STATE OF RHODE ISLAND AND PROVIDENCE PLANTAITONS
PUBLIC UTILITIES COMMISSION

IN RE: NATIONAL GRID'S ELECTRIC SERVICE QUALITY PLAN	: : :	DOCKET NO. 3628

REPORT AND ORDER

In this docket, in Order No. 18294, the Rhode Island Public Utilities Commission ("Commission") approved a Service Quality Plan ("SQP") for National Grid's ("NGrid") electric utility services for effect January 1, 2005. Under the terms of the settlement agreement approved in Order No. 18294, it was agreed that NGrid could petition the Commission no sooner than 2007 to modify the SQP to reflect adoption of the applicable IEEE Standard 1366-2003 reliability reporting methodology. On March 14, 2007, NGrid, with the Division of Public Utilities and Carriers ("Division"), filed a settlement agreement to modify performance benchmarks.[1] This agreement adopts the IEEE Standard 1366-2003 for calculation of service quality performance for reliability, including the adoption of the Major Events Days ("MED") concept rather than the Extraordinary Event criteria as defined under the current SQP. In addition, NGrid and the Division have agreed to fix the MED threshold value, and to update the historical benchmark period based on results for the years 1996-2004. A MED is a day in which the daily System Average Interruption Duration Index ("SAIDI") exceeds a threshold value in minutes. NGrid and the Division agreed to fix the threshold value to 5.34 for the years 2007 and 2008, and the parties will review NGrid's performance to determine if the MED threshold value should be re-calculated using the IEEE Standard 1366-2003 MED methodology for the year 2009. The new SQP would be effective January 1, 2007.

[1] The settlement agreement is attached as Appendix A and is incorporated by reference herein.

In response to Commission data requests, NGrid agreed "that poor service quality performance should not be included when calculating and establishing new performance benchmarks." Also, NGrid and the Division agreed to exclude the 2005 results for SAIFI and SAIDI, which clearly represented poor performance. In addition, NGrid noted that NGrid would have incurred the maximum penalty for SAIDI and SAIFI in 2005 under the IEEE benchmarks in the settlement agreement rather than $192,000 of penalties under the current SQP.[2] At an open meeting on May 10, 2007, the Commission reviewed the evidence and approved the settlement agreement.

In general, it is better to use an industry-wide and objective standard for assessing the service quality of a utility. The IEEE Standard is a national standard and its adoption promotes the concept of uniformity in evaluating utilities. Furthermore, the use of the MED methodology rather than the Extraordinary Events criteria will allow annual reliability performance to be determined in a more objective manner. However, it is also important to ensure that any new standard will not be less stringent than the current standard. In fact, the utilization of the IEEE Standard 1366-2003 will make the reliability benchmarks more stringent.[3] For instance, NGrid noted that if the IEEE Standard had been used in 2005, NGrid would have incurred the maximum penalty for SAIFI and SAIDI rather than incurring only $192,000 in penalties under the current SQP. Lastly, the new proposed SAIFI and SAIDI benchmarks do not include clearly poor service quality performance since NGrid agreed to exclude the 2005 results for SAIDI and

[2] PUC Data Resp. 1-2.
[3] Id., Also, updating the benchmarks for customer contact survey and telephone calls answered within twenty seconds to include data from 2003 and 2004 has almost no impact on these benchmarks.

SAIFI, which clearly represented poor performance.[4] Accordingly, the modifications to the SQP proposed by the settlement agreement are just and reasonable.

Accordingly, it is

(19020) ORDERED:

1. The Settlement Agreement, incorporating modifications to the Service Quality Plan, filed on March 14, 2007 is approved.

EFFECTIVE IN WARWICK, RHODE ISLAND ON JANUARY 1, 2007 PURSUANT TO AN OPEN MEETING DECISION ON MAY 10, 2007. WRITTEN ORDER ISSUED JULY 13, 2007.

