoreline and barrier peninsula, (3) several windstorms, and (4)
20 the failure of the Raritan River 230 kV breaker failure. Each of these affected
21 significant numbers of customers.

22
23 In the same response, the Company also lists 6 specific events in 2004 that
24 affected significant numbers of customers. Two of these events were identified as
25 weather related and the remainder appear to be attributed to various pieces of
26 substation equipment. However, JCP&L's noncompliance with the regulations
27 cannot be explained away by simply removing these items from the calculations.
28 These items represent real outages suffered by customers who are paying for
29 reliable service. While the regulations permit removal of Major Events from the
30 calculations, these items do not constitute such Major Events.

31

1 Q. DO THE RELIABILITY IMPROVEMENTS BEING IMPLEMENTED BY THE
2 COMPANY ADDRESS THESE TYPES OF EVENTS THAT ARE DRIVING
3 THE COMPANY'S DECLINING SAIFI PERFORMANCE?

4 A. I believe that they address, in part, the types of events that are referenced by the
5 Company. Improvements in the areas of tree trimming, lightning protection,
6 circuit switching, and others all seem likely to improve reliability performance,
7 especially during stormy weather. However, it is not clear that outages due to
8 equipment problems will be reduced over time by the Company's plan. The
9 Company's distribution system is getting older and, absent specific programs to
10 deal with the replacement of old equipment prior to its failure, such failures
11 should be expected to increase. With limited exceptions, FirstEnergy's approach
12 is to use its distribution equipment until it fails. Thus, the system's reliability will
13 tend to be bolstered by the reliability improvements, even while the system tends
14 to become more failure-prone due to increasing age. It remains to be seen
15 whether such an approach can support the needed improvements in SAIFI
16 performance.

17
18 Q. PLEASE ADDRESS THE COMPANY'S CAIDI PERFORMANCE.

19 A. Table 2, shown below, reflects the Company's CAIDI performance from 1999 to
20 the present. The figures in Table 2 reflect the average duration of (the number of
21 minutes of) service interruption for each service interruption experienced by
22 customers during each one year period reflected in the Table. In simpler terms,
23 CAIDI reflects the length of the average customer interruption. Table 2 also
24 reflects the benchmark and minimum reliability levels established for JCP&L.

25
26

1

Table 2

JCP&L CAIDI	
1999	153.0
2000	265.2
2001	141.6
2002	155.4
2003	142.8
12 Mo. Ending 9-30-04	123.0
Benchmark	129.0
Min. Reliability Level	180.0

2

3 In contrast to its SAIFI performance, JCP&L’s reported CAIDI performance has
4 been more reliable than its minimum reliability level of 180 minutes of
5 interruption per outage in each year since 2000, and has shown improvement in
6 2003 with a CAIDI of 142.8 minutes per customer interruption (down from 155.4
7 minutes per customer interruption in 2002) and in the 12 months ending
8 September 30, 2004 with a CAIDI of 123.0 minutes per customer interruption.

9

10 Q. HOW DOES THIS PERFORMANCE COMPARE WITH THAT OF OTHER
11 LARGE ELECTRIC UTILITIES IN NEW JERSEY?

12 A. JCP&L’s CAIDI performance, though better than its minimum reliability level
13 and on a decreasing trend, still reflects significantly longer outages than is
14 reflected by the CAIDIs of Public Service Electric & Gas (“PSE&G”) and of
15 Atlantic City Electric (“ACE”). Table 3 below compares reported CAIDIs for
16 JCP&L, PSE&G, and ACE.

17

Table 3

CAIDI	JCP&L	PSE&G	ACE
2000	265.2	89.7	91.6
2001	141.6	84.8	77.2
2002	155.4	100.4	105.9
2003	142.8	79.9	103.5

18

1 Over the past four years, neither PSE&G nor ACE has reported a CAIDI as high
2 (higher means longer average outage length) as the CAIDI reported by JCP&L.
3 For 2003, JCP&L's reported CAIDI of 142.8 minutes per average customer
4 interruption was 38% higher than the CAIDI of 103.5 minutes per customer
5 interruption reported by ACE, and some 79% higher than the CAIDI of 79.9
6 minutes per customer interruption reported by PSE&G.

