



**The Commonwealth of Massachusetts**  
—  
**DEPARTMENT OF  
TELECOMMUNICATIONS AND ENERGY**

April 10, 2007

D.T.E. 04-116-C

Investigation by the Department of Telecommunications and Energy on its own motion regarding the service quality guidelines established in Service Quality Standards for Electric Distribution Companies and Local Gas Distribution Companies, D.T.E. 99-84 (2001).

---

## I. INTRODUCTION

In Service Quality Standards for Electric Distribution Companies and Local Gas Distribution Companies, D.T.E. 99-84 (2001), the Department of Telecommunications and Energy (“Department”) established service quality (“SQ”) guidelines to be included in performance-based regulation (“PBR”) plans for gas and electric distribution companies pursuant to G.L. c. 164, § 1E.<sup>1</sup> The Department subsequently approved SQ plans for all companies, which incorporated the guidelines for a term of three years commencing January 1, 2002. D.T.E. 99-84, Letter Orders (December 5, 2001); D.T.E. 99-84, Letter Order (April 17, 2002).

In Service Quality Standards for Electric Distribution Companies and Local Gas Distribution Companies, D.T.E. 04-116-B (2006), the Department issued an Order promulgating revised SQ guidelines (“Guidelines”).<sup>2</sup> While the Department did not

---

<sup>1</sup> In subsequent Orders, the Department explained that the guidelines’ measures, benchmarks, and penalties also apply to companies with either merger-related rate plans or settlements incorporating service quality features. See, e.g., Western Massachusetts Electric Company, D.T.E. 06-55 (2006); NSTAR Service Quality, D.T.E. 01-71A at 8-9, 12-18 (2002); MECo Service Quality, D.T.E. 01-71B at 16-26 (2002); D.T.E. 99-84, Letter Order at 5-6 (May 28, 2002); D.T.E. 99-84, Letter Order at 3-6 (April 17, 2002).

<sup>2</sup> Prior to issuing the Order in D.T.E. 04-116-B, the Department solicited and received three rounds of comments. Participants included: Bay State Gas Company; The Berkshire Gas Company; Blackstone Gas Company; Boston Edison Company, Cambridge Electric Light Company, and Commonwealth Electric Company (collectively d/b/a NSTAR Electric) and NSTAR Gas Company; Fitchburg Gas and Electric Light Company (d/b/a Unitil); Boston Gas Company, Colonial Gas Company, and Essex Gas Company (collectively, d/b/a KeySpan Energy Delivery New England); Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National  
(continued...)

substantially revise the original guidelines promulgated in D.T.E. 99-84, changes were made to the following SQ measures and topics: Customer Satisfaction; System Average Interruption Duration Index (“SAIDI”); System Average Interruption Frequency Index (“SAIFI”); Response to Odor Calls; Penalty Offsets; Customer Service Guarantees; and Penalties/Incentives.

In addition to promulgating the Guidelines, the Department stated in D.T.E. 04-116-B that we would hold two technical sessions before March 21, 2007 to discuss implementation of two SQ measures: non-primary/secondary circuit outages (inclusion in SAIDI and SAIFI calculations);<sup>3</sup> and, poor performing circuits (new penalty measure).<sup>4</sup> D.T.E. 04-116-B at 21, 26. Prior to the technical sessions, the Department solicited comments from the local electric distribution companies (“Companies”), i.e., Fitchburg Gas and Electric Light Company d/b/a Unital (“Unital”), Massachusetts Electric Company and Nantucket Electric

---

<sup>2</sup> (...continued)  
Grid; New England Gas Company; Western Massachusetts Electric Company; the Attorney General of the Commonwealth; the International Brotherhood of Electrical Workers; and the Utility Workers Union of America.

<sup>3</sup> A transformer serves to divide any circuit in which it is placed into at least two smaller circuits, one side having energy of one voltage and the other at a voltage set by the transformer. The primary circuit is the circuit that flows into the transformer and back to the end of the circuit that feeds the energy. The primary circuit supplies the power that is eventually used by the secondary circuit. Non-primary or secondary circuits begin and end at the transformer, and it is this circuit that actually delivers the energy to the consumer.

<sup>4</sup> A Poor Performing Circuit is any distribution feeder that possesses a circuit average interruption duration or frequency value(s) for a reporting year that is among the top (worst) five percent of that Company’s feeders for any two consecutive reporting years. Guidelines at § I(B).

