



Thomas R. Teehan
Senior Counsel

May 1, 2008

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

RE: Docket 3628 - 2007 Service Quality Report, Electric Operations

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's¹ performance results for 2007 under its Service Quality Plan ("Plan") as established in the above-captioned docket. Based on actual performance results, the Company has incurred no penalties for calendar year 2007.

The Company's Plan is described in Attachment 1 to the Company's Agreement to Modify Performance Benchmarks filed on March 14, 2007, and approved by the Commission in Docket 3628. The Plan provides for penalties and offsets relating to performance standards in the areas of reliability and customer service. The service quality standards under the Plan became effective as of January 1, 2007.

This report is organized as follows:

- **Section 1:** Provides a summary of each performance standard in the areas of reliability and customer service. Section 1 contains descriptions of each of the performance standards, the targeted performance levels for 2007 with their related dollar values, and the actual 2007 results with the applicable annual penalty or offset.
- **Section 2:** Provides a summary calculation of the Company's annual penalty or offset for each of the performance standards for 2007. Based on actual performance results for 2007, the Company has incurred no penalties.

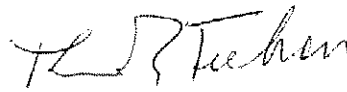
¹ Submitted on behalf of The Narragansett Electric Company, d/b/a National Grid ("Company").

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- Section 3: The Plan requires the Company to report on additional aspects of service quality, including: (1) worst performing circuits; (2) trouble, non-outage calls received; (3) annual meter reading performance; and (4) information on Major Event Days. Section 3 summarizes the results of these reporting requirements.

Thank you for your attention to this filing. If you have any questions concerning this report, please do not hesitate to call me at (401) 784-7667.

Very truly yours,

A handwritten signature in black ink, appearing to read "T. R. Teehan". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Thomas R. Teehan

Enclosures

cc: Docket 3628 Service List
Paul Roberti, Esq.
Steve Scialabba, Division

Certificate of Service

I hereby certify that a copy of the cover letter and / or any materials accompanying this certificate has been electronically transmitted, sent via U.S. mail or hand-delivered to the individuals listed below.



Joanne M. Scanlon

May 1, 2008

Date

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The Narragansett Electric Company
d/b/a National Grid

2007 Service Quality Report

May 1, 2008

Submitted to:
Rhode Island Public Utilities Commission
RIPUC Docket 3628

Submitted by:

nationalgrid

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RELIABILITY PERFORMANCE STANDARDS

Interruption Frequency and Duration

Under the Service Quality Plan, an interruption is defined as the loss of electric service to more than one customer for more than one minute. The interruption duration is defined as the period of time, measured in minutes, from the initial notification of the interruption event to the time when service has been restored to the customers. Interruptions are tracked using System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI). SAIFI is calculated by dividing the total number of customers interrupted by the total number of customers served. SAIFI measures the number of times per year the average customer experienced an interruption. This is an average, so in any given year some customers will experience no interruptions and some will experience several interruptions. SAIDI measures the length of interruption time that the average customer experienced for the year. It is calculated by dividing the total customer minutes of interruption by the total number of customers served.

Certain events are defined as Major Event Days and are excluded from the calculation of reliability performance standards for the purpose of penalty and offset assessment. Section 3 discusses the Major Event Day that occurred during 2007.

2007 Frequency (SAIFI) Standard

2007 Frequency (SAIFI) Results

<u>Frequency of Interruptions per Customer</u>	<u>(Penalty) Offset</u>	<u>Frequency of Interruptions per Customer</u>	<u>Annual (Penalty) Offset</u>
Greater than 1.18	(\$916,000)		
1.06-1.18	linear interpolation		
0.84-1.05	\$0	0.92	\$0
0.75-0.83	linear interpolation		
Less than 0.75	\$229,000		

2007 Duration (SAIDI) Standard

2007 Duration (SAIDI) Results

Duration of Interruptions (minutes)	(Penalty) <u>Offset</u>	Duration of Interruptions (minutes)	Annual (Penalty) <u>Offset</u>
Greater than 89.9	(\$916,000)		
72.0-89.9	linear interpolation		
45.9-71.9	\$0	59.0	\$0
36.7-45.8	linear interpolation		
Less than 36.7	\$229,000		

