The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 14-134 April 30, 2015

Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan, pursuant to G.L. c. 164, § 145, for rates effective May 1, 2015.

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TABLE OF CONTENTS

I. INTRODUCTION 1

II. STATUTORY REQUIREMENTS 2

III. SECTION 94 PROCEEDING 5
A. Introduction 5
B. Analysis and Findings 6

IV. GAS SYSTEM ENHANCEMENT PLAN 9
A. Introduction 9
B. Eligible Infrastructure 11
1. Introduction 11
2. Position of the Parties 12
a. Attorney General 12
b. Company 13
3. Analysis and Findings 16
C. Coordination with DIMP 18
1. Introduction 18
2. Positions of the Parties 19
a. Attorney General 19
b. DOER 22
c. Company 23
3. Analysis and Findings 30
D. Acceleration Issues/Metrics 33
1. Introduction 33
2. Positions of the Parties 34
a. Attorney General 34
b. DOER 38
c. Company 39
3. Analysis and Findings 43
a. Introduction 43
b. Acceleration 44
c. Metrics 45
E. Anticipated Timeline for Completion of Each Project 47
1. Introduction 47
2. Positions of the Parties 47
3. Analysis and Findings 47
F. Estimated Cost of Each Project 49
1. Introduction 49
2. Positions of the Parties 50
a. Attorney General 50

b. Company 52
3. Analysis and Findings 56
G. Rate Change Request 58
1. Revenue Requirement Calculation 58
a. Rate of Return 58
i. Introduction 58
ii. Positions of the Parties 59
(A) Attorney General 59
(B) Company 60
iii. Analysis and Findings 62
b. Annual Depreciation Expense Adjustment 64
i. Introduction 64
ii. Positions of the Parties 66
(A) Attorney General 66
(B) DOER 69
(C) Company 69
iii. Analysis and Findings 73
c. Calculation of GSEP-Related Depreciation Expense 75
i. Introduction 75
ii. Positions of the Parties 76
(A) Attorney General 76
(B) DOER 77
(C) Company 78
iii. Analysis and Findings 78
d. Property Tax Calculation 80
i. Introduction 80
ii. Positions of the Parties 81
(A) Attorney General 81
(B) Company 81
iii. Analysis and Findings 81
e. Property Tax Abatements 82
i. Introduction 82
ii. Positions of the Parties 83
(A) Attorney General 83
(B) Company 84
iii. Analysis and Findings 85
f. Labor Overhead and Clearing Account Burden Costs 87
i. Introduction 87
ii. Analysis and Findings 88
g. Operations and Maintenance Offset 89
i. Introduction 89
ii. Positions of the Parties 90

(A) Attorney General 90
(B) Company 91
iii. Analysis and Findings 92
2. Application of Revenue Cap 94
a. Introduction 94
b. Positions of the Parties 95
i. Attorney General 95
ii. DOER 97
iii. Company 99
c. Analysis and Findings 101
3. Reconciliation Proposal 104
a. Introduction 104
b. Analysis and Findings 105
4. Gas System Enhancement Adjustment Factor 107
a. Introduction 107
b. Analysis and Findings 109
H. Customer Costs and Benefits 109
1. Introduction 109
a. Costs 110
b. Benefits 110
i. Safety and Environmental 111
(A) Safety and Reliability 111
(B) Environmental Impacts 111
ii. Municipal Cost and Convenience 112
iii. Job Creation 112
2. Position of the Parties 113
a. Attorney General 113
b. DOER 115
c. Company 116
3. Analysis and Findings 118
I. Model Tariff 120
1. Introduction 120
2. Positions of the Parties 121
a. Attorney General 121
b. Company 121
3. Analysis and Findings 122
J. Future Filings 126
1. Introduction 126
2. Three-Year Rolling Plan Review 126
a. Positions of the Parties 126
i. Attorney General 126
ii. Company 127

b. Analysis and Findings..... 129
3. Company Data and Databases 129
a. Positions of the Parties..... 129
i. Attorney General 129
ii. Company 130
b. Analysis and Findings..... 131
4. Reporting Requirements in TIRFs 132
a. Positions of the Parties..... 132
i. Attorney General 132
ii. Company 134
b. Analysis and Findings..... 137
5. Implementation Plan..... 139
a. Positions of the Parties..... 139
i. Attorney General 139
ii. Company 140
b. Analysis and Findings..... 141
6. Coordination of Main and Service Replacements 142
a. Positions of the Parties..... 142
i. Attorney General 142
ii. Company 142
b. Analysis and Findings..... 143
7. Leak Detection Technology 144
a. Positions of the Parties..... 144
i. Attorney General 144
ii. Company 144
b. Analysis and Findings..... 145
8. Ramp-Up Issues 145
a. Positions of the Parties..... 145
i. Attorney General 145
ii. Company 146
b. Analysis and Findings..... 146
K. Conclusion 147

V. ORDER 148

I. INTRODUCTION

On October 31, 2014, Bay State Gas Company d/b/a Columbia Gas of Massachusetts ("Bay State " or "Company"), pursuant to G.L. c. 164, § 145 ("Section 145")[1], submitted to the Department of Public Utilities ("Department") its first annual gas system enhancement program plan to replace aging natural gas pipeline infrastructure ("GSEP"). Bay State proposes to collect $2,625,905 through a gas system enhancement adjustment factor ("GSEAF") (Exh. CMA/JTG-2, at 10). The Company proposes to commence collecting 2015 GSEP costs through the GSEAF beginning on May 1, 2015. The Department has docketed this matter as D.P.U. 14-134.