7

8 **Need For Additional Standards**

9 Q. ARE CURRENT NEW JERSEY PERFORMANCE STANDARDS AN
10 ADEQUATE INDICATOR OF A UTILITY'S RELIABILITY?

11 A. The current reliability standards have a number of potential problems, the first of
12 which is that they permit a significant amount of reliability degradation from
13 historical measured reliability levels. The current reliability benchmarks for
14 SAIFI and CAIDI reflect the average level of reliability measured during the ten
15 year period 1990-1999. However, the minimum reliability level defined by the
16 BPU Regulations permits a level of reliability that is considerably lower than that
17 reflected by the benchmark. In the case of JCP&L, the SAIFI benchmark is 0.78
18 customer interruptions per customer per year, but minimum reliability level for
19 JCP&L's SAIFI is 1.11 customer interruptions per customer (as reflected in Table
20 1), thus permitting 42% more customer interruptions per customer than was
21 measured for these customers during the period 1990-1999. The JCP&L
22 minimum reliability level for CAIDI is similarly inflated by 40%, with a historical
23 benchmark of 129 minutes per customer interruption and a minimum reliability
24 level of 180 minutes per customer interruption (as reflected in Table 2).

25

26 Compounding the problem is the fact that JCP&L does not include all of its
27 customer interruptions when it calculates the SAIFI and CAIDI reliability indices.
28 Excluded from the calculations are customer interruptions that occur during Major
29 Events, which occur when 10% of the customers in one of the Company's
30 operating areas have their electric service interrupted due to storms, hot weather,
31 or other causes that the BPU Regulations deem are beyond the Company's

1 control. In effect, the more service interruptions the Company's system
2 experiences as a result of storms or hot weather, the better the Company's
3 reported reliability indices look, because none of the interruptions that occur
4 during such weather-related events are included in these indices, as long as
5 enough customers are interrupted.

6
7 While there may be valid reasons for wanting to look at electric system reliability
8 performance with customer interruption data from significant reliability events
9 removed, such a perspective does not reflect the level of reliability actually being
10 seen by the customer. Reliability-related reporting of indices such as SAIFI and
11 CAIDI should include a set of indices with all customer interruptions included,
12 even those experienced during Major Events. In this way, we will have a measure
13 of the electric service reliability level actually being experienced by customers.
14 This would also tend to visibly reflect efforts by the Company to increase the
15 distribution system's ability to perform during stormy or hot weather by including
16 such increased performance in a set of reported reliability indices.

17

18 Q. ARE ADDITIONAL PERFORMANCE STANDARDS NEEDED TO IMPROVE
19 ELECTRIC SERVICE RELIABILITY IN THE SHORE AREA OF JCP&L's
20 SERVICE AREA?

21 A. No justifications have been presented that would justify mandating different
22 levels of service reliability for different parts of the Company's service area.
23 Different system planning criteria may be required for different parts of the
24 Company's service area in order to result in consistent levels of service reliability
25 in all parts of the system. However, absent some justification to provide different
26 electric service reliability levels to different parts of the Company's service area,
27 the current goal should be to provide consistently reliable service to all parts of
28 the Company's service area.

29

1 Q. WOULD INCREASED RELIABILITY-RELATED REPORTING HELP
2 SUPPORT CONSISTENT RELIABILITY LEVELS ACROSS ALL PARTS OF
3 THE COMPANY'S SERVICE AREA?

4 A. Yes. The current reliability-related reporting provides aggregated reliability
5 performance data for the Company's system, and for its two major operating
6 areas, but it does so only once a year. More frequent reporting providing more
7 information about the reliability performance of specific parts of the system is
8 justified. To that end, I propose that the Company be required to file with the
9 Board and the Ratepayer Advocate both the current Annual System Performance
10 Report (ASPR) and a quarterly performance report similar in content to the
11 ASPR, including electric service reliability data on a rolling 12 month basis, a
12 breakdown of electric service interruption cause data, and a detailed list of the
13 Company's 5% worst performing distribution circuits on a quarterly basis.⁴ More
14 frequent and more detailed reporting will help point out specific problem areas of
15 the system and will permit a more rapid reaction to developing problems.

16
17 Q. ARE THERE ANY OTHER CONCERNS YOU WISH TO ADDRESS
18 REGARDING ELECTRIC SERVICE RELIABILITY INDICES AND
19 PERFORMANCE STANDARDS?