CUSTOMER SERVICE PERFORMANCE STANDARDS

Customer Contact Survey

The customer contact survey results are based on responses from National Grid's Rhode Island customers, from a survey performed by an independent third-party consultant. The consultant surveys samples of customers who have contacted the call center during the year in order to determine their overall level of satisfaction with their contact. Eight types of transactions are included in the survey, and the overall results are weighted based on the number of these transactions actually performed at the call center during the year. The percent satisfied represents the responses in the top two categories of customer contact satisfaction on a seven-point scale, where 1 means extremely dissatisfied and 7 means extremely satisfied.

2007 Customer Contact Standard

2007 Customer Contact Results

Percent Satisfied	(Penalty) <u>Offset</u>	Percent Satisfied	Annual (Penalty) <u>Offset</u>
Less than 74.5%	(\$184,000)		
74.5%-76.7%	linear interpolation		
76.8%-81.4%	\$0	80.3%	\$0
81.5%-83.7%	linear interpolation		
Greater than 83.7%	\$46,000		

Telephone Calls Answered Within 20 Seconds

The calls answered performance standard reflects the annual average of calls answered within 20 seconds. "Calls answered" include calls answered by a customer service representative (CSR) and calls completed within the Voice Response Unit (VRU). The time to answer is measured once the customer makes a selection to either speak with a CSR or use the VRU.

2007 Calls Answered Standard

2007 Calls Answered Results

<u>% Answered Within 20 Seconds</u>	<u>(Penalty) Offset</u>	<u>% Answered Within 20 Seconds</u>	<u>Annual (Penalty) Offset</u>
Less than 53.5%	(\$184,000)		
53.5%-65.7%	linear interpolation		
65.8%-90.4%	\$0	83.8%	\$0
90.5%-100.0%	linear interpolation, to a maximum of \$46,000		

National Grid
2007 Results of Service Quality Plan
Calculation of Penalty/Offset

<u>Performance Standard</u>	<u>Potential Penalty</u> (a)	<u>Potential Offset</u> (b)	<u>2007 Results</u> (c)	<u>Maximum Penalty</u> (d)	<u>One Std Dev. Worse Than Mean</u> (e)	<u>Mean</u> (f)	<u>One Std Dev. Better Than Mean</u> (g)	<u>Maximum Offset</u> (h)	<u>Annual (Penalty)/Offset</u> (i)
Reliability - Frequency	\$ 916,000	\$ 229,000	0.92	1.18	1.05	0.94	0.84	0.75	\$0
Reliability - Duration	\$ 916,000	\$ 229,000	59.0	89.9	71.9	57.5	45.9	36.7	\$0
Customer Service - Customer Contact Survey	\$ 184,000	\$ 46,000	80.3%	74.5%	76.8%	79.1%	81.4%	83.7%	\$0
Customer Service - Telephone Calls Answered	\$ 184,000	\$ 46,000	83.8%	53.5%	65.8%	78.1%	90.4%	100.0%	\$0
Total Penalty/Offset	\$ 2,200,000	\$ 550,000							\$0

Notes:

Columns (a), (b), and (d)-(h) are per the Amended Electric Service Quality Plan, RIPUC Docket No. 3628.

Column (c) represents the actual 2007 annual results for the performance standards listed in the first column.