Company, each d/b/a National Grid (collectively, “National Grid”), NSTAR Electric Company (“NSTAR”),<sup>5</sup> and Western Massachusetts Electric Company (“WMECo”), and other participants. The Companies each submitted comments and participated in the technical sessions.<sup>6</sup>

The Department held a technical session on February 12, 2007 on the issue of non-primary/secondary circuit outages, and again on February 26, 2007 on the issue of poor performing circuits. The Attorney General of the Commonwealth (“Attorney General”) and the Utility Workers Union of America also attended the technical sessions.<sup>7</sup> In addition, the Companies responded to information requests issued by the Department following each of the technical sessions.<sup>8</sup>

---

<sup>5</sup> Pursuant to a Department-approved merger, Cambridge Electric Light Company and Commonwealth Electric Company were merged with and into Boston Edison Company which was then renamed NSTAR Electric Company, effective January 1, 2007. NSTAR Electric Company, D.T.E. 06-40 (2006).

<sup>6</sup> Participants’ comments will be referred to by entity name, date, and “Comments.” For example, Unutil’s comments dated February 8, 2007 will be referred to as “Unutil February 8 Comments.”

<sup>7</sup> The Attorney General and the Utility Workers Union of America did not submit comments.

<sup>8</sup> On its own motion, the Department moves the Companies’ responses to information requests into the record as Exhs. DTE-Unutil-8-1, DTE-Unutil-9-5 and DTE-Unutil-10-1 through DTE-Unutil-10-5; Exhs. DTE-NSTAR-8-1, DTE-NSTAR-9-1 through DTE-NSTAR-9-5 and DTE-NSTAR-10-1 through DTE-NSTAR-10-5; Exhs. DTE-National Grid-8-1, DTE-National Grid-9-1 through DTE-National Grid-9-5 and DTE-National Grid-10-1 through DTE-National Grid-10-5; and Exhs. DTE-WMECo-8-1, DTE-WMECo-9-5 and DTE-WMECo-10-1 through DTE-WMECo-10-5, respectively.

## II. Non-primary/Secondary Distribution Circuits

### A. Background

In D.T.E. 04-116-B at 21, the Department modified the exclusion criteria for SAIDI and SAIFI by requiring the inclusion of outages on non-primary/secondary circuits in the calculation of SAIDI and SAIFI.<sup>9</sup> D.T.E. 04-116-B, App. at § V. Specifically, the Department stated that inclusion of non-primary/secondary outages in the calculation of SAIDI and SAIFI assists the gathering of as much information as possible regarding outages that affect customers. D.T.E. 04-116-B at 20-21. Recognizing concerns raised by the Companies,<sup>10</sup> however, the Department offered a technical session to discuss the implementation of non-primary/secondary outage reporting requirement. Id. at 21. The Department stated that these steps would ensure that all appropriate and reasonable information is included in the SAIDI and SAIFI measures, while also ensuring that data collection and benchmarking for this measure is consistent among the companies and not overly burdensome. Id. at 21.

In their comments and during the technical sessions, the Companies raised concerns regarding the inclusion of non-primary/secondary circuit outages, noting that inclusion of these outages for SAIDI and SAIFI purposes would necessitate updating systems and procedures

---

<sup>9</sup> Previously, non-primary secondary outages had been specifically excluded from the calculation of SAIDI and SAIFI. D.T.E. 99-84, Att. at § V.G.

<sup>10</sup> Generally, the Companies were concerned that inclusion of non-primary/secondary circuit outages would require upgrades to their systems and procedures for recording outages. See D.T.E. 04-116-B at 20.

currently in place and that any new data including non-primary/secondary circuit outages would be inconsistent with historic data for benchmarking purposes.

B. Data Collection and Benchmarking

1. Positions of the Commenters

WMECo states that it has been collecting non-primary/secondary circuit outage data since 2000 (WMECo February 8 Comments at 2). WMECo notes, however, that non-primary/secondary circuit outage data has not been previously included in calculating benchmarks (WMECo February 8 Cover Letter). WMECo claims that, as a result, the historical benchmark will be inconsistent with new SAIDI and SAIFI calculations that include non-primary/secondary circuit outage data (id.). WMECo also suggests that non-primary/secondary circuit outages should not be subject to penalties until such time as all companies have sufficient data for appropriate benchmarking (id.).