PUBLIC UTILITIES COMMISSION

Elia Germani, Chairman

Robert B. Holbrook, Commissioner

Mary E. Bray, Commissioner

[4] The reliability benchmarks can include 2003 data because it did not represent clearly poor performance using the new IEEE Standard.

State of Rhode Island and Providence Plantations
Public Utilities Commission

The Narragansett Electric Company d/b/a/ National Grid	)	R.I.P.U.C. Docket No. 3628

Agreement to Modify Performance Benchmarks

This Agreement is entered into between National Grid[1] ("Company") and the Division of Public Utilities and Carriers ("Division", together the "Parties") to implement a change to the Company's existing Service Quality Plan that was approved by the Commission in Order No. 18294 (July 12, 2005), effective January 1, 2005 ("2004 SQ Plan"). Specifically, this Agreement changes the methodology used to calculate the performance benchmarks for reliability under the Company's 2004 SQ Plan for the period beginning with the 2007 calendar year and extending through and including the 2009 calendar year. The terms of the Agreement are set forth below:

1. Reliability Standards

(a) IEEE Standard 1366-2003

The Company and Division agree that it is appropriate to adopt the Institute of Electrical and Electronics Engineers, Inc. ("IEEE") Standard 1366-2003, *Guide for Electric Power Distribution Reliability Indices* ("IEEE Std. 1366-2003") for calculation of SQ performance benchmarks for reliability. This includes the application of the Major Event Day ("MED") concept, rather than the existing Extraordinary Event criteria as defined under the 2004 SQ Plan,

[1] The Narragansett Electric Company d/b/a National Grid.

in order to segment reliability performance into two groups: day-to-day and major event day performance, to enable better analysis of the two different operating conditions.

Under the 2004 SQ Plan, a particular interruption event is considered an Extraordinary Event, and does not count towards the reliability performance measures, if it meets one of the following criteria: (1) it was the result of a major weather event which causes more than 10% of a district or the total Company customers to be without service at a given time; (2) it was due to the failure of other companies' supply or transmission to the Company's customers and restoration of service was beyond the reasonable control of the Company and its employees; or (3) it occurred because of an extraordinary circumstance, including, without limitation, a major disaster, earthquake, wild fire, flood, terrorism, or any other event beyond the reasonable control of the Company. Under the current definition of Extraordinary Events, events that meet criteria (1) or (2) of the definition are straightforward and are automatically excluded from the reported results. However, events that qualify for exclusion under criteria (3) are somewhat subjective in nature and often require careful analysis to determine if they qualify for exclusion. Under the IEEE Std, application of the MED concept would make the determination of what events to remove from the day-to-day performance that is used to determine the annual results more objective.

(b) Major Event Day Threshold Value

A MED is a day in which the daily System Average Interruption Duration Index ("SAIDI") exceeds a threshold value in minutes (T_{MED}). The Company and the Division agree to fix the threshold value at a T_{MED} value equal to 5.34 for the years 2007 and 2008, at which time the Company and the Division will review the Company's performance to determine if the

threshold value should be re-calculated using the IEEE Std. 1366-2003 MED methodology for the year 2009.

(c) Historical Performance Benchmark

The Company and the Division agree that it is reasonable to update the historical benchmark period for evaluating System Average Interruption Frequency Index ("SAIFI") and SAIDI. Accordingly, the Parties agree to establish the reliability performance benchmark based on results for the years 1996-2004.

2. Amended Service Quality Plan

Attachment 1 hereto contains the detailed provisions of the Company's "Amended Service Quality Plan." Except as modified by this Agreement, the 2004 SQ Plan remains the same as currently in effect. Attachment 1 contains a full and complete copy of the "Amended Service Quality Plan," as adopted by this Agreement.

3. Other Provisions

(a) Unless expressly stated herein, the making of this Settlement establishes no principles and shall not be deemed to foreclose any Party from making any contention in any other proceeding or investigation.