Column (i) is calculated as follows:

- For Reliability Standards:
 - If Column (c) is between Column (g) and Column (e): \$0
 - If Column (c) is between Column (h) and Column (g): $[\text{Column (g) - Column (c)}] \div [\text{Column (g) - Column (h)}] \times \text{Column (b)}$
 - If Column (c) is between Column (e) and Column (d): $[\text{Column (c) - Column (e)}] \div [\text{Column (d) - Column (e)}] \times \text{Column (a)}$
 - If Column (c) is greater than Column (d): 100% of Column (a)
 - If Column (c) is less than Column (h): 100% of Column (b)
- For Customer Service Standards:
 - If Column (c) is between Column (e) and Column (g): \$0
 - If Column (c) is between Column (g) and Column (h): $[\text{Column (c) - Column (g)}] \div [\text{Column (e) - Column (d)}] \times \text{Column (b)}$
 - If Column (c) is between Column (d) and Column (e): $[\text{Column (e) - Column (c)}] \div [\text{Column (e) - Column (d)}] \times \text{Column (a)}$
 - If Column (c) is less than Column (d): 100% of Column (a)
 - If Column (c) is greater than Column (h): 100% of Column (b)

ADDITIONAL REPORTING CRITERIA

Under the Company's Service Quality Plan, the following additional reporting criteria are required to be filed with the Commission.

1. **Reporting Requirement:** Each quarter, the Company will file a report of 5% of all circuits designated as worst performing on the basis of customer frequency.

Included in the report will be:

1. The circuit id and location.
2. The number of customers served.
3. The towns served.
4. The number of events.
5. The average duration.
6. The total customer minutes.
7. A discussion of the cause or causes of events.
8. A discussion of the action plan for improvements including timing.

Results: The Company filed its first quarter 2007 feeder ranking results on April 9, 2007, the second quarter results on July 11, 2007, the third quarter results on October 12, 2007, and the fourth quarter results on January 15, 2008.

2. **Reporting Requirement:** The Company will track and report monthly the number of calls it receives in the category of Trouble, Non-Outage. This includes inquiries about dim lights, low voltage, half-power, flickering lights, reduced TV picture size, high voltage, frequently burned-out bulbs, motor running problems, damaged appliances and equipment, computer operation problems, and other non-interruptions related inquiries.

Results: The Company filed the required Trouble, Non-Outage reports on a monthly basis during 2007. The December 2007 report was initially filed on January 25, 2008, and subsequently corrected and resubmitted on February 26, 2008 in response to the Division's questions on the December 2007 report.

3. **Reporting Requirement:** The Company will report its annual meter reading performance as an average of monthly percentage of meters read.

Results: During 2007, the Company's annual meter reading performance (as an average of monthly percentage of meters read) was 99.1%, compared to 98.9% during 2006 and 98.6% during 2005. The following table details the percentage of meters read per month for 2007, 2006, and 2005.

**Narragansett Electric Company
Monthly Percentage of Meters Read**

	<u>2007</u>	<u>2006</u>	<u>2005</u>
January	98.9%	98.8%	98.5%
February	99.0%	98.9%	98.5%
March	99.1%	99.0%	98.9%
April	99.1%	99.1%	99.1%
May	99.2%	99.1%	98.9%
June	99.1%	99.0%	98.6%
July	99.1%	98.5%	98.6%
August	99.1%	98.6%	98.4%
September	99.1%	98.8%	98.4%
October	99.2%	98.9%	98.4%
November	99.2%	98.9%	98.6%
December	99.0%	98.8%	98.8%

4. **Reporting Requirement:** For each event defined as a Major Event Day, the Company will prepare a report, which will be filed annually as part of the annual SQ filing, detailing the following information:

1. Start date/Time of event.
2. Number/Location of crews on duty (both internal and external crews).
3. Number of crews assigned to restoration efforts.
4. The first instance of mutual aid coordination.
5. First contact with material suppliers.
6. Inventory levels: pre-event/daily/post-event.
7. Date/Time of request for external crews.
8. Date/Time of external crew assignment.
9. # of customers out of service by hour.
10. Impacted area.
11. Cause.
12. Weather impact on restoration.
13. Analysis of protective device operation.
14. Summary of customers impacted.

Results:

IEEE Std.1366-2003 identifies reliability performance during both day-to-day operations and Major Event Days. Major Event Days represent those few days during the year on which the energy delivery system experienced stresses beyond that normally expected, such as severe weather. A day is considered a Major Event Day if the daily SAIDI exceeds a threshold value, calculated using the IEEE methodology. The Agreement to Modify Performance Benchmarks fixed the threshold value at 5.34 for 2007 and 2008. As described below, April 16, 2007 exceeded 5.34 minutes of SAIDI and thus qualified as a Major Event Day.