4. The list should include the circuit number; SAIFI, CAIDI and SAIDI for each circuit; the number of customers served, number of interruptions, customer minutes interrupted and number of lockouts for each circuit; the remedial efforts taken and planned; the date that such work is scheduled to be performed; and the actual completion date of remedial work. ("SAIDI" is the System Average Interruption Duration Index and measures the total length of all outages suffered by the average customer for the period studied. SAIDI is calculated by multiplying SAIFI times CAIDI, i.e., the average number of outages per customer times the average minutes per outage = the total minutes of outage suffered by the average customer in the year. For example, using JCP&L's 2003 statistics from Tables 1 and 2 above, the 2003 SAIDI would be 1.47 times 142.8 = 209.9 minutes of outages for the average customer in 2003.) For identified remedial work that has not been completed within 12 months of the feeder appearing on the list, the Company will provide an explanation of the reasons for the longer period and the expected schedule for completion. Circuits that again appear on the list 12 months after remedial work is completed will be evaluated on an expedited basis with identified additional remediation to be completed within 6 months.

1 A. Yes. As reflected in Table 3, presented earlier in my testimony, there are
2 significant differences in reported reliability performance among the major
3 electric utilities in New Jersey. While differences in service area characteristics
4 and location may play a role in such differences, it is not apparent why it is
5 reasonable, for example, for JCP&L's customers to endure average service
6 interruptions of 143 minutes when PSE&G customers are experiencing service
7 interruptions of 80 minutes on average. As part of the required annual reliability-
8 related reporting (the ASPR), it would be helpful if the Company would address
9 any significant differences between its reliability-related performance and that
10 being reported by other major New Jersey electric utilities, and provide an
11 analysis of why these differences exist and what would be required to improve the
12 Company's reliability-related performance so as to narrow or eliminate these
13 differences.

14

15 **Prudently Incurred and Reasonable For Recovery**

16 Q. HAS JCP&L PROVED THAT ALL THE EXPENDITURES AND PROJECTS
17 REQUESTED FOR RECOVERY TO INCREASE ITS SYSTEM'S
18 RELIABILITY WERE PRUDENTLY INCURRED AND ARE THEY
19 REASONABLE FOR RATE RECOVERY?

20 A. No. In addition to a number of expenses and investments attributed to operations
21 in 2003 and 2004 which I will discuss a bit later, JCP&L proposes to include in
22 rates a significant amount of investment planned for 2005 and a significant
23 amount of maintenance expense anticipated for 2005. These investments and
24 expenses, contemplated for 2005, should not simply be added onto current rates,
25 which are based on a 2002 test year. As discussed in the testimony of Ratepayer
26 Advocate witness David Peterson, the Company has not demonstrated that the
27 rates currently in effect are deficient and need to be increased. There is a chance
28 that adding even the investments made and the expenses incurred in 2003 and
29 2004 to the current rates will result in rates that are higher than could be justified
30 using the regulatory rate making principles that are reflected in the Phase I rates.
31 Going even further by adding in the investments and expenses contemplated for

1 2005, but not yet spent, simply compounds the potential for excessively high rates
2 and should not be permitted absent a showing by the Company that its current
3 rates are deficient.
4

5 Q. ARE THERE SPECIFIC EXPENDITURES AND INVESTMENTS IN 2003
6 AND 2004 THAT RAISE QUESTIONS AS TO THEIR REASONABLENESS
7 FOR RATE RECOVERY?

8 A. Yes. There are serious questions as to the reasonableness for rate recovery in this
9 proceeding regarding (1) some of the incremental tree-trimming expenses claimed
10 by the Company, (2) some of the investments in distribution facilities proposed
11 for and/or made in 2004, and (3) the expense of operating emergency diesel
12 generators in 2003 and 2004 on the barrier peninsula. I will discuss the
13 incremental tree trimming expenses first.
14

15 **Tree Trimming Expenses**

16 Q. PLEASE ADDRESS JCP&L'S REQUEST FOR INCREMENTAL TREE
17 TRIMMING EXPENSES.

18
19 A. JCP&L witness Filippone's Schedule MJF-4 shows O&M incremental tree
20 trimming expenditures, associated with the Phase II reliability-related projects, as
21 shown in Table 4.

