Investigation by the Department of Telecommunications and Energy on its own Motion to Establish Guidelines for Service Quality Standards for Electric Distribution Companies and Local Gas Distribution Companies Pursuant to G.L. c. 164, § 1E.

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I. INTRODUCTION

A. Procedural Background

On October 29, 1999, the Department instituted a Notice of Inquiry/Generic Proceeding ("NOI") to develop service quality ("SQ") standards and penalties to be included in performance-based regulation ("PBR") plans for electric distribution companies and local gas distribution companies pursuant to G.L. c. 164, § 1E. (1)

For the SQ standards, the NOI stated that the investigation would address (1) the manner by which to measure SQ performance, (2) the types of SQ categories and their performance measures, and (3) the establishment of benchmarks for employee staff levels and employee training programs. For the penalty mechanism, the NOI stated that the proceeding would address the overall maximum penalty level, the maximum penalty level per performance measure, and the manner by which the penalty should be applied to a distribution company. The proceeding was docketed as D.T.E. 99-84.

On November 5, 1999, the Department issued questions and solicited two rounds of comments regarding SQ performance benchmarks, SQ categories and measures, and penalties. The following entities submitted comments: the Attorney General of the Commonwealth ("Attorney General"); National Consumer Law Center, Inc. ("NCLC"); the investor-owned natural gas local distribution companies and certain electric companies ("Joint Utilities"); the Division of Energy Resources jointly with the Associated Industries of Massachusetts ("DOER/AIM"); The Energy Consortium ("TEC"); Massachusetts Electric Company, Nantucket Electric Company and Eastern Edison Company (collectively "MECo"); NSTAR; Western Massachusetts Electric Company ("WMECo"); Peregrine Energy Group, Inc. on behalf of the Retail Market

Participants; (3) Massachusetts CAP Directors Action, Inc., jointly with South Middlesex Opportunity Council ("Low-Income Network"); American Superconductor Corporation ("American Superconductor"); and Utility Workers Union of America ("UWUA"), Plumbing, Heating, Cooling Contractors of Greater Boston, Inc. ("Contractors"), and the Massachusetts Alliance of Utility Unions ("MAUU") (together, the "Unions"). DOER/AIM and TEC ("DOER/AIM/TEC") jointly filed their second round of comments.

In our NOI, we stated that we would use the policies, methods, and procedures developed in this proceeding to review all PBR plans, and requested that no new entity should file a PBR plan until the close of the proceeding. The Department also noted that, in the future, any entity requesting deviation(s) from the SQ plan, policy, method, or procedure developed in this proceeding will bear the burden of demonstrating why the deviation is necessary.

B. Historical Background

The Department first addressed the issue of PBR in a comprehensive fashion in <u>Incentive Regulation</u>, D.P.U. 94-158, at 57 (1995). The Department stated that incentive proposals would be evaluated and reviewed on a utility-specific basis consistent with the guidelines stated in that Order. Subsequently, in <u>Electric Industry Restructuring Plan: Model Rules and Legislative Proposal</u>, D.P.U. 96-100, at 116 (December 30, 1996), the Department stated that PBR proposals should be part of each electric company's next base rate case submitted to the Department.

In <u>NYNEX Price Cap</u>, D.P.U. 94-50 (1995), the Department first established a price cap plan that included an SQ plan and a penalty provision for under-performance in service quality. In <u>Boston Gas Company</u>, D.P.U. 96-50 (Phase I) (1996), the Department established a price cap plan that included (a) a method for determining annual changes in the Company's rates, (b) an SQ plan, and (c) a penalty provision for under-performance in service quality. In <u>Bay State Gas Company</u>, D.P.U. 97-97 (1997), the Department approved a Settlement Agreement that included (a) an SQ plan, and (b) a penalty provision for under-performance in service quality.

On November 25, 1997, the Restructuring Act was enacted, authorizing the Department to promulgate rules and regulations to establish PBR rates for each utility company. G.L. c. 164, § 1E. The statute directs the Department to establish SQ standards for a variety of SQ categories. In complying with SQ standards, however, no labor displacement or reductions below staffing levels in existence on November 1, 1997, may take place unless they are part of a collective bargaining agreement or otherwise approved by the Department. G.L. c. 164, § 1E(b). In addition, the Restructuring Act authorizes the Department to levy "a penalty against any distribution, transmission, or gas company which fails to meet the service quality standards in an amount up to and including the equivalent of two percent of such company's transmission and distribution service revenues for the previous calendar year." G.L. c. 164, §1E(c).

While the Department has approved a number of SQ plans in the context of electric industry restructuring filings and distribution company mergers, it also has noted that a more comprehensive investigation into SQ plans should take place in a generic proceeding. Boston Edison Company, D.T.E. 96-23, at 54-55 (1998); Eastern Edison Company, D.T.E. 96-24, at 89-90 (1997); Cambridge Electric Light Company/Commonwealth Electric Company/Canal Electric Company, D.T.E. 97-111, at 83 (1998); see also Bay State Gas Company, D.P.U. 97-97 (1997); NIPSCO-Bay State Acquisition, D.T.E. 98-31, at 29-32 (1998); NEES-EUA Merger, D.T.E. 99-47, at 31-32 (2000). The Department announced its intention to open this generic proceeding in Eastern-Colonial Acquisition, D.T.E. 98-128, at 16 n.20 (1999).

II. PERFORMANCE BENCHMARKS

A. Introduction

Before discussing the various categories and measures that indicate the quality of service provided by a distribution company to its customers, the Department first addresses how to establish benchmarks to evaluate the ongoing performance of a company for all measures. To date, the benchmarks have been based on the historical performance of each company. In this proceeding, the Department asked whether benchmarks should be based on the historical performance of each company or on the historical performance of companies statewide, regionwide, or nationwide. In addition, the Department asked whether it is appropriate to base the benchmarks for some customer service measures on the performance of competitive industries, in particular the catalog industry, where customer satisfaction is critical to the success of the business.

B. Summary of Comments

The Joint Utilities recommend the continued use of company-specific benchmarks (Joint Utilities Comments at 11). They argue that differences in the service territory, weather patterns, and mix of rural versus urban customers make direct comparisons between companies inappropriate (<u>id.</u> at 11). The Joint Utilities also note that companies use different methods to track performance data, which makes a uniform comparison difficult (<u>id.</u> at 11). In addition, the Joint Utilities argue that establishing nationally- or regionally-specific benchmarks will increase rates for some companies and therefore an examination of the associated costs and benefits of such benchmarks is required (<u>id.</u> at 12).

MECo also argues in favor of company-based benchmarks (MECo Comments at 2). MECO notes that the purpose of PBR is to ensure no real degradation of customer service, power quality, or safety due to changes in regulatory oversight and implementation of plans that are no longer cost-based (<u>id.</u> at 2). MECO states that there will be differences in the service levels among distribution companies due to such factors as weather patterns and geography (<u>id.</u> at 2). Therefore, all customers will not receive the same service, but certain minimum standards and average service levels can be determined for each company, and the benchmarks can be based on those levels (<u>id.</u> at 2).

In contrast, the Attorney General, DOER, AIM, TEC, and the Unions advocate using statewide, regionwide, and/or nationwide performance-based benchmarks (<u>id.</u> at 9; DOER/AIM Comments at 7-8; TEC Comments at 5; UWUA Comments at 33-34). The Attorney General calls for a Department investigation into the establishment of such benchmarks (AG Comments at 9). The Attorney General, DOER/AIM, and TEC assert that uniform benchmarks should be established for customer service and billing performance measures (AG Comments at 9; DOER/AIM at 1; TEC Comments at 1). However, for reliability measures, they state it may be necessary to adjust regional or national data, using statistical techniques, to account for differences in the service territory, weather, and geography (DOER/AIM at 1; TEC Comments at 1).

Finally, there is broad agreement among commenters that performance data from other industries should not be used to set benchmarks for the distribution companies (Joint Utilities Comments at 27-28; AG Comments at 10; DOER/AIM Comments at 8; UWUA Comments at 35). The Joint Utilities, the Attorney General, DOER and the Unions state that other industries are very different from the utility industry, rendering comparisons between industries inappropriate (Joint Utilities Comments at 27-28; AG Comments at 10; DOER/AIM Comments at 8; UWUA Comments at 35). DOER/AIM, however, states that it may be appropriate to include historic performance data from other similar industries, such as the telephone industry, in the establishment of gas and electric company benchmarks (DOER/AIM Comments at 8).

C. Analysis

The Department notes that there are differences in the service levels among distribution companies due to differences in geography, weather, and demographics. Therefore, all customers will not receive the same service for legitimate reasons, but certain minimum standards and average service levels can be determined for the existing service quality for each company. The Department proposes to continue the practice of setting benchmarks for a company based on the historical performance of that company.

The Department recognizes that there are the advantages enumerated by the commenters regarding the use of performance benchmarks based on nationwide, regionwide, or statewide data. The Department, however, notes that there are problems with setting benchmarks based on such broader data. For example, it may be difficult to implement such broad-based performance benchmarks for measures such as system reliability, where the performance is significantly affected by factors, including weather patterns, the mix of rural versus urban customers, and the extent to which the distribution lines are underground, that are beyond the control of the distribution company. Some commenters recommend statistical techniques to account for the variation in these factors. The Department has concerns regarding the effectiveness and complexity of using these statistical techniques in this context.