Unitil states that it has been collecting non-primary/secondary circuit outage data since 2002, but that it will still need to make database modifications (Unitil February 8 Comments at 4). National Grid states that, to comply with the Guidelines, it will require between six months and one year to upgrade and verify its circuit outage management system (National Grid February 8 Comments at 4). National Grid will not have historical non-primary/secondary outage data necessary to establish an appropriate benchmark, and, therefore, recommends that non-primary/secondary outage data should not be included in any reliability metric until sufficient historical data is available (id. at 4).

NSTAR states that it has not collected data related to non-primary/secondary circuit outages (id. at 3). NSTAR anticipates that it will need approximately six months to assess: (1) the capabilities of current computer systems, databases and processes used to capture non-primary/secondary outages; (2) the ability of NSTAR's outage management system to accurately capture and tag each customer involved in a particular interruption; and (3) the accuracy of its records of its secondary system to insure the validity of reporting statistics (id. at 3).

NSTAR further notes that non-primary/secondary circuit outage data has not been included in NSTAR's historical SAIDI and SAIFI reporting, and that inclusion of non-primary/secondary circuit outage data in future SAIDI and SAIFI reporting will make future data inconsistent with historical data (id. at 5). As a result, NSTAR does not recommend including non-primary/secondary circuit outage data in the SAIDI and SAIFI penalty measures, but alternatively recommends that a transition period be provided (id. at 5). NSTAR suggests providing the Department with two sets of annual SAIDI and SAIFI statistics: (1) one set that excludes non-primary/secondary circuit outage data, to be compared to the Company's SAIDI/SAIFI benchmarks; and (2) a second set that includes all non-primary/secondary circuit outage data, for informational purposes only (id. at 5). Finally, NSTAR proposes that non-primary/secondary circuit outage data be incorporated into its SAIDI and SAIFI statistics at the end of its current rate plan (id. at 5-6).

## 2. Analysis and Findings

All of the Companies state that they are either already collecting non-primary/secondary circuit outage data or that they expect to be able to do so within six months to one year. Accordingly, the Department concludes that all Companies can be expected to have completed any necessary changes or upgrades to their respective systems and processes to collect non-primary/secondary circuit outage data no later than December 31, 2007. Therefore, all Companies are directed to begin collecting non-primary/secondary circuit outage data no later than January 1, 2008.

The Department acknowledges that future SAIDI and SAIFI calculations by the Companies that include non-primary/secondary circuit outages may be inconsistent with historic data, which did not include non-primary/secondary circuit outages. Accordingly, the Companies may submit two sets of data for this measure: (1) one set of data that excludes non-primary/secondary circuit outage information, for benchmarking and penalty purposes, and (2) one set of data that includes non-primary/secondary circuit outages, for informational purposes only. If a Company finds that the disparity between the historic data and the new data is not statistically significant, the Company may recalculate its benchmarks and submit a single set of data which includes non-primary/secondary circuit outages for benchmarking and penalty purposes before 2012.

Beginning with their annual SQ reports for calendar year 2012, however, all Companies must submit to the Department a single set of data that includes non-primary/secondary circuit outage data for benchmarking and penalty purposes. At that



time, all historic benchmarks shall be recalculated by the Companies to incorporate the non-primary/secondary outage data that will be available.

### III. POOR CIRCUIT REMEDIATION

#### A. Background

In the Guidelines at § VI(C), the Department established a new SQ penalty measure for remediation of poor performing circuits, entitled “Poor Circuit Remediation” (“PCR”). In addition to evaluating SAIDI and SAIFI, the Companies must now evaluate their circuit reliability under certain conditions. Each Company must annually identify and report to the Department those circuits having a circuit average interruption duration index (“CKAIDI”) and a circuit average interruption frequency index (“CKAIFI”) among the top (worst) five percent of its service territory for a reporting year. D.T.E. 04-116-B at 24. If a circuit appears for two consecutive SQ reporting years among the Company’s worst five percent, that circuit shall be classified as a “problem circuit.” Id. at 24. If unremediated within three years, problem circuits may be subject to a penalty of 11.25 percent of the maximum SQ penalty for the third year, which cannot exceed two percent of the Company’s transmission and distribution revenues. Id. at 24. The PCR measure further required the Company to compare the mean CKAIDI and/or CKAIFI of the problem circuits to the mean CKAIDI and CKAIFI of the remaining non-problem circuits to determine if the two means differ from one another by more than one standard deviation. Id. at 23-25. If the Company has met its SAIDI and/or SAIFI benchmarks, but has failed to remediate problem circuits that are more than one standard

deviation away from the mean CKAIID or CKAIIF of the remaining circuits, PCR penalties shall apply at the end of the third SQ year. Id.