22 Table 4

JCP&L Phase II Additional Tree Trimming Expenses - Schedule MJF-4			
	2003	2004	2005
Accelerated Trimming (\$)	13,915,317	8,074,600	3,500,000
Change to FE Policy (\$)	8,000,000	8,000,000	8,000,000

23

24 The support for this proposed increase is found in JCP&L witness Morgan's
25 testimony, as indicated in the following:
26

27 The Accelerated Vegetation Management Program is designed to reduce
28 tree related outages. The trimming specifications and the amount of
29 trimming scheduled is being increased so that during 2005, as a result of

1 the completion of this aspect of the [Accelerated Reliability Improvement
2 Program], all JCP&L distribution lines will be on a four-year trimming
3 cycle under the more stringent specifications generally applicable across
4 the FirstEnergy system. The aggregate additional O&M cost of the
5 accelerated tree trimming in 2003, 2004 and 2005 will be \$25.5 million.
6

7 In addition, due to the change in policy and practices for tree trimming
8 using the FirstEnergy standards, which were implemented subsequent to
9 December 31, 2002, versus the standards used prior to the merger of
10 JCP&L's former parent, GPU, Inc., and FirstEnergy, there will be an
11 increase in ongoing O&M cost for tree trimming of about \$8 million
12 annually.
13

14 **Transition to a Four-Year Cycle**

15 Q. WHEN DID THE BOARD ORDER NEW JERSEY ELECTRIC UTILITIES TO
16 GO ONTO A FOUR-YEAR CYCLE FOR TREE TRIMMING?

17 A. In December 1998, the Board ordered all electric utilities to a four-year cycle:

18 The electric utilities should immediately comply with the interpretation of
19 a four (4) year cycle as the "inspecting and if necessary trimming of trees
20 along transmission and distribution lines at least once every four years."
21 BPU Docket No. EX98011130 (12/16/98)
22

23 Q. HAS JCP&L CLAIMED IN THE PAST TO HAVE COMPLETED THE
24 IMPLEMENTATION OF A FOUR-YEAR TREE-TRIMMING CYCLE?

25 A. Yes. In February, 1999, the Company filed a Quarterly Status Report with the
26 Board (BPU Docket No. EX97080610), which addressed, in part, the following
27 recommendation:
28

29 Recommendation #6

30 GPU should immediately shift from a 5 year to a 4 year tree trimming
31 cycle (while maintaining the Company's current tree trimming standards),
32 consistent with the other New Jersey utilities. GPU should increase its
33 distribution line miles of tree trimming from the 1996 level of 2,334 miles
34 to a minimum of 3,220 miles to complete its tree trimming within 4 years.
35 GPU should provide for adequate oversight of contractors engaged in this
36 expedited schedule.

1 JCP&L claimed, at this point in February 1999, that this recommendation was
2 completed.

3

4 Subsequent to this, Mr. Sweeney of JCP&L filed rebuttal testimony in Phase I in
5 January of 2003 (1/24/03) where he testified:

6 This indicates that JCP&L is not, as Mr. Lanzalotta puts it, 'transitioning
7 to a four-year trimming cycle'; instead, it is (and was) already there.

8

9 Thus, the Company has been claiming for years to be on a four-year tree trimming
10 cycle.

11

12 Q. IS THE COMPANY'S EXPLANATION OF THE REASONS FOR THE
13 INCREASED TREE-TRIMMING EXPENSES IN 2003 AND 2004
14 CONSISTENT WITH THE UNDERLYING DATA REGARDING TRIMMING
15 SCHEDULES?

16 A. No. The data supplied by the Company in this proceeding in response to
17 discovery filed by the Ratepayer Advocate indicates that a significant number of
18 the distribution feeders that supposedly underwent comprehensive tree-trimming
19 in 2003 were, in fact, being so trimmed for the first time in five or more years.
20 These feeders were not being accelerated from a four-year schedule, but, rather,
21 were being caught up to a four-year schedule.

22

23 In response to RAR-RE-6, the Company provided dates (1) for the most recent
24 comprehensive tree trimming for each of its distribution feeders, (2) for the most
25 recent prior comprehensive tree trimming for each, and (3) for the next scheduled
26 comprehensive tree trimming for each.⁵

27

28 The data from the Company's response to RAR-RE-6 was analyzed to determine
29 exactly how much of the Company's comprehensive tree trimming in 2003, 2004,

5 Comprehensive trimming covers the entire feeder, from substation to customer, and is differentiated from "hot" spot trimming, which typically occurs between regularly-scheduled comprehensive trims, and which covers only parts of the feeder which require trimming before the next scheduled comprehensive trim in order to maintain service reliability.