While the Department will not require the use of benchmarks based on nationwide, regionwide, or statewide data at this time, we may revisit this issue. Therefore, the Department proposes to require in the interim that the distribution companies collect any

data that may be necessary for such benchmarks. Thus, we seek input on what additional data should be collected by the companies required to implement regional or national benchmarks. We also seek information on the additional costs that may be incurred by the distribution companies in collecting the additional data.

Regarding the use of performance data from other industries, such as the catalog order industry, the Department notes that the other industries are very different from electric and gas distribution in their business focus and in the elasticity of demand for their products. In addition, the costs and benefits of improving service quality are very different in the other industries, and, consequently, the optimum level of service quality is expected to be equally different in the other industries from the optimum level for the electric and gas distribution businesses. Therefore, the Department concludes that it would not be appropriate to use performance data from other industries.

III. SERVICE QUALITY PERFORMANCE CATEGORIES AND MEASURES

A. Customer Service and Billing Performance Measures

o Introduction

The Department has approved a number of SQ plans that have included performance measures for customer and billing services provided by the distribution companies. Boston Edison Company/Commonwealth Energy, D.T.E. 99-19 (1999); Eastern-Colonial Acquisition, D.T.E. 98-128 (1999); Eastern-Essex Acquisition, D.T.E. 98-27 (1998); NIPSCO-Bay State Acquisition, D.T.E. 98-31 (1998); Boston Gas Company, D.P.U. 96-50. Each of these SQ plans include the following three performance measures for such services: (1) telephone calls answered within a specified time; (2) service appointments met on the same day as requested; and (3) on-cycle meter readings. In this proceeding, we asked whether to include other performance measures as well.

Summary of Comments

There is consensus among the commenters that the Department include the three performance measures mentioned above. Some commenters recommend additional performance measures, however. UWUA supports the inclusion of measures that address a company's performance regarding (a) installation and repair appointments (average time from order to install or repair), and (b) billing accuracy (e.g., number of corrected bills; time to investigate billing complaints; involuntary disconnections per 1,000 customers) (UWUA Comments at 21). The Low-Income Network recommends additional measures that relate to (a) participation rates in low-income rate programs, (b) service termination rates for

non-payment, and (c) service outages that disproportionately affect low-income neighborhoods (Low-Income Network Comments at 3). The Retail Market Participants recommend the inclusion of several performance measures that relate to the manner in which gas and electric companies interact with competitive retail marketers and suppliers,

including the following: (a) accurate and timely responses to requests for information; (b) timeliness and accuracy of data transactions; and (c) speed of response to marketer phone calls, requests, and inquiries (Retail Market Participants Comments at 5). DOER and AIM opposes the adoption of wholesale service measures in this proceeding, and states that the Department should open a separate inquiry into these issues (DOER/AIM Reply Comments at 2).

Analysis

The Department recognizes that the distribution companies either have direct experience with the three measures proposed or are aware of their implementation. There also is widespread agreement among the commenters to adopt the measures. Consequently, the Department proposes to adopt telephone call answering, service call performance, and on-cycle meter reading as performance measures with revenue penalties attached.

With respect to the other suggested performance measures for customer and billing services, the measures only applied to specific interest groups rather than utility customers generally. The Department finds that the suggested measures are too narrow in scope, and hence, may not serve as reliable performance standards. In addition, several of the suggested measures are process-related, and tend to overlap the SQ information that would be collected through other, more broad-based, measures. For instance, it is not apparent that the time interval between a distribution company's receipt of a billing complaint and the company's action on the complaint adds significantly to information obtained through the telephone call measure. Therefore, the Department does not propose the adoption of performance standards other than the three previously described performance measures.

• Customer Satisfaction Performance Measures

1. Introduction

In <u>Eastern-Essex Acquisition</u>, D.T.E. 98-128, at 89, and <u>Boston Gas Company</u>, D.P.U. 96-50, at 311, the Department established two customer satisfaction measures based on statistics compiled by the Department's Consumer Division: (a) consumer complaint cases as recorded by the Consumer Division; and (b) adjustments made to customers' bills (expressed in dollars), as recorded by the Consumer Division. As part of this proceeding, the Department asked commenters to address how the Consumer Division data and statistics could best be used in measuring service quality in light of the restructuring of the electric and gas industries. In addition, the Department requested comments on whether customer surveys should be used as the basis for an additional customer satisfaction performance measure.

2. Summary of Comments

The comments differ on the use of the Consumer Division statistics as performance measures. UWUA, MECo and the Attorney General support the use of the Consumer

Division data while the Joint Utilities oppose such use (UWUA Comments at 22, 32; MECo Comments at 5; AG Comments at 7). UWUA and MECo regard Consumer Division statistics as providing valuable insight into the quality of service provided that the case collection is consistent and some small temporary increase in a company's number of cases not incur a penalty (UWUA Comments at 22, 32; MECo Comments at 5).

The Joint Utilities assert that complaint calls received by the Department's Consumer Division do not provide a meaningful or reliable measure of the level of service provided to customers (Joint Utilities Comments at 9). The Joint Utilities further argue that, as the electricity and gas industries are restructured, there may be greater customer confusion that may, in turn, produce higher complaint levels at the Department. According to the Joint Utilities, these heightened complaint levels might result in erroneous conclusions being drawn regarding service quality (id. at 24).

The Attorney General, UWUA, and DOER/AIM support the inclusion of a customer satisfaction performance measure based on consumer surveys. These commenters, however, recommend different types of surveys. The Attorney General supports the use of spot surveys with customers who have had recent contact with a company's customer service personnel (AG Reply Comments at 10). UWUA supports the use of customer surveys directed at municipal and commercial/industrial customers (UWUA Comments at 22). Finally, DOER and AIM advocate periodic residential customer surveys (DOE/AIM/TEC Reply Comments at 4).

The Joint Utilities oppose the use of performance measures based on consumer surveys, maintaining that such surveys are subjective in nature and are influenced by such factors as the fashion in which questions are asked, transient changes in customer perceptions, and advertising. The Joint Utilities conclude that consumer surveys are not reliable measures of service quality (Joint Utilities Comments at 20).

3. Analysis

The Consumer Division data provide a source of information collected, aggregated, and reported independently from the distribution companies. The Consumer Division's data include only calls that result in a case being opened by the Consumer Division. The Consumer Division's record-keeping practices allow companies to audit the accuracy of the data. The Consumer Division statistics can serve as an early warning system for SQ problems. In the past, the Department has used the data gathered by its Consumer Division to assess SQ. Boston Gas Company, D.P.U. 96-50, at 307 (1996); Boston Gas Company, D.P.U. 96-50-C at 66 (1997). The Department also has established negative revenue consequences for performance below required levels. Boston Gas Company, D.P.U. 96-50, at 310-311; Boston Gas Company, D.P.U. 96-50-C at 70-72. Therefore, the Department proposes that the Consumer Division data regarding both complaint cases and billing adjustments be used as a customer satisfaction performance measure and be subject to revenue penalties. In the case of complaint case data, the Department notes that the performance measure will not be affected by a company's number of complaint calls,

only its number of complaint cases. Further in this Order, in Section IV.C, the Department seeks views from commenters on how penalties are to be apportioned. The Department is inclined to give less weight to the customer satisfaction measure because it is based on data that are less objective than other data being considered.

While the Department supports the use of its Consumer Division statistics, the Department also notes that in <u>Eastern-Essex Acquisition</u>, D.T.E. 98-27, at 82 and <u>Boston Edison Company/Commonwealth Energy</u>, D.T.E. 99-19, at 101, we stated that it may be appropriate to revise the consumer data collected by the Department for PBR purposes. The Department will consider further comments in this proceeding on whether the existing data could be better adapted for use as performance measures.

Concerning the use of customer surveys, G. L. c. 164, § 1E(a) requires the Department to establish an SQ standard for customer satisfaction. The Department considers survey data to be useful as a broad indicator of consumer satisfaction with the utility services they are receiving. Surveys are especially helpful in determining the quality of a customer's experience in dealing with company representatives. The Department, however, acknowledges the concern that the surveys can be influenced by the manner in which questions are asked, by company advertising, or by other factors. Therefore, the Department proposes to treat the consumer surveys as an informational performance measure only, with no penalty attached.

C. Staffing Level Benchmark

Introduction

General Laws c. 164, § 1E(b) states that, in complying with service quality standards

established by the Department, no labor displacements or reductions below staffing levels in existence on November 1, 1997 may take place unless they are part of a collective bargaining agreement or otherwise approved by the Department.

2. Summary of Comments

Comments submitted by UWUA advocated that the Department set staffing level benchmarks by function within the utilities (UWUA Comments at 28). In contrast, the Joint Utilities indicated that staffing levels were in accordance with their respective collective bargaining agreements, and were governed by such (Joint Utilities Comments at 19). The Joint Utilities believe that Companies need to be afforded the flexibility of considering staffing levels on a company-specific basis. Hence, the Joint Utilities are seeking staffing-level benchmarks that are formed on a case-by-case basis (<u>id.</u> at 19). MECo states that it may be important for companies to review staffing levels on a total system basis, since employees can be transferred between service company subsidiaries, distribution company subsidiaries, and transmission company subsidiaries (MECo Comments at 11).