By design, the maximum penalties for the new CKAIID and CKAIIF measures are lower than the maximum penalties for the SAIDI and SAIFI measures. While the maximum SQ penalty cannot exceed two percent of a Company's transmission and distribution ("T&D") revenue for that year, SAIDI and SAIFI penalties cannot exceed 22.5 percent each of the maximum SQ penalty. Guidelines at § VII(D). Similarly, CKAIID and CKAIIF penalties cannot exceed 11.25 percent each of the maximum SQ penalty. Guidelines at § VII(D). Thus, maximum applicable penalties for systemwide reliability represent a fraction of two percent of a Company's T&D revenue, and maximum applicable penalties for circuit reliability represent an even smaller fraction. The time period for remediation of these "problem circuits" is three years. Only those circuits that are not remediated by the end of the third year are subject to penalties. Id.

B. Implementation of the Poor Circuit Remediation Measure

1. Positions of the Commenters

National Grid states that, while the worst five percent of circuits will without question be the worst performing circuits for a particular Company, the circuits may not necessarily be poor performing circuits (National Grid February 21 Comments at 1, at 1). National Grid further argues that a Company may have a much higher percentage of truly poor performing circuits than the designated five percent limit (id.). If so, the measure promulgated in D.T.E. 04-116-B would not allow those additional poor performing circuits to be considered

for the penalty criteria (id.). National Grid asserts that these two possibilities present a flaw in the Department's proposed PCR measure (id.). National Grid further argues that the PCR penalty formula ensures that there is no situation where a penalty would not be imposed (id. at 2). To correct this perceived flaw in the proposed PCR measure, National Grid proposes using the performance measure that is presently used to identify poor performance at the system level (id. at 4).

Similarly, NSTAR asserts that the Department's PCR penalty formula is flawed insofar as it will consistently result in a Company having "problem circuits" (id. at 2). NSTAR further asserts that the Department's definition of "problem circuit" assumes that the worst five percent of circuits on a Company's system are in need of remediation, regardless of their actual performance (NSTAR February 21 Comments at 2).

Unitil argues that the phrase "more than one standard deviation" in the PCR measure is unclear and seeks clarification on the proper standard deviation to apply (i.e., the standard deviation of the poorest performing five percent of circuits, the standard deviation of the remaining 95 percent of circuits, or the standard deviation of 100 percent of circuits within the service territory) (id. at 2). Unitil further states that it is unclear how the Department determines whether a problem circuit has been repaired, and seeks clarification as to what constitutes a "repaired circuit" (id. at 2). Unitil maintains that it cannot foresee how the mean of the worst five percent of circuits could ever be less than one standard deviation from the mean of the remaining 95 percent of circuits, regardless of the measures taken to improve performance of the worst performing circuits (id. at 3). Unitil requests that the Department

reconsider the addition or modification of the proposed threshold mechanism for the poor circuit remediation calculations (id. at 4).

WMECo states that the PCR measure is flawed and should be modified (WMECo February 21 Comments at 1). WMECo contends that the service quality metric is guaranteed to penalize it regardless of any reasonable performance (id.). WMECo suggests that the penalty for PCR be changed from one standard deviation from the mean to at least two standard deviations from the mean (id. at 3).

## 2. Analysis and Findings

The Department disagrees with the Companies' assertion that the PCR measure is guaranteed to penalize regardless of any reasonable performance. Further, the data supplied by the Companies does not support this assertion. Had the PCR penalty measure previously been in effect, penalties would have applied to problem circuits that have repeatedly performed not only in the worst five percent, but performed at levels substantially worse than one standard deviation from the mean of the remaining circuits (Exhs. DTE-National Grid-8-1, DTE-NSTAR-8-1, DTE-Unitil-8-1, DTE-WMECo-8-1). Additionally, at least one Company did not have any poor performing circuits in 2006 and would not have incurred any PCR penalties (Exh. DTE-Unitil-8-1). Another Company would have had one problem circuit (Exh. DTE-NSTAR-8-1).