1 and 2005 actually reflects the acceleration of what would otherwise be a four-year
 2 cycle, as claimed by the Company. Exhibit PJJ-4 reflects the Company's
 3 comprehensive trimming schedule for its distribution feeders scheduled for
 4 trimming in all of 2003 and in the part of 2004 prior to the date of the Company's
 5 response, which was 9-23-04. The data in Exhibit PJJ-4 is sorted in order of the
 6 most recent trim dates, and then by the previous cycle trimming dates. Exhibit
 7 PJJ-5 reflects the Company's comprehensive tree trimming schedule for its
 8 distribution feeders scheduled for trimming in the part of 2004 subsequent to the
 9 date of the Company's response, 9-23-04, and for 2005. The data in Exhibit PJJ-
 10 5 is sorted in order of the dates of the next scheduled trim, and then by the dates
 11 of the most recent comprehensive trim.

12
 13 The compiled results for comprehensive tree trimming scheduled for 2003, 2004,
 14 and 2005 are shown in Exhibit PJJ-5 and are summarized below, by year. Table
 15 5 summarizes the results of the analysis of feeders undergoing comprehensive
 16 trimming in 2003.

17 **Table 5**

JCP&L Distribution Feeders Trimmed in 2003	
Number of	Years Since Last
Feeders Trimmed	Comprehensive Trim
8	8
8	7
52	6
73	5
143	4
3	3
12	Unknown
299	Total
141	5 or more years

18
 19 As shown in Table 5, there was almost no accelerated trimming, from the point of
 20 view of a four-year schedule, in 2003, despite the Company's claims of spending
 21 more than \$13.9 million to "accelerate" trimming from a four-year schedule.
 22 Three distribution feeders, out of 299 trimmed in 2003, actually saw an
 23 acceleration of their comprehensive trimming. However, 141 of the 299 feeders

1 trimmed in 2003 were seeing their first comprehensive trim in five years or longer
2 (in some cases, as long as eight years)⁶. All of these feeders were finally
3 achieving a four year cycle in 2003, years after the Company claimed to already
4 have achieved a four year trimming cycle. Naturally, it is more expensive to
5 comprehensively trim a feeder that has gone five to eight years since its last
6 comprehensive trim than it is to trim a feeder every four years.⁷ It is incorrect to
7 characterize these expenses as resulting from an “acceleration” of the four year
8 cycle. These figures indicate pretty clearly that the Company is claiming more
9 than \$13.9 million of extra tree trimming expense for 2003 which was actually
10 used to help catch 141 distribution feeders up to a four-year cycle. Money spent
11 in 2003 to catch the Company up to a level of tree trimming status, i.e., a four-
12 year cycle, that it was already supposed to have achieved, and falsely claimed to
13 have achieved years earlier, is not reasonable for recovery through rates, when
14 ratepayers were already supposedly paying for a four year cycle. Ratepayers were
15 assured by the Company, in 1999, and then again in early 2003, that the four year
16 cycle ordered by the Board was, in fact, already being accomplished. The
17 Company has consistently told the Board and ratepayers that a four year trimming
18 cycle was being maintained. Now, the Company wants ratepayers to pay to help
19 get the Company to catch up on tree-trimming that it has consistently assured the
20 Board and ratepayers was already being done.

21
22 As shown in Exhibit PJJ-6, in 2004, there were still 8 feeders that were seeing
23 their first comprehensive trimming in five or more years, thus were just being
24 caught up to a four-year cycle in 2004. However, there were 91 distribution
25 feeders that were actually seeing an acceleration from a four year schedule, such
26 that they were being trimmed three years or less after their most recent previous
27 comprehensive trim.

6 There may be more than 141 feeders that have gone more than four years since their last comprehensive trim among the feeders trimmed in 2003. Note in Table 5 that there are 12 feeders for which the date of the last previous comprehensive trim is unknown. Working under the assumption that older data is more likely to be unknown than recent data, it is likely that a significant portion of these feeders also had gone more than 4 years since their last comprehensive trim.