Analysis

The Department finds that, consistent with the statute, collective bargaining agreements that are reached on an individual utility basis, will be the primary determinant of staffing levels for the purpose of determining compliance with the statute. Therefore, those inforce collective bargaining agreements will determine staffing levels for Companies on a case-by-case basis.

D. Safety Performance Measures

1. Introduction

General Laws c. 164, § 1F(7) authorizes the Department to promulgate rules and regulations regarding employee and public safety. The Department-approved SQ plans for electric companies include one performance measure for employee safety: lost work time due to accidents. The Department-approved SQ plans for gas companies include two performance measures for employee and public safety: lost work time due to accidents; and, Class I and II odor calls responded to within a specified time. (9) In this proceeding, the Department inquired whether any modifications to these measures are necessary and appropriate, and whether any additional categories should be included in SQ plans.

2. Summary of Comments

There is consensus among the commenters that the Department include the two performance measures mentioned above (AG Comments at 3, 5; DOER/AIM Comments at 3, 4-5; MECo Comments at 4; Joint Utilities Comments at 22-23; UWUA Comments at 23-24). Some commenters recommend additional performance measures, however.

The Attorney General, UWUA, DOER/AIM/TEC, and MECo advocate the inclusion of a "restricted work days" measure quantifying the number of days, out of 200,000 hours worked, that employees are reassigned to different duties as a result of injury (AG Comments at 3-5; UWUA Comments, at 23-24, Reply Comments at 23-24; DOER/AIM/TEC Reply Comments at 4-5; MECo Comments at 4). The Joint Utilities oppose a restricted work days measure, stating that this standard often is not an effective measurement of service quality or worker safety (Joint Utilities Reply Comments at 14).

For gas companies, the Attorney General, DOER/AIM, and UWUA support the adoption of the Dig Safe third-party damage claims as a public safety performance measure (AG Comments at 3; DOER/AIM Comments at 3; UWUA Reply Comments at 8). The Joint Utilities replied that third-party damage claims may have little to do with how well a company fulfilled its obligation, but may depend on other factors such as the level and type of construction activity in the service area (Joint Utilities Reply Comments at 14). Further, they assert that other regulations, such as the Dig-Safe statute, include penalties that provide financial incentives for the companies to fulfill their obligations (<u>id.</u> at 14-15). Therefore, the Joint Utilities oppose the inclusion of this measure as unreliable and redundant (<u>id.</u> at 15).

UWUA recommends the use of various "process" performance measures that would be based on established standards for inspections, maintenance, data collection and reporting (UWUA Comments at 24). According to UWUA, these measures are needed because inspection procedures for line infrastructure have deteriorated and the time periods between inspections have doubled or tripled (<u>id.</u> at 7). While UWUA does not view it as essential that penalties be established for failure to meet the "process" guidelines, it believes that adoption of the guidelines will improve customer performance (<u>id.</u> at 27). NSTAR and the Joint Utilities do not support the use of "process" measures, stating that, while it is appropriate to measure safety in terms of outcomes, it is not appropriate to do so in terms of the specific procedures, inspection policies, or training, and that these are best left to company management (NSTAR Reply Comments at 2; Joint Utility Reply Comments at 18-19).

Some commenters recommend the inclusion of gas pressure and area outages measures (AG Comments at 4; TEC Comments at 2; DOER/AIM Comments at 1-2). MAUU suggests performance measures based on: (1) curb-chock shut-offs, (2) vacant account shut-offs, and (3) service termed "light, check, and adjust" (MAUU Comments at 1). UWUA suggests the following measures: (1) a requirement for companies to improve the accuracy of outage data; (2) measures for commodity line losses; (3) standards for stocking equipment and inventory requirements; and (4) testing and inspection standards (UWUA Comments at 3, 19, 24-25; Reply Comments at 8).

3. Analysis

The Department recognizes that many other similar industries use a lost work-time accident rate as a means to measure safety performance. Furthermore, the Department acknowledges that there is widespread agreement in adopting a lost work-time accident rate measure for both electric and gas companies (AG Comments at 3, 5; DOER/AIM Comments

at 3, 4-5; MECo Comments at 4; Joint Utilities Comments at 22-23; UWUA Comments

at 23-24). Also, the Department agrees with the commenters that this measure tracks a company's safety performance in an efficient manner. Accordingly, the Department proposes that the lost work-time accident rate be the performance measure and be subject to revenue penalties.

With regard to developing an appropriate benchmark, the commenters provided no specific comments. The Department further notes that we have no specific lost work-time accident data from the companies. In light of the current lack of available data, the Department proposes that a benchmark should be established for each company and that it should based on the ten year average of company-specific historic lost work-time rate data.

With regard to the restricted work-day case rate performance measure, the Department notes that this often is not an effective measurement of worker safety, because a worker can be placed on restricted work for non-safety reasons. In addition, unlike lost work-time, the restricted work-day case rate is not widely used in similar industries as a measurement of safety performance. Furthermore, the measure is not widely endorsed by the commenters (Joint Utilities Reply Comments at 14). Therefore, the Department rejects a restricted work-day measure.

For gas companies, there is broad support for a second safety measure based on response to Class I and Class II odor calls. While the Department believes that the local gas distribution companies already have an incentive to respond rapidly to odor calls due to the potential consequences of failing to respond, the Department endorses the use of the same SQ measure included in previous orders. Boston Gas Company, D.T.E. 96-50; Boston Gas Company, D.T.E. 97-97. This performance measure would require local gas distribution companies to respond to 95 percent of all Class I and Class II odor calls in one hour or less, and the Department endorses levying a penalty for failure to meet such as a standard. Because this is a statewide uniform standard, the calculation of the penalty will be substantially different than those standards that are company-specific. Therefore, the Department seeks input from the commenters on developing the appropriate penalty calculation strategy for the Class I and Class II odor call standard.

With regard to public safety measures, the Department notes that there is considerable oversight in place to safeguard the reliability and safety of the natural gas utilities. In the natural gas industry, reliable and safe gas service is a function of two activities: (1) effective planning and procurement of natural gas supplies; and (2) the development and enforcement of safe system operations. Ensuring effective planning and procurement of gas supplies has been a cornerstone of Department oversight with each of the investorowned local gas distribution companies. The Department has comprehensive regulations and reporting requirements for local gas distribution company planning and procurement efforts. G.L. c.164, §§ 69H, 69I; Commonwealth Gas Company, D.P.U. 94-174-A (1996). While procedural adjustments may improve the evaluation process, guidelines would only increase costs and delays. The Department also has comprehensive regulations and reporting requirements for safe system operations that are monitored by the Department's Pipeline Safety and Engineering Division. Companies are subject to substantial fines and penalties for failure to comply with such maintenance and safety measures. (10) Given the existence of these currently-imposed measures, the Department rejects imposition of any additional measures.

Although the commenters discussed public safety performance measures for the gas companies, there was no such discussion for the electric companies. The Department notes, however, that a public safety measurement has already been established pursuant to the statute. General Laws c. 164, § 95 requires companies and other entities engaged in the manufacture, sale, or distribution of gas or electricity to report to the Department within a 24-hour period every accident that results from their operations. This statutory requirement, which was adopted in 1888, provides the Department with a means to obtain relevant information on each accident, including the time, place, circumstances of the

accident, and such other facts relative thereto as the Department may deem appropriate. The Department is considering (for the purposes of this proceeding) accepting this statutory requirement as sufficient in documenting the public safety performance of each electric company. Nonetheless, we seek input on methods to ensure that the information can be collected and used optimally to track a company's safety performance.

E. <u>Electric Company Reliability Measures</u>

1. Introduction

General Laws c. 164, § 1E(a) authorizes the Department to promulgate rules and regulations to establish SQ measures for service outages, distribution facility upgrades, and repair and maintenance. The Department-approved SQ plans for electric companies have included two reliability performance measures: (1) system average interruption duration index ("SAIDI"), expressed as minutes of outage per customer per year; and (2) system average interruption frequency index ("SAIFI"), expressed as number of interruptions greater than one minute per customer per year. In this proceeding, the Department has inquired whether performance measures based on SAIDI and SAIFI should continue to be included in SQ plans and whether modifications to these measures were necessary and appropriate. In addition, the Department has sought comments on reliability issues associated with bad weather events and historically poor performing circuits.

2. SAIDI and SAIFI

a. Summary of Comments

The comments support the use of SAIDI data as a measure of electric reliability performance (AG Comments at 5; DOER/AIM Comments at 4; MECo Comments at 4; TEC Comments at 3; Joint Utilities Comments at 25; UWUA Comments at 12). The Attorney General, DOER/AIM, MECo, TEC, and UWUA also propose including SAIFI as an additional measure of performance (AG Comments at 5; DOER/AIM Comments at 4; MECo Comments at 4; TEC Comments at 3; UWUA Comments at 12). In contrast, the Joint Utilities contend that including SAIFI would be "double-counting" (Joint Utilities Comments at 25; Joint Utilities Reply Comments at 11, 17).