1. Start date/Time of event:

The storm event, which was a typical Nor'easter, started in Rhode Island on Sunday, April 15, 2007 at approximately 9:00 a.m. EST. The storm event ended on Tuesday, April 17, 2007 at approximately 9:00 p.m. with gusty coastal winds and light rain throughout Tuesday.

2. Number/Location of crews on duty (both internal and external crews):

At the storm's peak (Monday, April 16, 2007 during the daytime shift), the following crew numbers were reported:

Location	Crew Type	# Crews (x2 for headcount)
Ocean State Division	Internal Overhead Line (RI)	39.5
	Internal Overhead Line (MA)	5
	Internal Trouble Men	10 (x1 for headcount)
	Internal Service Restoration	7
	Internal Substation O&M	4
	Internal Underground	11
	Contractor Overhead Line	44
	Contractor Tree	17

At the time of the storm event, dynamic tracking of crew counts was not possible. Instead, per shift reports were generated for the daytime and nighttime. Since August 2007, the Company has been using Resource on Demand (RoD), a software-based application, to track its resources and lodging functions during a storm in near real-time.

3. Number of crews assigned to restoration efforts:

At the storm's peak (Monday, April 16, 2007 during the daytime shift), the following crews were assigned to assist in the restoration activities:

Overhead Line:	88.5 crews
Trouble Men:	10
Service Restoration:	7 crews
Tree:	17 crews
Substation O&M:	4 crews
Underground	11 crews

4. The first instance of mutual aid coordination:

The first instance of mutual aid coordination occurred on Saturday, April 14, 2007 when the Company divisions (including Ocean State Division) were queried at the regional and system levels as to their anticipated resource needs.

Rhode Island was largely unaffected by the storm event throughout the day on Saturday but was impacted later in the evening. Overnight coordination between the regional and divisional levels resulted in five (5) internal overhead line crews arriving from the Company's Bay State West (Massachusetts) Division on Monday, April 16, 2007 at approximately 7:30 a.m. EST. Additional contractor resources reported throughout the day on Monday to assist in the restoration activities.

5. First contact with material suppliers:

Contact with material suppliers was not required during this storm.

6. Inventory levels: pre-event/daily/post-event:

Inventory levels are summarized in the table below. Please note that costs are based on the current contract price for transformers and the current average price for other inventory items.

	Pre-Event	April 16, 2007	Post-Event
Transformers	\$7,732,061	\$7,829,529	\$7,800,503
Other	\$3,427,999	\$3,399,168	\$3,396,883
Total	\$11,160,060	\$11,228,697	\$11,197,386

7. Date/Time of request for external crews:

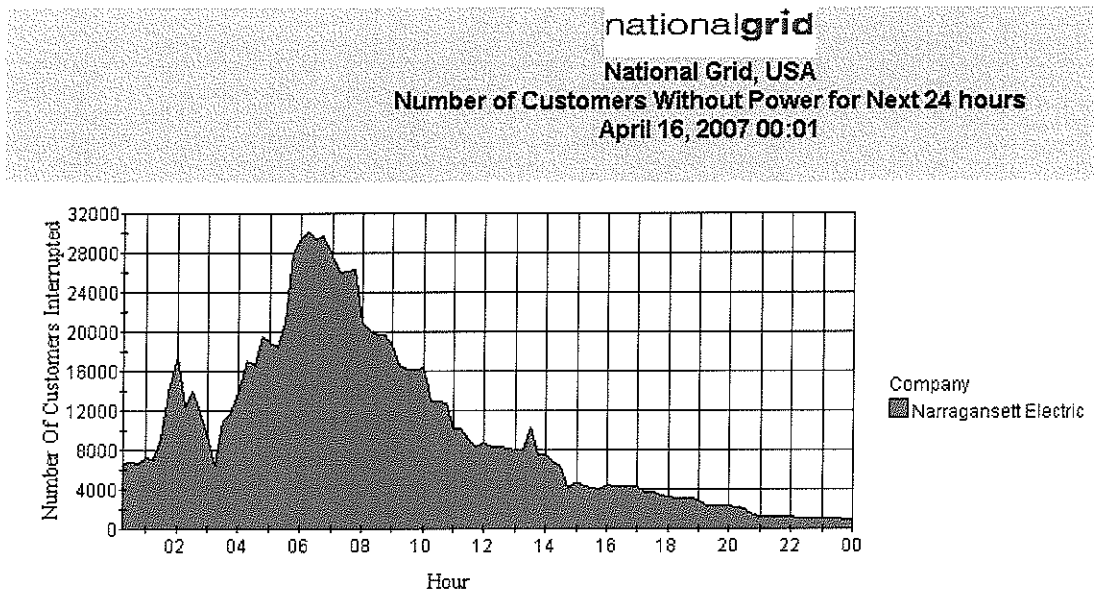
The Ocean State Division first requested additional resources on Sunday, April 15, 2007 at approximately 10:30 p.m. EST.