7 The longer the period of time since the last trim, the more limb and branch material there is to cut down and handle, thereby increasing the cost of the next comprehensive trim.

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Also shown in Exhibit PJJ-6 is a summary for the distribution feeders scheduled to be trimmed in 2005. This summary shows that no feeders were still just being brought into a four-year cycle, while 60 feeders, out of a total of 198 feeders being trimmed in 2005, were actually seeing an acceleration from a four year schedule, such that they were being trimmed three years or less after their most recent previous comprehensive trim.

Thus, according to the data provided by the Company, only in 2005 are there no feeders still to be caught up to the four year cycle ordered by the Board back in 1998. Only in 2005, can all of the expenses for “accelerated” trimming actually be attributed to feeders scheduled to be trimmed ahead of what would otherwise be a four year cycle. Therefore, I have prepared an adjustment to the “accelerated” trimming costs for 2003 and 2004, based on the number of feeders actually receiving accelerated comprehensive trims in those years, and based on the projected 2005 cost for accelerated trimming per feeder scheduled to receive an accelerated trim in 2005. This adjustment is reflected in Table 6 below. Also reflected in Table 6 is the previously discussed adjustment to zero of the \$3.5 million of accelerated trimming expenses contemplated for 2005.

Table 6

JCP&L Phase II Additional Tree Trimming Expenses - Schedule MJF-4			
	2003	2004	2005
Accelerated Trimming Requested (\$)	13,915,317	8,074,600	3,500,000
No. of Feeders Accelerated	3	91	60
Cost per Feeder (\$)	4,638,439	88,732	58,333
Adjust Cost Per Feeder To (\$)	58,333	58,333	58,333
Adjusted Accelerated Trim (\$)	175,000	5,308,333	0
Adjustment (\$)	(13,740,317)	(2,766,267)	(3,500,000)

21

1 Not reflected in Table 6 above is the adjustment to zero of the \$8 million of tree
2 trimming expense anticipated for 2005 to reflect implementation of the change to
3 FirstEnergy's tree trimming specifications.
4

5 **Distribution System Investments**

6 Q. YOU SAID THAT SOME OF THE PROPOSED DISTRIBUTION SYSTEM
7 INVESTMENTS CONTEMPLATED FOR 2004 ALSO RAISED QUESTIONS
8 AS TO THEIR REASONABLENESS FOR RATE RECOVERY IN THIS
9 PROCEEDING. PLEASE DISCUSS.

10 A. The Company has proposed including in rates \$12.087 million of substation
11 transformer-related investment contemplated for 2004. Of this amount, some
12 \$6.2 million is related to providing increases in distribution substation load
13 carrying capacity, while the rest relates to improvements that address only
14 reliability-related needs. Exhibit PJJ-7 provides this breakdown.

15
16 The concern with including these investments immediately into rates stems from
17 the fact that as the retail loads served via JCP&L's distribution system increase
18 above the levels reflected in the 2002 test year of the Phase I case, JCP&L's
19 revenues will similarly increase. As retail loads increase, the \$6.2 million of
20 distribution system investments contemplated for 2004 that relate to increases in
21 the system's ability to serve increased retail loads will be paid for by increases in
22 billable loads. As discussed in the testimony of Ratepayer Advocate witness
23 David Peterson, JCP&L has not presented an analysis showing that its current
24 rates are deficient. Because load and revenue changes (and expense level changes
25 as well) that have occurred since the last rate case have not been shown to render
26 the current rates inadequate, it is inconsistent to include into these rates
27 investments, a primary purpose of which is to increase the system's load carrying
28 capacity, without also looking at the increased revenues that will result from such
29 increases in distribution system loading.
30
31

1 **Diesel Generation Expenses**

2 Q. YOU MENTION THE DIESEL GENERATION EXPENSES INCURRED IN
3 2003 AND 2004 FOR PROVIDING EMERGENCY BACKUP SERVICE ON
4 THE BARRIER PENINSULA. PLEASE DISCUSS.