(b) This Agreement is the product of settlement negotiations. The content of those negotiations is privileged and all offers of settlement shall be without prejudice to the position of any Party.

(c) This Agreement is submitted on the condition that it be approved in full by the Commission, and on the further condition that if the Commission does not approve the

Agreement in its entirety, the Agreement shall be deemed withdrawn and shall not constitute a part of the record in any proceeding or be used for any purpose, unless all Parties agree to Commission modifications.

(d) Any number of counterparts of this Agreement may be executed, and each shall have the same force and effect as an original instrument, and as if all the parties to all the counterparts had signed the same instrument.

Respectfully submitted,

The Narragansett Electric Company, d/b/a National Grid

By its Attorney,

Laura S. Olton

Laura S. Olton

The Division of Public Utilities and Carriers

By its Attorney,

Paul J. Roberti

March 13, 2007

Attachment 1

Amended Service Quality Plan
For
The Narragansett Electric Company
d/b/a National Grid

The Narragansett Electric Company d/b/a National Grid ("Company") shall establish the performance standards for reliability and customer service that are set forth in this document. The standards are designed as a penalty-only approach, under which the Company would be penalized if its performance did not meet the standards. The Company receives no reward for performance which exceeds the standards. However, positive performance in one category can be used to offset penalties in other categories within a given year. The Company shall file annually by May 1 a report of its performance during the prior calendar year under the performance standards in this plan. Any net penalty balance reflected in the Company's annual report shall be credited to customers in a manner determined by the Rhode Island Public Utilities Commission (the "Commission") at that time.

The maximum penalty authorized under the standards set forth below is $2.2 million per year. The performance standards set forth below shall be in effect for the calendar year 2007 and continue through 2009 or until they are modified by the Commission.

NOTE: When interpreting the performance standards that follow, please note that pages 6 through 8 of this Exhibit contain definitions of terms used in the standards.

FREQUENCY OF INTERRUPTIONS PER CUSTOMER SERVED

Year	SAIFI*
2004	0.91
2003	1.08
2002	0.97
2001	1.09
2000	0.97
1999	0.94
1998	0.89
1997	0.75
1996	0.90

		Log Average	-0.063		
		Log Std. Dev.	0.112		
	-2 Std Dev.	-1 Std Dev.	Mean	+1 Std Dev.	+2 Std Dev.
Log Normal	-0.288	-0.175	-0.063	0.050	0.162
SAIFI	0.75	0.84	0.94	1.05	1.18

PERFORMANCE STANDARD – SAIFI (System Average Interruption Frequency Index):

SAIFI Company Target	(Penalty)/ Offset
More than 1.18	($916,000)
1.06 – 1.18	linear interpolation
0.84 – 1.05	$0
0.75 – 0.83	linear interpolation
Less than 0.75	$229,000

* The calculations are based on the IEEE Std. 1366-2003 2.5ß methodology for the Company. Major Event Day results are removed from these calculations, but reported. The target bands are calculated considering the lognormal nature of the data. To do this, the lognormal mean and lognormal standard deviation are calculated and applied in lognormal space, which is done by applying the mean, 1 standard deviation, and 2 standard deviations and then converting back to normal space.

$$\text{SAIFI} = \frac{\text{Total Number of Customers Interrupted}}{\text{Total Number of Customers Served}}$$

DURATION OF INTERRUPTIONS PER CUSTOMER SERVED

Year	SAIDI*
2004	66.1
2003	74.9
2002	71.0
2001	69.0
2000	60.2
1999	52.3
1998	42.2
1997	40.9
1996	51.9

		Log Average	4.051		
		Log Std. Dev.	0.224		
	-2 Std Dev.	-1 Std Dev.	Mean	+1 Std Dev.	+2 Std Dev.
Log Normal	3.604	3.827	4.051	4.275	4.498
SAIDI	36.7	45.9	57.5	71.9	89.9