Similarly, there is consensus among the commenters for the use of common/uniform definitions for SAIDI, SAIFI and other reliability measures (AG Comments at 2, 7; DOER/AIM Comments at 6; MAUU Comments at 1; MECo Comments at 2 and 5; Joint Utilities Comment at 6, 8, 20 and 24; UWUA Comments at 29-30 and 32; WMECo Comments at 1). However, the electric companies oppose having uniform reliability benchmarks for each measure and would rather adopt measures that are company-specific, based on historic operating data (MECo Comments at 2; NSTAR Comments at 2; NSTAR Reply Comments

at 2; Joint Utilities Comments at 6 and 20; Joint Utilities Reply Comments at 7). While supporting the adoption of company-specific measures in general, the Attorney General, AIM, DOER, and UWUA contend that uniform measures should be adopted in the future, possibly outside the scope of this proceeding (AG Comments at 9; DOER/AIM Comments 1-2, 6; DOER/AIM/TEC Reply Comments at 2-4; and UWUA Comments at 34). MAUU proposes that "service quality performance measures . . . be uniform for all companies" (MAUU Comments at 1), but did not comment on whether the measures be established as an initial step or later in a separate proceeding.

b. Analysis

The Department recognizes that both SAIDI and SAIFI are widely-used reliability performance measures in the electric industry. The Department also notes that other states have adopted or are considering these measures as a means of tracking electric company reliability performance. (12)

The Department acknowledges that there is widespread support among the commenters to adopt SAIDI as an SQ measure (AG Comments at 5; DOER/AIM Comments at 4; MECo Comments at 4; TEC Comments at 3; Joint Utilities Comments at 25; UWUA Comments at 12). Accordingly, the Department proposes to use SAIDI as a performance measure subject to revenue penalties.

With regard to developing a specific SAIDI benchmark, the Department's review of the reliability data⁽¹³⁾ suggests that performance varies greatly among the Massachusetts electric companies and that it would be difficult to develop a reasonable, uniform SAIDI benchmark level. Moreover, it appears that, no other state has yet established a uniform reliability measure. In addition, nearly all of the commenters were in favor of using company-specific historic data rather than a statewide uniform measure, at least for the purpose of this proceeding (MECo Comments at 2; NSTAR Comments at 2; NSTAR Reply Comments at 2; Joint Utilities Comments at 6, 20; Joint Utilities Reply Comments at 7; AG Comments at 9; DOER/AIM Comments 1-2, 6; DOER/AIM/TEC Reply Comments at 2-4; and UWUA Comments at 34). Based on these reasons, the Department proposes that each company should comply with its own specific SAIDI benchmark and that the benchmark will be established using a ten-year average of company-specific historic reliability data.

Based on the Department's review of currently-available SAIDI and SAIFI data from the electric companies, we have determined that SAIFI data appears to track SAIDI performance very well. The Department agrees with the Joint Utilities that a SAIFI measure may be "double-counting" and thus does not approve adopting it as a measure. Although the Department has not mandated a SAIFI measure, we direct the electric companies to collect and report both SAIFI and SAIDI data on an annual basis as discussed in Attachment A. Furthermore, the Department will consider further input from the commenters to support the argument that SAIFI performance does not track SAIDI.

3. Other Reliability Measures

• Summary of Comments

The Attorney General, American Superconductor, AIM, DOER, MECo, TEC, and UWUA support adopting additional reliability measures beyond SAIDI and SAIFI (American Superconductor Comments at 2-3; AG Comments at 5-6; DOER/AIM Comments at 4, 6-7; MECo Comments at 4, 6; TEC Comments at 3,5; UWUA Comments at 12, 33). Proposed measures include measures for: (1) power quality (American Superconductor Comments at 2), (2) short-term outages (15) (id.; AG Comments at 8; DOER/AIM Comments at 7; TEC Comments at 3, 5; UWUA Comments at 12, Reply Comments at 8-9), (3) distribution line losses (16) (AG Comments at 5; DOER/AIM Comments at 4, 6-7; MECo Comments at 4, 6; UWUA Comments at 8), and (4) major outage events that are not storm-related (AG Comments at 5-6; DOER/AIM Comments at 4; MECo Comments at 4, 6; UWUA Comments at 7). These commenters state that, at a minimum, companies should begin collecting information and setting the measures in these areas for potential future inclusion in future SQ plans (American Superconductor at 2-3; AG Comments at 8, DOER/AIM Comments at 7; TEC Comments at 3, 5; UWUA Reply Comments at 8-9).

American Superconductor supports collecting information and setting the measures on power quality at a later date, <u>i.e.</u>, in a subsequent proceeding (American Superconductor Comments at 2-3). American Superconductor supports collecting information first for a period of time before developing a short-term/momentary outage measure as it may be premature to do in this proceeding (<u>id.</u> at 2). Although the Attorney General, AIM, DOER, TEC, and UWUA have not made any apparent reservations in adopting short-term measures as part of this proceeding (AG Comments at 8; DOER/AIM Comments at 7; TEC Comments at 3, 5; UWUA Reply Comments at 8-9), UWUA contends that, at a minimum, companies must collect more information about short-term outages to better understand the issue (UWUA Reply Comments at 9).

The Attorney General, AIM, DOER, MECo, and UWUA support adopting a distribution line loss measure as part of this proceeding (AG Comments at 5; DOER/AIM Comments at 4; MECo Comments at 4, 6-7; UWUA Reply Comments at 8). The UWUA further supports adopting a similar measure for gas companies as well (UWUA Comments at 19-20). However, the Joint Utilities oppose such a measure, because the large number of variables make standardizing the determination of line losses difficult (Joint Utilities Reply Comments at 16).

With regard to the major outage event measure (excluding storms), the Attorney General, MECo, and UWUA support the application of the NEES/EUA merger settlement provisions regarding major events, which requires data collection commencing this year,

with the issue of penalties deferred until a later date (AG Comments at 5; MECo Comments at

4-6, 7; UWUA Reply Comments at 7).

In addition to the above-mentioned measures and as stated in Section III.C.2 above, UWUA recommends the use of "process" performance measures that would ensure that companies follow proper procedures for inspection and maintenance (UWUA Comments at 24). UWUA cites the major outages that occurred in Chicago during the summer of 1999, Massachusetts electric utilities' reduction in spare equipment availability, and the lengthening of maintenance inspection cycles as reasons for adopting these "process" measures (id. at 6-7, 25). Although UWUA proposes adopting such measures, it does not recommend direct penalties for non-compliance (id. at 27). Nonetheless, UWUA states that non-compliance should trigger customer guarantees such as a customer credit, if a prolonged outage occurs as a result of failed equipment which was not properly inspected or maintained (id. at 22, 23, 27).

The Joint Utilities oppose any additional reliability measures and performance measures, other than SAIDI, and contend that: (1) there is insufficient historical data to support developing these measures; (2) collecting such data in the future would be costly;

- (3) establishing objective measures would be impossible; (4) adding additional reliability measures are a poor substitute for the Department's existing regulatory oversight; and
- (5) many of the measures proposed by others are ineffective (Joint Utilities Comments at 33, Joint Utilities Reply Comments at 11-12, 19). MECo also opposes adopting a specific measure for short-term outages and other transients, and proposes instead that these issues be included as a component of the customer complaint measure because these kinds of issues tend to be customer-specific (MECo Comments at 6-7).

b. Analysis

Based on information available from other public utility commissions, ⁽¹⁷⁾ it appears that a limited number of reliability measures have been adopted as SQ measures in other states. In addition, the commenters (the Attorney General, AIM, DOER, MECo, and UWUA), for the most part, agree that certain additional reliability measures that have already been developed as part of the NEES/EUA merger settlement should be considered in this proceeding. Therefore, the Department proposes that those measures that have been demonstrated, or that have been established in earlier proceedings, to be effective should be included for consideration as part of this proceeding.

With regard to measures for short-term (or momentary) outages and other transients, the Department notes that momentary outage data are being collected and reported in other states, but no such data have been requested of or have been provided by the Massachusetts electric companies. The Department further acknowledges, that although American Superconductor, AIM, the Attorney General, DOER, TEC, and UWUA

support such measures (not necessarily in the framework of this proceeding), no such measures have yet been established by this state or, to our knowledge, any other state. Because of the lack of an historic database, the Department does not approve adopting a momentary outage measure as part of this proceeding. However, the Department directs the electric companies to collect Momentary Average Interruption Frequency Index data and report these data to the Department on an annual basis and may consider developing such measures in the future.

The Department also does not propose adopting additional measures for other transients, such as voltage surges, due to the lack of data. Furthermore, such type of additional measures would require costly installation of specialized equipment at customer premises with no resulting effectiveness. For these reasons, the Department shall not require the electric companies to collect and report information on such power quality disturbances on a

company-wide basis. (20)

Although the Department does not propose any power quality measures or measurements at this time, such measures and measurements can certainly be developed on a site-by-site basis. Power quality measurements (such as voltage measurements) should be taken at a customer's premises in response to the customer's inquiry or complaint. Furthermore, a customer and an electric company can establish certain site-specific power quality measures based on these types of measurements. The Department encourages such power quality arrangements and will assist in developing and executing these types of agreements. (21)

With regard to a distribution line loss measure, (22) the commenters are, for the most part, in favor of adopting such an SQ measure (AG Comments at 5; DOER/AIM Comments at 4; MECo Comments at 4, 6-7; UWUA Reply Comments at 8). Although a distribution line loss measure was developed as part of the NEES/EUA merger settlement, the Joint Utilities are opposed to this measure because of the complexities in standardizing the method to determine line losses.