5 A. As shown in Schedule MJF-4 of Mr. Filippone's testimony on behalf of JCP&L,
6 JCP&L is claiming \$1,747,105 of expense in 2003 and \$48,278 in 2004 for
7 emergency diesel generation on the barrier peninsula. These expenses are not
8 properly includable in rates. These expenses were incurred because JCP&L failed
9 to maintain its electric system, and its capability to operate that system, in a
10 reliable fashion. Its failure to do so caused the widespread and long lasting
11 electric service interruptions that affected the New Jersey shoreline over the 2003
12 4th of July weekend. The diesel generators were needed only because of these
13 failures. These expenses are not properly includable in just and reasonable rates.
14

15 **Return on Equity**

16 Q. HAS THE COMPANY PROVED THAT THE REQUESTED RELIABILITY
17 PROJECTS/PROGRAMS HAVE SUFFICIENTLY IMPROVED AND
18 MAINTAINED SYSTEM RELIABILITY SO THAT THE BPU IS JUSTIFIED
19 IN INCREASING THE RETURN ON EQUITY FOR RATEMAKING
20 PURPOSES TO 9.75%?

21 A. No. The Company's reliability performance, in the area of frequency of
22 interruption, as reflected by the Company's SAIFI reliability indices, has neither
23 improved nor maintained earlier levels of performance. SAIFI reflects the number
24 of service interruptions experienced by the average JCP&L electric customer. As
25 shown in Table 1, presented earlier in my testimony, the JCP&L SAIFI has been
26 on the increase during 2002 and 2003, and this increasing trend has continued into
27 2004. The SAIFI for the twelve months ending September 30, 2004 is 1.57. This
28 value is higher than the 1.47 reported by JCP&L for 2003. This area of JCP&L's
29 reliability performance has neither improved nor been maintained and does not
30 support a rate of return on equity ("ROE") of 9.75%.

31

1 Q. HAS THERE BEEN ANY IMPROVEMENT AT ALL IN JCP&L'S
2 RELIABILITY PERFORMANCE THAT WOULD JUSTIFY ANY CHANGES
3 IN THE COMPANY'S ROE?

4 A. JCP&L's reliability performance has been improving in the area of the duration of
5 the average service interruption, expressed by its CAIDI reliability indices that are
6 reflected in Table 2 earlier in my testimony. In 2003 and in the first 9 months of
7 2004, the JCP&L CAIDI has been decreasing such that the average customer
8 service interruption has declined from 155 minutes in 2002, to 143 minutes in
9 2003, and to 123 minutes for the twelve months ending September 2004. While
10 these average interruption durations are still much longer than those reported by
11 other New Jersey electric utilities (see Table 3 earlier in my testimony), they have
12 shown improvement. Considering this CAIDI improvement along with the
13 deterioration of the SAIFI index, there seems to be no reason to reduce JCP&L's
14 ROE, but also no reason to increase it from 9.50%. I recommend leaving it as is
15 and continuing to monitor the utility's reliability performance.

16

17 **Use of CRI As A Reliability Index**

18 Q. HOW DOES JCP&L PROPOSE TO MEASURE RELIABILITY
19 IMPROVEMENTS?

20 A. JCP&L proposes the use of a Circuit Reliability Index ("CRI") as the main means
21 of measuring reliability improvements on the JCP&L system. In the Stipulation
22 of Settlement dated June 8, 2004 ("June SOS"), in Item No. 3:

23 JCP&L agrees that it will target to get 80% of its circuits to a Circuit
24 Reliability Index ("CRI") (as described in Attachment B) level of 130 or
25 less within four years. JCP&L will report on all circuits on an annual
26 basis until such time as the goal has been achieved as follows:

27

- 28 (i) The Annual Average CRI Rate by Region,
29 (ii) The three year trend on the average circuit CRI rate per Region,
30 (iii) The number of circuits with a CRI score of 0-60 compared to a
31 running three-year average number of circuits in the same range
32 and if the number is increasing over 25% or a score change of 8
33 points, whichever is greater, to take targeted action on the ones that
34 increased and in the case of circuits with CRI scores of 60-100
35 compared to a running three-year average number of circuits in the

1 same range and if the number is increasing over 15% or a score
2 change of 12 points, whichever is greater, to take targeted action
3 on those circuits which increased.

- 4 (iv) After four years or the earlier achievement of the above-mentioned
5 goal of 80% of circuits with a CRI score of 130 or less, JCP&L
6 agrees to adjust the CRI goal in order to utilize the CRI tool to
7 further improve circuit reliability and customer satisfaction by, for
8 example, reducing the targeted CRI score or by using the same
9 goal and targeted CRI score on a circuit element basis, which has
10 the effect of measuring circuit performance at a level increasingly
11 closer to the individual customer.