PERFORMANCE STANDARD – SAIDI (System Average Interruption Duration Index):

SAIDI Company Target	(Penalty)/ Offset
More than 89.9	($916,000)
72.0 – 89.9	linear interpolation
45.9 – 71.9	$0
36.7 – 45.8	linear interpolation
Less than 36.7	$229,000

* The calculations are based on the IEEE Std. 1366-2003 2.5ß methodology for the Company. Major Event Day results are removed from these calculations, but reported. The target bands are calculated considering the lognormal nature of the data. To do this, the lognormal mean and lognormal standard deviation are calculated and applied in lognormal space, which is done by applying the mean, 1 standard deviation, and 2 standard deviations and then converting back to normal space.

$$\text{SAIDI (minutes)} = \frac{\text{Total Customer Minutes Interrupted}}{\text{Total Number of Customers Served}}$$

CUSTOMER CONTACT SURVEY

Year	% Satisfied*
2004	77.8%
2003	79.3%
2002	76.0%
2001	77.3%
2000	83.2%
1999	82.1%
1998	77.8%
1997	79.5%
Mean	79.1%
Standard Deviation	2.3%

PERFORMANCE STANDARD – Customer Contact:

% Satisfied Target	(Penalty)/ Offset
Less than 74.5%	($184,000)
74.5% – 76.7%	linear interpolation
76.8% – 81.4%	$0
81.5% – 83.7%	linear interpolation
More than 83.7%	$46,000

* The calculations are based on responses from customers of the Company based on surveys performed by an independent third party consultant. A sample of customers who have contacted the call center are surveyed in order to determine their 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 under a seven-point scale, where 1=extremely dissatisfied and 7=extremely satisfied.

TELEPHONE CALLS ANSWERED WITHIN 20 SECONDS

Year	Percent of Calls Answered Within 20 Secs*
2004	94.1%
2003	93.3%
2002	84.0%
2001	50.4%
2000	76.7%
1999	76.9%
1998	80.9%
1997	76.7%
1996	70.2%
Mean	78.1%
Standard Deviation	12.3%

PERFORMANCE STANDARD – Telephone Calls Answered within 20 Seconds:

% Calls Answ Within 20 Seconds Target	(Penalty)/ Offset
Less than 53.5%	($184,000)
53.5% – 65.7%	linear interpolation
65.8% – 90.4%	$0
90.5% – 100.0%	linear interpolation

* The percent of calls answered within 20 seconds is calculated by dividing the number of calls answered within 20 seconds by the total number of calls answered during the year. "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. VRU calls are included beginning in the year 2000.

$$\text{Percent of Calls Answered Within 20 Seconds} = \frac{\text{Total Calls Answered Within 20 Seconds}}{\text{Total Calls Answered}}$$

DEFINITIONS OF PERFORMANCE STANDARD MEASUREMENTS

The following reliability definitions used in conjunction with the performance standards are in accordance with the Institute of Electrical and Electronics Engineers, Inc. ("IEEE") Std. 1366-2003. It is assumed that additional reliability-related definitions found in this standard are also implicit in the reliability calculations.

CUSTOMER COUNT

The number of customers either served or interrupted depending on usage.

TOTAL NUMBER OF CUSTOMERS SERVED

The average number of customers served during the reporting period. If a different customer total is used, it must be clearly defined within the report.

TOTAL NUMBER OF CUSTOMERS INTERRUPTED

The sum of the customers losing electric service for any defined grouping of interruption events during the reporting period.

TOTAL CUSTOMER MINUTES INTERRUPTED

The product of the number of customers interrupted and the interruption duration for any interruption event. Also, the sum of those products for any defined grouping of interruption events.

MAJOR EVENT

Designates an event that exceeds reasonable design and or operational limits of the electric power system. A Major Event includes at least one Major Event Day.