The Department considers a distribution line loss measure to be an important SQ factor from a customer service standpoint because it affects a customer's cost of energy supply. Accordingly, the Department directs each electric and gas company to report its system line loss factor on an annual basis. Although the Department directs the companies to submit system line loss factors, we seek further input on how the determination of these factors can be standardized. (23)

With regard to a major outage event measure (excluding storms), the Attorney General, MECo, and UWUA support adopting such a measure (as it was presented in the NEES/EUA merger settlement). The Department supports developing a measure that analyzes major outage events that excludes storms; however, neither the parameters provided by those commenters who support the measure nor the criteria provided in the NEES/EUA settlement are clearly defined. Furthermore, many of the issues that would be

included in such a measure may be appropriately handled within another measure, such as SAIDI. Nonetheless, we agree with the Attorney General, MECo, and UWUA that data collection on major events should commence in the near future and direct the electric companies to submit this information on an annual basis. In addition, we seek further input on the issue to determine the appropriate benchmark for a major outage event performance measure, if any.

With regard to other reliability performance measures to ensure that companies follow proper procedures for inspection and maintenance, the Department recognizes the difficulty in obtaining the pertinent information and in developing appropriate measures as was suggested by the Joint Utilities and MECO. Furthermore, the Department is concerned that adopting "process" performance measures, such as those proposed by UWUA, goes beyond our normal practice of review when imprudence has not been suspected. Nonetheless, the Department agrees with UWUA that certain "process" performance data need to be collected, in order to ascertain whether companies are investing in future reliability. In addition, adopting such measures may be considered consistent with the G.L. c. 164, § 1E(a), which requires the Department to promulgate rules for "repairs and maintenance." The Department, therefore, proposes that each electric and gas company provide the Department with capital expenditure history of its transmission and distribution systems from the last three years and once a year thereafter. (24)

The capital expenditure information will provide the Department with a reasonable indication of where major repairs and maintenance are taking place within a company's transmission and distribution infrastructure. Moreover, this information also could serve to identify the improvements that have been made in reducing the line losses as discussed above. In addition, the Department proposes that each company provide the Department with its policy regarding its identification, acquisition and stocking of critical spare parts. Both the capital expenditure and spare component policy information will not be subject to any performance penalty provisions. However, if review of the capital expenditure data or spare component policy suggests that further scrutiny is required, the Department may consider adopting the "process" performance measure strategy that was proposed by UWUA.

The Department also is considering other measures in the monitoring of reliability performance. These measures would relate to how service quality issues are reported to the Department by the companies and by customers. One measure includes revising the procedures already in place for reporting outages. Another measure includes inserting a message on the electric bills informing customers that they can contact the Department if they have service quality problems or disputes.

In 1995, the Department issued Outage and Accident Reporting Procedures to the companies directing them to report every outage that affects over a certain number of customers. (25) The report format from each company, however, is not consistent. Additionally, the outage information is difficult to track. Because of these issues, the Department is revising the outage reporting procedures as part of this proceeding in order

that this information will be more useful, consistent, and user-friendly. Therefore, the Department refers the parties to the reporting procedures listed in Attachment A and seeks further input from the commenters on these reporting procedures to ensure that they meet these objectives.

With regard to customers reporting SQ problems, some customers currently may not know to contact the Department to resolve these types of issues or disputes. We note that one way of efficiently conveying our responsibility to customers is through their bills. The Department recognizes that customer bills already contain a message on the bill as it relates to contacting the Department when a billing disputes arises. Therefore, the Department proposes that the electric companies provide the same type of message to be inserted on their bills for SQ issues.

4. Severe Weather Events

Summary of Comments

There is consensus that SAIDI and SAIFI, if applied, should not include severe weather events, such as major storms (AG Comments at 8; DOER/AIM Comments at 6; MECo Comments at 6; Joint Utilities Comments at 25; TEC Comments at 4; UWUA Comments at 32; UWUA Reply Comments at 7-8). Many of the commenters, however, contend that severe weather events need to be monitored closely and state that some type of benchmark be considered for company storm planning and response activities (AG Comments at 8; DOER/AIM Comments at 6; MECo Comments at 6; TEC Comments at 4; UWUA Comments at 32-33). DOER, AIM, TEC and UWUA propose that stormrelated issues be evaluated as a stand-alone measure (DOER/AIM Comments at 6; TEC Comments at 4-5; UWUA Comments at 32-33). The Attorney General, MECo, and UWUA support the expanded use of the "storm contingency fund" provisions contained in the NEES/EUA merger settlement, with such fund to be used for the sole purpose of reimbursing each company for operation and maintenance costs associated with service restoration; and the fund would be reduced if the Department finds that the costs were unreasonably incurred (AG Comments at 8; MECo Comments at 6; UWUA Reply Comments at 7-8). The Attorney General and UWUA propose the adoption of such a mechanism for all companies (AG Comments at 8; UWUA Reply Comments at 8). NSTAR, FG&E, and WMECo propose only that the Department periodically review storm restoration plans (Joint Utilities Comments at 25).

Analysis

The Department recognizes that there is widespread support by the commenters to exclude severe weather events from the SAIDI and SAIFI measures (AG Comments at 8; DOER/AIM Comments at 6; MECo Comments at 6; Joint Utilities Comments at 25; TEC Comments at 4; UWUA Comments at 32; UWUA Reply Comments at 7-8). We accept this exclusion and agree with many of the commenters that uniform definitions and criteria need to be established for severe weather event exclusions in these measure so that companies will be providing comparable data. Therefore, the Department directs the

companies to comply with the definitions/criteria described in Attachment A for excluding severe weather events from SAIDI and SAIFI.

While DOER, AIM, TEC and the UWUA endorse the adoption of a benchmark for company storm planning and response activities, none of the commenters proposed that this type of measure be established as part of this proceeding. Furthermore, the Department notes the difficulties in establishing a specific benchmark for storm planning and response activities, because there are a number of factors (such as tree management, the availability and number of dedicated staff to perform restoration, preparation of and compliance with emergency storm operating procedures, and property damage claim procedures) that would need to be evaluated. There are also factors such as the severity of these weather events and road snow/ice removal that are beyond the control of the electric companies. In addition, no other state, to our knowledge, has established severe weather-type benchmarks.

Although the Department is not establishing a severe weather-type benchmark at this time, (27) we acknowledge that storm preparation/restoration is a significant issue that may merit consideration in a future proceeding. Accordingly, the Department direct the companies to collect and report pertinent information related to major outage events such as those which may occur during severe weather. We also seek further input from the commenters to ensure that this information can be collected and provided in an efficient manner and will be useful to all stakeholders.

While the Department notes the Attorney General's, MECo's, and UWUA's comments supporting the expanded use of the storm contingency fund provisions, not all companies have yet established a storm fund. Moreover, the creation of storm funds is more appropriately considered in the context of a general rate proceeding. See Eastern Edison Company, D.P.U./D.T.E. 96-23, at 101 (1997). Therefore, the Department declines to mandate the creation of a storm fund as part of this proceeding.

5. Poorly Performing Circuits

• Summary of Comments

With regard to monitoring the performance of electrical circuits that have experienced the most frequent and the longest outages, the comments vary greatly. DOER, AIM, and UWUA propose that the data be collected and analyzed, so that a measure can be adopted (DOER/AIM Comments at 7; UWUA Comments at 12, 13, 33, UWUA Reply Comments at 9). The Attorney General also agrees with the need to collect the data, but contends that further analysis would be required to determine whether such a measure is necessary (AG Comments at 9). TEC supports the measurement and reporting of poorly performing circuits and also proposes that if an outage extends more than fifteen minutes, affected customers should not have to pay the demand charge for that particular month in which the outage occurred (TEC Comments at 5).

MECo opposes adopting a measure, because it contends that the other reliability measures, combined with their proposed customer satisfaction measures, would obviate the need for such a measure (MECo Comments at 7). The Joint Utilities oppose collecting and reporting this information, stating it would require an extensive disaggregation of data (Joint Utilities Comments at 26). The Joint Utilities assert that poor performing circuits will be, in most instances, measured as part of the SAIDI data (Joint Utilities Reply Comments at 17). UWUA disagrees with this assertion and contends that a poorly performing circuit will not affect overall system statistics (UWUA Reply Comments at 9). UWUA also contends that electric companies already track circuit performance or can easily do so (<u>id.</u>).

b. Analysis

Many states monitor poor performing circuits, although no state has yet established a measure for these circuits. Furthermore, the Department acknowledges that DOER, AIM, and UWUA support adopting a poor performing circuit measure and that there was even greater support (the Attorney General, DOER, AIM, UWUA) for reporting these events to the Department. Some of the opposition (such as the Joint Utilities) to reporting data and/or adopting such a measure is based on the fact that the SAIDI performance measurement would, for the most part, include poorly performing circuits. The Department agrees with UWUA's contention that a poorly performing circuit would not likely impact the SAIDI performance measurement.