12
13 Attachment B referred to in the foregoing is included as Exhibit PJL-8.

14
15
16 The CRI is a construct of Houston Lighting & Power and has been adopted by
17 FirstEnergy. It is not known to be a typical reliability performance measure in
18 any state. The CRI is distribution feeder based and is calculated for each
19 distribution feeder, or circuit. Using CRI, each circuit's performance is calculated
20 by means of a formula that takes into account SAIFI, CAIDI, MAIFI⁸ and feeder
21 lockouts.⁹ The result for each circuit is calculated monthly. The calculation
22 incorporates the results of a FirstEnergy survey of some of its Ohio utility
23 customers' views on acceptable outage levels. The SAIFI, CAIDI, MAIFI and
24 feeder lockouts are weighted in proportion to results from the customer surveys.

25
26 Q. IS JCP&L'S PROPOSED METHOD TO MEASURE SERVICE QUALITY
27 IMPROVEMENTS RELIABLE?

28 A. The use of the CRI to measure JCP&L's reliability performance and to set goals
29 for reliability improvement has a number of shortcomings.

30
31 First, there is no known correlation between the level of reliability that would be
32 achieved (1) if 80% of JCP&L's distribution feeders operate at a CRI of 130 or

8 MAIFI refers to the momentary average interruption frequency index, and reflects the average number of momentary outages per customer, where momentary interruptions are those lasting five minutes or less.

9 A lockout refers to the operation of a substation circuit breaker controlling a distribution feeder, such that the breaker has locked open due to an electrical fault out on the feeder, thus interrupting service to all the customers served from that feeder.

1 less, and the level of reliability that would be achieved if JCP&L (2) achieved
2 system-wide SAIFI and CAIDI levels that meet their established benchmark
3 levels or their minimum reliability levels as defined in New Jersey reliability
4 regulations. Even if JCP&L meets its goal of 80% of its distribution feeders
5 achieving a CRI of 130 or less, that statistic does not tell us whether JCP&L will
6 be meeting its minimum reliability levels for SAIFI and CAIDI.

7
8 Second, CRI aggregates multiple reliability indices such that CRI can help mask
9 deterioration in one of these indices. JCP&L's recent performance is a case in
10 point. In its supplemental response to Staff Verbal Request No. 1, the Company
11 reported that 61% of its distribution feeders were at or below a CRI of 130 in
12 2002, while 64% were at or below a CRI of 130 in 2003, and 69% were at or
13 below a CRI of 130 for the twelve months ending September 2004. As shown in
14 Table 1 earlier in this testimony, however, the Company's SAIFI reliability index,
15 which reflects the frequency of customer interruptions, has shown increasingly
16 less reliable electric service over this same period, even while the CRI is
17 apparently showing steady improvement. In this way, a regulator could be misled
18 about system reliability improvement because the CRI would seem to be
19 improving while the frequency of customer outages (SAIFI) is actually getting
20 worse. A good reliability benchmark should not create such a misimpression.

21
22 Third, the CRI goal in the June SOS of 80% of distribution circuits with CRIs of
23 130 or less really only looks at the performance of this 80% of the feeders and
24 permits virtually unlimited poor reliability performance to be maintained on the
25 remaining 20% of the system. The CRI goal in the June SOS does not really
26 address a specified level of reliability performance over the entire JCP&L system,
27 just the most reliable 80%. The SAIFI and CAIDI benchmarks and minimum
28 reliability levels specified in the BPU Regulations include all the feeders on the
29 system and do not exclude the least reliable 20% of the distribution feeders from
30 the calculation of these reliability indices. A good reliability benchmark should

1 reflect the experience of all of the customers on the system and should not leave
2 out those on the most unreliable parts of the system as the CRI would.

3
4 Thus, the use of CRI, in preference to the SAIFI and CAIDI reliability indices
5 specified in the BPU Regulations, does not adequately reflect the goals and
6 reliability levels that are consistent with the BPU Regulations and with
7 ratepayers' interests. CRI should not be used in preference to the reliability
8 indices, primarily SAIFI and CAIDI, which are specified in the BPU Regulations.

9

10 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

11

12 A. Yes.