The Companies' arguments overlook the requirement within the new PCR measure that a circuit must appear among the worst five percent for three consecutive years before a penalty is assessed and imposed. Instead, the Companies' concerns appear to be based upon a

hypothetical situation in which both system and circuit reliability are considerably more uniform; i.e., where there is less variation in performance among circuits. The Department recognizes that in such a hypothetical situation, where each Company's system and circuit reliability indexes are more uniform, it is possible that the new PCR measure may be less effective. We do not anticipate such a situation occurring in the near term, however.

The Guidelines promulgated in D.T.E. 04-116-B directed each Company to compare the mean CKAIID and CKAIIF value of the problem circuits to the mean CKAIID and CKAIIF value of the remaining 95 percent of circuits. Instead, we direct each Company to use the standard deviation and mean of 100 percent of the circuits when it evaluates the mean CKAIID and CKAIIF value of its problem circuits.<sup>11</sup> If the mean of the Problem Circuits is greater than one standard deviation from the mean of all circuits, then a penalty applies (Guidelines at § VI). This comparison, which is consistent with standard statistical analysis and practice, shall determine whether a penalty applies.

With regard to Unital's request for a definition of a "repaired circuit," the Department declines to establish such a definition. The Department's prevailing concern is with circuit outages experienced by customers. The remediation measures that are required to "repair" a circuit will depend upon the reason(s) for its poor performance. Nonetheless, the Department expects that remediation efforts should be sufficient to address the circuit outages such that they no longer appear among the Company's five percent worst performing circuits at the close

---

<sup>11</sup> Therefore, the formula will be:  
If (Mean of 5% Problem Circuits - Mean of 100% of circuits) is > Std Deviation of 100% of circuits, then the maximum penalty for CKAIID and CKAIIF will apply.

of the third year. Accordingly, a circuit that has previously been identified as a problem circuit is no longer a problem circuit once it ceases to appear among a Company's five percent worst performing circuits for three consecutive years.

The Department has established the PCR measure to address, identify, and remediate those circuits that have repeatedly been among the worst performing and continually experiencing outages at levels far greater than the mean.<sup>12</sup> If, at some future time, the performance of the Companies' problem circuits is consistently only marginally worse than the rest of their systems, and the Companies are able to demonstrate that they are being penalized for circuit performance at a level that should reasonably be considered adequate, the Department may consider changes to the penalty structure. Unless and until such time arrives, the Department will continue to closely monitor the Companies' annual SQ reports to ensure that all performance measures present an accurate and fair overview of the Companies' SQ.<sup>13</sup>

### C. Application of Penalties

#### 1. Positions of the Commenters

Unitil asserts that the Guidelines offers no indication as to how penalties will be apportioned within the 11.25 percent maximum penalty (Unitil February 21 Comments at 2-3). Unitil is concerned that a formulaic approach will inherently benefit the larger utilities simply

---

<sup>12</sup> For example, some circuits have experienced outages at a rate more than twenty standard deviations higher than the mean (See e.g., Exh. DTE-WMECo-10-1).

<sup>13</sup> If a Company believes that a SAIDI- or SAIFI-related penalty is not justified by the particular circumstances, the Company may seek a case-specific exception for those outages that gave rise to the penalty. D.T.E. 04-116-A at 18 n.15, citing D.T.E. 99-84, at 51 (August 17, 2000).

because they have more circuits (id. at 3). As such, Unitil recommends that the Department consider implementing fixed, per-circuit penalties as opposed to a percentage-based formula (id. at 3).

WMECo notes that its penalty would be the same if there were one circuit subject to penalty or multiple circuits subject to penalty (WMECo February 21 Comments at 2).

WMECo argues that this penalty structure would be a disincentive to better performance because once it is known that one circuit is subject to penalty there is no incentive to improve the performance of the other poor performing circuits (id.). WMECo recommends that the Department change the implementation of the penalty from a total dollar basis to a fixed, per-circuit penalty (id. at 3).

NSTAR maintains that the Guidelines impose a penalty of up to 11.25 percent of a Company's maximum SQ penalty, regardless of whether a Company reported one "problem circuit" or many (NSTAR February 21 Comments at 3). NSTAR recommends that the Department adopt a fixed, per circuit penalty (id. at 3-4).