Nonetheless, the Department has not previously requested or received data on poorly performing circuits. Because of the lack of historic data, we would be hard-pressed to develop a specific benchmark for this measure as part of this proceeding. Therefore, we direct the companies to collect and report data pertinent to poorly performing circuit annually in compliance with the definitions/criteria as noted in Attachment A. The data reported will not be subject to any performance penalty provisions.

IV. PENALTIES

A. Background

General Laws c. 164, § 1E(c) authorizes the Department to levy a penalty against any distribution, transmission, or gas company that fails to meet the SQ standards established under G.L. c. 164, § 1E(a). The penalty may be in an amount up to and including the equivalent of two percent of a utility company's transmission and distribution service revenues for the previous calendar year. (29) G.L. c. 164, § 1E(c).

B. Summary of Comments

While all of the commenters acknowledged the Department's statutory authority under G.L. c. 164, § 1E(c) to levy penalties, a number of commenters contended that an SQ plan also should provide a company with a reasonable opportunity to be rewarded if its SQ performance exceeds its historical levels, in order to establish a balanced,

symmetrical treatment of both incentives and penalties (DOER/AIM Comments at 9; Joint Utilities Comments at 15-16; NSTAR Comments at 3; Retail Marketers Comments at 5; MECo Comments at 9-10). While TEC does not oppose the addition of a rewards component, they oppose granting rewards for improved performance if a company's SQ performance had been poor in the past (TEC Comments at 7).

There was widespread support from commenters regarding the use of a "deadband" around a utility's historical average performance within which no penalty would be imposed (AG Comments at 11; DOER/AIM Comments at 9-10; Retail Marketer Comments at 5-6; UWUA Comments at 37; MECo Comments at 9-10; Joint Utilities Comments at 12-13). Commenters stated that the use of a "deadband" would avert problems arising from normal variations in service quality data. There was similar agreement regarding the use of incrementally-increasing penalties as a company's performance deviates from its historical performance (AG Comments at 11; DOER/AIM Comments at 10; Retail Marketer Comments

at 6; Joint Utilities Comments at 15; TEC Comments at 6-7).

Concerning the aggregate penalty level to be applied, the Attorney General, DOER, AIM, TEC, and UWUA support the use of the statutory rate equal to two percent of a distribution company's transmission and distribution revenues, explaining that the penalty level must be sufficient to offset any potential benefits to utilities from selecting cost-cutting measures over performance improvements (AG Comments at 11; UWUA Comments at 30; DOER/AIM/TEC Reply Comments at 4). These commenters propose to allocate the maximum penalty level among performance measures based on the relative importance of the particular measure. TEC recommends that penalties be weighted more heavily for those measures that relate to supplying safe and reliable service, with less weight placed on metering and customer service (TEC Comments at 6-7). DOER and AIM add that the weighting for a measure should be reduced if there is insufficient information on that measure (DOER/AIM Comments at 9).

In contrast, the Joint Utilities propose that the penalties be set well below the maximum two percent, so as to reflect the "relatively early developmental stage of service quality plans" (Joint Utilities Comments at 14). The Joint Utilities claim that application of the maximum statutory penalty would be excessive, and can result in inordinately large reductions in earnings, which would consequently give rise to claims of confiscation (id.).

In addition, the Joint Utilities propose that no penalty should be imposed for SQ deficiencies without affording utilities due-process rights and allowing them to rebut the presumption that failure to achieve an SQ measure should result in the imposition of a penalty (Joint Utilities Comments at 16-18; Joint Utilities Reply Comments at 9-10). UWUA strongly opposes this requirement, arguing that a utility's due process rights would be fully protected by (1) the comment period afforded in this docket, (2) its opportunity to develop a PBR plan and SQ measures, (3) the right to propose SQ measures that vary from the guidelines being adopted in this proceeding, and (4) the

opportunity for an adjudicatory proceeding before the Department on its proposed PBR filing (UWUA Reply Comments at 3-4).

In addition to a generally-applicable penalty mechanism, UWUA proposes adoption of a customer-targeted penalty mechanism, or customer guarantees, in which customers would be directly compensated for poor service. UWUA notes that PacificCorp has implemented a customer guarantee program as part of its merger with Scottish Power and that all electric utilities in the United Kingdom offer customer guarantees programs (UWUA Comments at 10-11). (32) DOER and AIM consider the UWUA's concept of customer guarantees to be useful, and strongly recommend further inquiry into the matter, so long as broader-based penalty mechanisms are not discarded in exclusive favor of customer-specific penalty measures (DOER/AIM/TEC Reply Comments at 4-5).

C. Analysis

SQ measures first and foremost are designed to prevent deterioration of the service quality ratepayers are entitled to receive. The measures focus on key areas of a utility's performance as valid indicators of overall SQ. Not every area of service can or need to be measured; a subset, properly chosen, is generally deemed sufficient to the purpose.

Where properly collected and interpreted information shows that SQ has not achieved, or has fallen below, the benchmark for the measured activity, then ratepayers are conclusively presumed to have been denied the service that they are due. Ratepayers must then be made whole by a financial exaction from the utility for its delinquency.

Although G.L. c. 164, § 1E(c), following common practice, speaks of "levy[ing] a penalty," the financial exaction is, in fact, conceptually more akin to liquidated damages in contract law. (33) That is, the SQ exaction is a pre-estimate of "damages" to ratepayer interests for which they must be compensated. Compensation takes the form of the delinquent utility's sacrifice of a preordained percentage of revenues. In essence, the SQ exaction is a hybrid concept: it shares a penalty's purpose of securing performance (i.e., by letting be known beforehand the revenue consequences of delinquent performance and thus tending to prevent delinquency); and it stipulates "damages" and so fixes the amount to be paid in lieu of performance.

Within the ranges of performance not achieved and of revenues foregone, the purpose is to see that ratepayers get what they pay for and utilities are not unjustly enriched by substandard performance. Proportionality of company loss to ratepayer loss lies at the heart of performance-based rate schemes.

In actual practice, the negative revenue results of a utility's delinquency in a given year are visited upon it in the immediately succeeding year. If, in that second year, there is no return to required performance, then there are negative revenue results in the third year -- not as a result of the first year's substandard performance, but as a result of the second year's substandard performance. By contrast, if the delinquency of the first year is erased in the second year, the negative revenue consequences that result are confined to the

second year and do not carry over into the third year. General Laws c. 164, § 1E(c)'s reference to the "service revenues for the *previous* calendar year" clearly implies this limitation. The statute's terms thus distinguish the present matter from the formulaic-embedding effect at issue in <u>Bell Atlantic Fifth Annual Price Cap Compliance</u>, D.T.E. 99-102, at 4-12 (2000).

While none of the commenters disputed the authority of the Department to implement penalty provisions as part of a PBR mechanism, some commenters urged the Department to adopt additional monetary incentives to maintain or achieve a specified level of service quality. Although G.L. c. 164, § 1E(c) does not explicitly prohibit the adoption of monetary incentives for superior utility performance, there is no requirement for the Department to implement a monetary incentive system for superior performance. More significantly, the purpose of an SQ component in a PBR is to ensure that a utility does not act on its incentive to cut costs to the detriment of service quality; performance-based regulation is not intended to provide a "reward" for maintaining pre-PBR service quality standards. See NYNEX Price Cap, D.P.U. 94-50, at 236 n.134.

Because penalties must be of sufficient magnitude that the penalty should exceed any savings the utility could realize from reducing its quality of service, it follows that a symmetrical reward and penalty structure would also result in increasing monetary incentive levels being paid out for the unit increments of SQ improvements. This may produce a perverse incentive on the part of utilities to incur significant expenditures on areas that, although producing incrementally small SQ improvements, would generate disproportionately greater rewards to the utility, perhaps to the detriment of overall operations. Beyond some as-yet undetermined point, the incremental monetary incentive earned by the company would exceed the benefits received by ratepayers in the form of improved service. Therefore, under proposals of the Joint Utilities, NSTAR, MECo, DOER, AIM, TEC, and the Retail Marketers, ratepayers could be harmed. The Department is also aware that instituting a system of monetary incentives in conjunction with penalties would increase the risk that exceptional performance in some service categories would mask less-than-satisfactory performance in other areas, leaving the utility revenue-neutral on SQ issues and indifferent to SQ improvements. Therefore, the Department declines to mandate a system of SQ monetary incentives as part of this proceeding.

Concerning the appropriate formula to calculate a revenue penalty, most commenters supported the use of a non-linear formula. While a linear formula may have the perceived advantage of simplicity, the Department considers a non-linear formula provides a stronger link between a utility's performance and the consequences of it failing to meet SQ measures. See Consolidated Arbitrations, D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94 Phase 3B Order (1997). Moreover, the Department considers the non-linear formula to be straightforward and readily understood. Therefore, the Department supports the use of a non-linear formula, whereby the revenue penalty is applied in a parabolic relationship to the variation from the average historical performance for a particular SQ measure. Under this formula, the maximum penalty would be incurred at a SQ level equal to two standard deviations from the historical performance for that category.