8. Date/Time of external crew assignment:

See details under numbers 3 and 4 above.

9. # of customers out of service by hour:

The number of customers out of service by hour on April 16, 2007 is shown in the following graph. A peak of customers interrupted was 30,116 at 6:25 a.m.



10. Impacted area:

The storm brought heavy rainfall and wind gusts in excess of 50 mph to Rhode Island. These gusts were especially notable along coastal areas. As a result of the heavy rainfall, a number of small streams and rivers were placed under flood warning by the National Weather Service and experienced flooding conditions.

Through the first half of the Nor'easter, a wind gust of 53 mph was reported on Block Island, while downtown Providence experienced a wind gust of 60 mph. These winds were accompanied by significant rainfall amounts that ranged between three to five or more inches (locally) across the whole of Rhode Island.

During the storm, Little Compton recorded approximately five inches of rain and Providence experienced almost 3 ¾ inches of rain. These amounts resulted in flooding conditions along the Blackstone and Pawtuxet Rivers, as well as many smaller streams, and impacted movement through these and the surrounding areas. Additionally, flooding from the storm surge was reported along coastal communities such as South Kingstown

and necessitated the closing, opening, and re-closing of the Fox Point Hurricane Barrier to protect Providence from the affects of the storm surge during the associated high tides.

11. Cause:

See description under numbers 10 and 12.

12. Weather impact on restoration:

During the Nor'easter, heavy rainfall (2.5 to 2.9 inches) fell across the whole of Rhode Island but was limited mostly to April 15th. Sustained winds of 35-40 mph were felt throughout the state with gusts of 49 recorded in Bristol and Providence on April 15th and 61 mph on April 16th. Minor coastal flooding because of the winds, high tides, and the new moon coinciding was reported early on April 16th. The result was that significant line damage from falling trees and tree limbs occurred, whose restoration was hampered by the elevated winds which threatened the safety of the overhead line crews.

13. Analysis of protective device operation:

There were no transmission disturbances that impacted the Company's system on April 16. There were three subtransmission disturbances that occurred that day; two events were reclose operations and one was a lockout. All three events operated properly and did not impact any customers. There were a total of 39 distribution system disturbances that were recorded that day. Of these disturbances, 32 were lockout operations involving feeder breakers or pole top reclosers, and all operated properly. One event in Warren on the 5F3 feeder had a pole top recloser operate, when a set of downstream fuses should have cleared the outage. This was due to a relay setting issue on the recloser causing this mis-coordination and not a defect with the operating scheme. It has since been corrected. There were seven trip and reclose operations, which all operated correctly.

14. Summary of customers impacted:

On April 16, 2007, Rhode Island experienced a total of 229 interruptions that affected 61,580 customers for 12,378,193 customer minutes of interruption. On average, these interruptions resulted in 0.13 SAIFI, 26.29 minutes of SAIDI, and 201 minutes of interruption per customer affected. The SAIDI value of 26.29 minutes was nearly five times the threshold value of 5.34 minutes.