National Grid states that penalties should be high enough to encourage Companies to take action to avoid them, yet not so high as to eliminate the possibility of actual penalty elimination at a reasonable cost (National Grid February 21 Comments at 5). National Grid argues that Companies should not be penalized if positive actions have been taken to remediate a problem, understanding that some problems may take years to resolve (id.). National Grid recommends imposing a penalty of \$20,000 for each problem circuit, up to a maximum 11.25 percent of each Company's maximum SQ penalty (id.). National Grid further proposes

exceptions from penalties when a company is able to demonstrate that an amount exceeding the penalty was spent on circuit reliability remediation (id.). National Grid argues that this penalty allocation would encourage the Companies to resolve any reliability problems on those circuits that are identified as poor performers (id. at 6).

## 2. Analysis and Findings

The Guidelines establish penalties for the PCR measure in a similar manner to the SAIDI and SAIFI measures. Guidelines at § VII(D). Potential PCR penalties represent 11.25 percent of each company's maximum SQ penalty, which is capped at two percent of each Company's T&D revenue.<sup>14</sup> Id.

Unitil's contention that PCR penalties based on a percentage of a Company's T&D revenue will somehow discriminate against smaller utilities is unfounded. The penalty formula contained within the Guidelines automatically adjusts for Company size. Because the formula is based on a percentage of T&D revenue for each Company, the penalty formula automatically adjusts for Company size. Therefore, it is axiomatic that 11.25 percent of a smaller Company's revenues would be less than 11.25 percent of a larger Company's revenues. This method does not discriminate against either larger or smaller Companies. Instead, it is proportional to the size of the Company. Further, while Unitil and National Grid refer to the new PCR measure as having a "maximum 11.25 percent penalty," CKAIIDI and CKAIIFI have been allocated 11.25 percent *each* of the maximum SQ penalty. Thus, while the maximum penalties at the circuit level are half of the amount of the maximum penalties at the system level, it is possible

---

<sup>14</sup> SAIDI and SAIFI have been allocated 22.5 percent each of the maximum SQ penalty.



that problem circuits, if unremediated by the end of the third year, would subject a Company to 22.5 percent of the maximum SQ penalty (11.25 percent for CKAIID and 11.25 percent for CKAIIF).

The Companies argue that applying the same penalty, whether a Company has one problem circuit or more, may discourage a Company from remediating circuits if one circuit is certain to incur a penalty. If, as the Companies allege, there is a disincentive to remediate other circuits once a single circuit will subject them to penalties, this perceived disincentive should be adequately offset by the incentive to remediate other problem circuits in order to avoid penalties at both the system level and the circuit level the following year. Also, the Companies now have three years to remediate their problem circuits, instead of two years, as originally proposed. Additionally, if the Department imposed penalties on a “per circuit basis,” the reduced penalty may similarly discourage a Company from remediating a circuit when the cost of the remedy exceeds the cost of the penalty.

In conclusion, past reporting by the Companies on problem circuits did little or nothing to mitigate problem circuits, and reporting alone was insufficient to ensure a uniform level of service quality and reliability among a utility’s customers. Furthermore, imposing monetary penalties exclusively at the system level provided no incentive to address problem circuits, some of which have appeared and reappeared among the worst performing circuits over multi-year periods. Customers should not have to tolerate chronic circuit outages year after year. Hence, we established a new method to guarantee circuit quality to customers. As we have previously stated, the penalty structure in the Guidelines provides “the proper mix of

penalty exposure to encourage both reliability on a system level . . . and on the circuit level.”

D.T.E. 04-116-A at 28. The arguments put forth by the Companies have not outweighed these considerations.

### CONCLUSION

This Order clarifies the Guidelines promulgated in D.T.E. 04-116-B regarding implementation issues of two SQ measures. Clarifications include that: (1) the Companies may submit two sets of data for the SAIDI/SAIFI SQ measure: (a) one set of data that excludes non-primary/secondary circuit outage information, for benchmarking and penalty purposes, and (b) one set of data that includes non-primary/secondary circuit outages, for informational purposes only; (2) each Company shall use the standard deviation of 100 percent of the circuits when it compares the mean CKAIIDI and CKAIIFI value of its problem circuits against one standard deviation from the mean CKAIIDI and CKAIIFI value of 100 percent of its circuits; and (3) PCR penalties remain a combined 22.5 percent of each company’s maximum SQ penalty, which is capped at two percent of each Company’s transmission and distribution revenue. We direct the electric distribution companies to comply with all directives in this Order.