As noted above, there was widespread support from commenters for adoption of a "deadband" around a utility's historical average performance, whereby no penalty would be imposed. The use of a "deadband" recognizes the existence of normal statistical variations in service quality data, and provides a measure of protection to companies against being penalized for random statistical events. In addition, utilities only have the constitutional right to an "opportunity" to earn a fair and reasonable return -- not a guarantee. Clearly, the companies will have an opportunity to avoid any financial penalty if they meet the SQ standards. Therefore, for each SQ measure, the Department supports the use of a "deadband" equal to one standard deviation from the specific utility's historical average performance. Accordingly, a company whose performance for a particular SQ measure exceeds its historical average for that SQ measure will not incur a penalty associated with that particular measure.

Concerning the aggregate level of penalties which a utility would be subject to under a PBR, the Joint Utilities urge the Department to set the initial penalty levels at a level well below the statutory limit, in recognition of the "relatively early developmental stage of service quality plans." The Department considers it essential that the penalty for failing to meet SQ measures be of sufficient magnitude such that the revenue loss should exceed any cost savings the utility could realize from reducing its quality of service. Boston Gas Company, D.P.U. 96-50-C at 72. Furthermore, distribution companies have considerable experience with service quality requirements and ways to achieve these standards. The Department is not convinced that additional experience would be necessary for distribution companies, particularly when the SQ measures are to be based on the companies' individual historic performance.

Similarly, the Department considers the confiscation concerns expressed by the Joint Utilities to be unfounded. Confiscation occurs if the Department's decision deprives the utility of the opportunity to earn a fair and reasonable return on its investment.

Massachusetts Electric Company v. Department of Public Utilities, 379 Mass. 408 (1980); Boston Edison Company v. Department of Public Utilities, 375 Mass. 1 (1978). While the imposition of revenue penalties would admittedly reduce a utility's rate of return, a claim of confiscation is not supported by a mere contention that the effective rate of return is less than the allowed rate of return. Fitchburg Gas and Electric Light Company v. Department of Public Utilities, 371 Mass. 881, 889 (1977). Moreover, as pointed out by UWUA in its reply comments, maintenance of service quality is a legal obligation under G.L. c. 164, § 1F(7). To the extent that service quality declines below the levels existing at the time a PBR mechanism is implemented, utilities have no constitutional right to the same level of revenues that had been set in the related PBR proceeding.

The Department's proposed SQ plan provides for performance standards, with a penalty mechanism intended to make it unambiguous that certain actions or failures in maintaining SQ measures will have direct revenue consequences. To the extent a utility is subjected to revenue penalties for failing to meet SQ measures, the resulting lower rate of return would represent a transient condition that can be remedied by implementing reasonable service improvements such that the company meets the

established SQ measures under the categories authorized by G.L. c. 164, § 1E(a). Moreover, a review of the annual returns on file with the Department suggest that, even if a utility's service standards deteriorate to the point where that company would be subject to the maximum statutory penalty under G.L. c. 164, § 1E(c), imposition of the maximum penalty permitted would not, in and of itself, cause a sufficient decline in utility earnings to raise confiscation arguments. Therefore, the Department proposes to set the aggregate penalty level at the maximum statutory rate of two percent of transmission and distribution revenues.

Concerning the apportionment of penalties among the various SQ measures, the Department recognizes that certain performance standards are more critical to a utility's safe and efficient operation than others, thereby suggesting the propriety of a proportionately larger penalty. While many of the commenters supported the allocation of penalties among SQ measures on the basis of the relative importance of the particular measure, there is insufficient information concerning the priority to be accorded SQ measures and the relative weighting of penalties among those measures. Furthermore, the relative weighting of penalties among SQ measures would be affected by the number and type of SQ measures ultimately adopted through this proceeding. Therefore, the Department solicits additional comments as to the development of a weighting system for the various SQ measures, in order to assign a greater total penalty to those SQ measures which have a higher priority in a utility's overall operations than those SQ measures which have a smaller role in a utility's operations.

The Joint Utilities have expressed the opinion that separate hearings be conducted prior to imposing any penalty for failure to meet a particular SQ measure. The Department considers this additional procedural requirement to be unnecessary. The SQ plan associated with the SQ measures proposed herein would be implemented in conjunction with utility PBR proposals, which would in all likelihood require annual compliance filings with the Department. See e.g., Boston Gas Company, D.T.E. 99-85 (1999); Boston Gas Company, D.P.U. 98-98 (1998); Boston Gas Company, D.T.E. 97-92 (1997). If a company believes that imposition of a particular penalty is not warranted by the specific facts of the situation, the company would be free to present its case at the time of the annual compliance filing. Moreover, the company would continue to have the option to seek review of any final Department order pursuant to G.L. c. 25, § 5. The Department considers these existing requirements to provide sufficient protection to the utilities' procedural due process rights. Therefore, the Department rejects the idea of separate penalty proceedings.

Concerning UWUA's proposed individual customer protection mechanisms, the Department notes that consideration of this specific mechanism was supported by DOER, AIM, and TEC. The Department considers UWUA's proposal worthy of further investigation. Therefore, the Department solicits comments from participants as to whether individual customer protection mechanisms are appropriate, and how the mechanisms would be designed and applied.

V. <u>HISTORICAL DATA FOR BENCHMARKS</u>

As discussed in the previous sections, for each measure, a performance benchmark will be established based on the historical performance of the company, and a penalty for poor performance will be calculated based on the historical average for the measure and the standard deviation for that particular measure. The Department proposes the use of ten years worth of data for setting benchmarks. Ten years represents a reasonable compromise between the requirement for an information-rich data set and the requirement to avoid stale data. The Department also proposes the use of data for a fixed historical period rather than a rolling period, since a fixed period allows a comparison of the company's performance to a fixed benchmark for the entire PBR cycle.

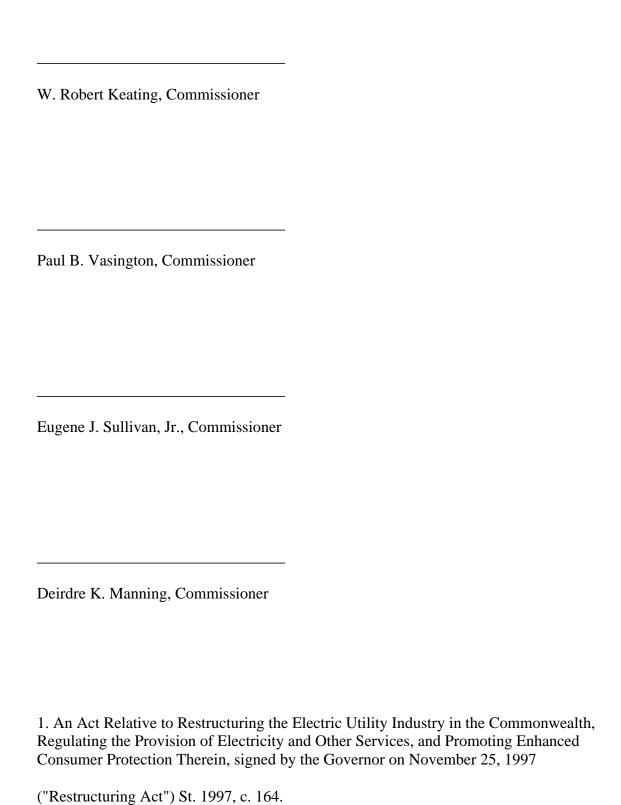
Finally, the Department notes that the companies may not have ten years worth of data for some measures. This is particularly true for new measures for which the companies have not collected any data. The Department proposes to allow companies to use data for as many years as they have data, as long as it is for at least two years, and for not more than ten years. Further, the Department proposes that in these cases, companies add the data for subsequent years to the data base for developing the benchmark.

For example, if a company has two years worth of data in the first year, for the second year it would add the performance data for the first year resulting in a data set of three years worth of data for setting the benchmark. It would continue this practice until it had ten years worth of data. The Department recognizes that this method may result in some of the problems we discussed with the use of a data period that rolled forward each year. We seek comment on this method and seek input on alternative ways of dealing with the issue of insufficient data for setting the benchmark.

VI. CONCLUSION

The Department requests all comments as specified above by September 14, 2000. A technical session (40) shall be held September 26, 2000 at 10:00 am, continuing until completion.

By Order of the Department	
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James Connelly, Chairman	



- 2. The local gas distribution companies are: Bay State Gas Company; The Berkshire Gas Company; Blackstone Gas Company; Boston Gas Company; Colonial Gas Company; Commonwealth Gas Company; Essex Gas Company; Fall River Gas Company; Fitchburg Gas and Electric Light Company; and North Attleboro Gas Company. The electric companies are: Boston Edison Company; Cambridge Electric Light Company; Commonwealth Electric Light Company; Fitchburg Gas and Electric Light Company; and Western Massachusetts Electric Company.
- 3. The Retail Market Participants are: EnergyEXPRESS; Enron Energy Services; GreenMountain.com; National Energy Choice; New Energy; PG&E Energy Services Company; Statoil Energy; and Utility.com.
- 4. Portions of this Order are on voluntary remand. <u>Boston Gas Company v. Dept.</u> <u>Telecommunications and Energy</u>, SJ-1997-0323.
- 5. The Attorney General states that it would be acceptable to continue using

company-specific benchmarks until the time that a Department investigation into statewide, regionwide, or nationwide benchmarks is concluded.