MAJOR EVENT DAY

A day in which the daily system SAIDI exceeds a threshold value, T_{MED}. For the purposes of calculating daily system SAIDI, any interruption that spans multiple calendar days is accrued to the day on which the interruption began. Statistically, days having a daily system SAIDI greater than T_{MED} are days on which the energy delivery system experienced stresses beyond that normally expected (such as severe weather). Activities that occur on major event days should be separately analyzed and reported. The T_{MED} threshold value will be fixed at 5.34 for the years 2007 and 2008, at which time the Company's performance will be reviewed to determine if the threshold value should be re-calculated using the IEEE Std. 1366-2003 methodology.

SAIFI (System Average Interruption Frequency Index)

The system average interruption frequency index indicates how often the average customer experiences a sustained interruption over a predefined period of time. Mathematically, this equation is given in (1).

$$SAIFI = \frac{\sum \text{ Total Number of Customers Interrupted}}{\text{Total Number of Customers Served}} \qquad (1)$$

To calculate the index, use equation (2) below.

$$SAIFI = \frac{\Sigma N_i}{N_T} = \frac{CI}{N_T} \qquad (2)$$

Where:

i denotes an interruption event

CI = Customers Interrupted

N_T = Total Number of Customers Served for the Area

SAIDI (System Average Interruption Duration Index)

This index indicates the total duration of interruption for the average customer during a predefined period of time. It is commonly measured in customer minutes or customer hours of interruption. Mathematically, this equation is given in (3).

$$SAIDI = \frac{\sum \text{ Customer Interruption Durations}}{\text{Total Number of Customers Served}} \qquad (3)$$

To calculate the index, use equation (4).

$$SAIDI = \frac{\Sigma r_i N_i}{N_T} = \frac{CMI}{N_T} \qquad (4)$$

Where:

i denotes an interruption event

r_i = Restoration Time for each Interruption Event

CMI = Customer Minutes Interrupted

N_T = Total Number of Customers Served for the Area

CUSTOMER CONTACT SURVEY

The calculations are based on responses from customers, based on surveys performed by an independent third party consultant. A sample of customers who have contacted the call center are surveyed in order to determine their level of satisfaction with their contact. The Company will maintain the same levels of statistical precision of the results as in prior surveys. 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 eight types of transactions are power interruptions, meter on, meter off, meter exchange, collection, payment plan, meter reread, and meter test.

The percent satisfied represents the responses in the top two categories of customer contact satisfaction under a seven-point scale, where 1=extremely dissatisfied and 7=extremely satisfied.

TELEPHONE CALLS ANSWERED WITHIN 20 SECONDS

The percent of calls answered within 20 seconds is calculated by dividing the number of calls answered within 20 seconds by the total number of calls answered during the year. "Calls answered" include calls answered by a customer service representative ("CSR") and calls completed within the voice response unit ("VRU"). Abandoned calls are not considered. The time to answer is measured once the customer makes a selection to either speak with a CSR or use the VRU. VRU calls are included beginning in the year 2000.

LINEAR INTERPOLATION

(1) The actual performance or penalty each year will be calculated and the result will be scaled or interpolated linearly between the relevant two points of the results range and the relevant two points on the dollar range.

(2) The method of determining the actual penalty, or offset, of each performance standard is determined by multiplying the value of the penalty, or offset, by the absolute value of the actual performance indicator minus the value of the first standard deviation from the mean of that indicator, divided by the value of the second standard deviation of the mean of that indicator minus the value of the first standard deviation from the mean of that indicator.

$$\$ \text{ Penalty or Offset} = \text{Penalty or Offset } \$ \text{ Value} \times \frac{\text{Actual} - 1^{st} \text{ standard deviation}}{2^{nd} \text{ standard deviation} - 1^{st} \text{ standard deviation}}$$

ADDITIONAL REPORTING CRITERIA

1. 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.

2. 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.

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

4. 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.