6. -

- 7. Any phone call or letter from a customer becomes a case only if the following circumstances occur: (1) the customer has contacted the company and remains dissatisfied; (2) the investigator cannot resolve the matter without contacting the company to obtain more information; and, (3) the Department has jurisdiction in the matter. The Consumer Division maintains a written record of each case. Calls that are not cases include a complaint where the customer has not talked with the company first, a complaint regarding an issue over which the Department has no standing, such as a general rate complaint, and problems with suppliers.
- 8. For example, a survey conducted immediately following a customer's call to the Company's Customer Service Center with the customer being asked to rate his or her experience is helpful.
- 9. Class I odor calls are defined as those that relate to a strong odor of gas through a household or outdoor area, or a severe odor from a particular area; Class II odor calls involve an occasional or slight odor at an appliance. <u>Eastern-Essex Acquisition</u>, D.T.E. 98-27, at 35 (1998); <u>Boston Gas Company</u>, D.P.U. 96-50 (Phase I) at 294 (1996).
- 10. Cast iron main replacements are addressed in 220 C.M.R. § 113.05; street restorations are addressed in <u>Street Restorations</u>, D.T.E. 98-22 (1999); and DigSafe requirements are addressed in G.L. c. 182, § 40.
- 11. In 1995, the Department issued detailed accident reporting procedures to the electric companies.

- 12. To our knowledge, California, Illinois, Kansas, New York, Ohio, Texas, and Wisconsin have adopted SAIDI and SAIFI measures; Michigan and New Jersey are considering such measures.
- 13. The Department has collected reliability data from the electric companies that date back to 1985. The Department has collected some of the data through the discovery process from the companies' restructuring proceedings. The rest of the data was collected through letter requests issued by the Department's Electric Power Division. Altogether, the Department has collected about 30 sets of SAIDI and SAIFI from the companies.
- 14. The information was derived from public utility commissions in California, Illinois, Kansas, Michigan, New Jersey, New York, Ohio, Texas, and Wisconsin.
- 15. A short-term or momentary outage (interruption of service) has a duration that is less than a sustained outage. A sustained outage typically has a duration of one minute or longer.
- 16. Distribution line losses are electrical energy losses over the utility's distribution system. These losses are part of the delivery of electrical energy and result from the physical properties of the system's wires and transformers and other incidental substation use.
- 17. The information was derived from public utility commissions in California, Illinois, Kansas, Michigan, New Jersey, New York, Ohio, Texas, and Wisconsin.
- 18. The information was derived from public utility commissions in California, Illinois, Kansas, Michigan, New Jersey, New York, Ohio, Texas, and Wisconsin.
- 19. Momentary Average Interruption Frequency Index or "MAIFI" characterizes the average number of momentary electric service interruptions for each customer during a specific time period.
- 20. The Department will continue to collect site-specific power disturbance data from companies and customers.
- 21. We note that Detroit Edison Company and various automobile manufacturers have executed contracts that establish electric service quality guarantees (<u>Special Manufacturing Contract</u>, The Detroit Edison Company and General Motors Corporation, August 2, 1994).
- 22. In the natural gas industry, distribution line losses are referred to as unaccounted-for gas.
- 23. In addition, the Department further seeks input on how technical and non-technical energy losses can be differentiated. Technical losses are a result of the inherent losses

within the utility infrastructure. Non-technical losses are a result of inaccurate metering of consumption and theft of energy.

- 24. The Department proposes that each electric <u>and</u> gas company report on an annual basis the capital expenditures that have been invested in the company transmission and distribution infrastructure to ensure delivery of reliable electricity. A list of the projects that the company expended over \$500,000 in capital expenditures with a description of each project shall be included. This proposal is further described in Attachment A.
- 25. The companies are required to report to the Electric Power Division, as soon as possible, every outage that causes or may be anticipated to cause 5,000 or more customer outage hours. Also, the companies are required to report, as soon as possible, to the Consumer Division every service outage that results in 50 or more customers without service for more than one hour. The report should include the date and time of the outage, the community(ies) where the outage occurred, the cause of the outage, the number of customers affected, outage duration, and the feeder or circuit identification number.
- 26. In a letter dated December 11, 1995, the Department directed each electric company and NYNEX to submit its emergency response and recovery plan to the Department on an annual basis.
- 27. Even though the Department is not considering such a benchmark, we have and will continue to conduct investigations of companies' storm preparation and restoration services when such investigations are warranted. See e.g., Western Massachusetts Electric Company, D.P.U. 95-86 (1995); Eastern Edison Company, D.P.U. 85-232 (1986); Investigation by the Department regarding Emergency Plans and Procedures, D.P.U. 91-228 (1992).
- 28. The Department realizes that much, if not all, of the poor performing circuit information will be reported to the Department as required in the revised Outage Reporting Procedures discussed in Section III.D.3.b above. However, by categorizing the poorly-performing circuits within a unique grouping, these circuits will receive the appropriate attention.
- 29. In <u>Boston Gas Company</u>, D.P.U. 96-50, at 310, the Department established a maximum penalty equal to \$4.9 million for that company's SQ plan, an amount equal to approximately two percent of the company's distribution revenue. That portion of our Order is currently under appeal.
- 30. However, DOER and AIM express their concern that the statutory rate may be inadequate to ensure service quality, because utilities are unlimited in the extent to which they may embark on cost-cutting measures (DOER/AIM Comments at 9 n.7).
- 31. UWUA describes PacificCorp's plan as consisting of eight customer guarantees (including, among others, appointments kept, service restoration, and complaint

response), for which PacificCorp is obligated to pay any affected customer \$50 if these guarantees were not met (UWUA Comments at 10).

- 32. UWUA states that, while United Kingdom utilities initially incurred significant customer guarantee payments, these payments fell to negligible levels within several years as a result of improvements in service reliability (UWUA Comments at 11).
- 33. The analogy to contract law is, of course, just that - an analogy, not an equivalency. The utility-ratepayer relationship is similar to, but something other than, contractual. Boston Edison Company v. City of Boston, 390 Mass. 772, 777 (1984); Boston Gas Company v. City of Boston, 13 Mass. App. Ct. 408, 411-12 (1982).
- 34. The proposed formula is:

 $Penalty = [0.25 * (\underline{Observed Result - Historical Average Result})^{2}] * maximum penalty \\ Standard Deviation$

For illustration purposes, assuming a telephone answering standard of 40 seconds with a standard deviation of three seconds, and a maximum penalty of \$1 million, the total penalty for a telephone answering time of 44.5 seconds would be as follows:

Penalty =
$$[0.25 * (44.5 - 40)^2] * $1,000,000$$
, or \$562,500

35. If a utility's performance for a particular SQ measure falls below two standard deviations from historical performance, this may be indicative of the need for more direct Department action, including Department inquiry and investigation under our general supervisory authority pursuant to G.L. c. 25, § 4 and c. 164, § 76. See, e.g., Western Massachusetts Electric Company, D.P.U. 95-86 (1995); Commonwealth Electric Company, D.P.U. 84-114 (1985); see also Boston Edison Company v. Department of Public Utilities, 375 Mass. 1, 43-44 (1978).

- 36. By way of example, lost-time accident reporting requirements are neither novel nor unique to PBRs. Gas or electric companies are required pursuant to G.L. c. 164, § 95 to report in writing to the Department on any accidents involving gas or electricity, involving either death or injury, within 48 hours from the accident. This obligation was first instituted in 1888, well before the advent of computerized information systems. St. 1888, c. 350, § 2.
- 37. Utilities that are concerned about the effects of SQ penalties on earnings have a remedy readily available to them; <u>i.e.</u>, conduct their business in a manner which maintains SQ measures and thereby avoids penalties completely. The Department expects that all Massachusetts utilities would strive to achieve penalty-free service.
- 38. As a practical matter, a utility whose service quality is so poor as to warrant the imposition of the maximum statutory penalty in every service category would be hard-pressed to sustain a claim of confiscation resulting from unjustified state action. The Department is under no obligation to insulate utility shareholders from self-inflicted wounds. See Blackstone Gas Company, D.P.U. 511, at 7 (1981); Blackstone Gas Company, D.P.U. 19830/19980, at 41 (1979).
- 39. The difference between a fixed and rolling period is illustrated by the following example. A company for which benchmarks are being set has a PBR cycle that extends from 2001 to 2005. If a fixed period was to be used for setting the benchmark, then data for ten years, or 1991 to 2000 for illustration purposes, would be used for all five years of the PBR cycle. On the other hand, if the period was to roll forward each year, then the benchmark for 2001 would be based on data from 1991-2000, but for the year 2002, the benchmark would then be based on data from 1992-2001, and for the year 2003, the benchmark would be based on data from 1993-2002, and so on.
- 40. The Hearing Officer will issue a procedural memo regarding the technical session shortly.