As part of its GSEP filing, the Company submitted to the Department the prefiled testimony of David E. Mueller, Manager, Gas Engineering; Jeffrey T. Gore, Regulatory Accounting Manager; and Joseph A. Ferro, Manager Regulatory Affairs. On November 4, 2014, the Attorney General of the Commonwealth of Massachusetts ("Attorney General") submitted a notice of intervention pursuant to G.L. c. 12, § 11E(a). On December 4, 2014, the Department granted the Department of Energy Resources' ("DOER") petition to intervene. On December 11, 2014, the Department approved the Attorney General's notice of retention of experts and consultants for funding up to $150,000. See G.L. c. 12, § 11E(b). On December 12, 2014, pursuant to notice duly issued, the Department held a public hearing and procedural conference.

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[1] Section 145 was added by Section 2 of the Acts of 2014, c. 149, An Act Relative to Natural Gas Leaks.

On February 3, 2015, the Attorney General submitted the prefiled testimony of Allan R. Neale, consultant with La Capra and Associates, Inc., ("La Capra"); Melissa Whitten, consultant with La Capra; David J. Effron, utility regulation consultant; David E. Dismukes, consulting economist with Acadian Consulting Group; Phillip S. Teumim and Frank W. Radigan, consultants with the Hudson River Energy Group; and Timothy Newhard, financial analyst with the Attorney General.

The Department held evidentiary hearings on February 19, 2015, February 27, 2015, and March 2, 2015.[2] On March 18, 2015, the Attorney General, DOER, and the Company submitted initial briefs. On March 26, 2015, the Attorney General and the Company submitted reply briefs. The record consists of 282 exhibits and five responses to record requests.

II. STATUTORY REQUIREMENTS

Section 145 permits gas distribution companies to, in the interest of public safety and to reduce lost and unaccounted for natural gas, submit to the Department annual plans to repair or replace aging or leaking natural gas infrastructure.[3] Any plan filed with the Department shall

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[2] On February 27, 2015, and March 2, 2015, the Department held consolidated hearings for all 2015 GSEP dockets, D.P.U. 14-130 through D.P.U. 14-135, for the purposes of examining the Attorney General's witnesses.

[3] Section 145(a) defines eligible infrastructure replacement to be: "a replacement or an improvement of existing infrastructure of a gas company that: (i) is made on or after January 1, 2015; (ii) is designed to improve public safety or infrastructure reliability; (iii) does not increase the revenue of a gas company by connecting an improvement for a principal purpose of serving new customers; (iv) reduces, or has the potential to reduce, lost and unaccounted for natural gas through a reduction in natural gas system leaks; and (v) is not included in the current rate base of the gas company as determined in the gas company's most recent base rate proceeding."

include, but not be limited to: (i) eligible infrastructure replacement of mains, services, meter sets, and other ancillary facilities composed of non-cathodically protected steel[4], cast iron[5] and wrought iron[6], prioritized to implement the federal gas distribution pipeline integrity management plan ("DIMP") annually submitted to the Department and consistent with 49 C.F.R. §§ 192.1001 through 192.1015; (ii) an anticipated timeline for the completion of each project; (iii) the estimated cost of each project; (iv) rate change requests; (v) a description of customer costs and benefits under the plan; and (vi) any other information the Department considers necessary to evaluate the plan. Section 145(c).

Additionally, the initial plan submitted to the Department must also include a timeline for removing all leak-prone infrastructure on an accelerated basis specifying an annual replacement pace and program end date with a target end date of either (i) not more than 20 years, or (ii) a reasonable target end date considering the allowable cost recovery cap established pursuant to subsection (f). Section 145(c). Annual changes in the revenue

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4 Cathodic protection is a technique to control the corrosion of a metal surface by making the structure work as a cathode of an electrochemical cell. NACE International Standard Practice, SP0169-2007.

5 Applies to gray cast iron that is a cast ferrous material in which a major part of the carbon content occurs as free carbon in the form of flakes interspersed through the metal. Because the carbon flakes do not bond with the ferrous material on the molecular level, the metal is brittle and susceptible to stress cracking under pressure situations. American Gas Association, Gas Piping Technology Committee.

6 Together with cast iron, wrought iron pipelines are among the oldest energy pipeline constructed in the United States. The degrading nature of iron alloys, the age of the pipeline, and pipe joints design have greatly increased the risk involved with continues use of such pipelines. http://opsweb.phmsa.dot.gov/pipeline_replacement/

requirement eligible for recovery pursuant to the plan[7] shall not exceed (i) 1.5 percent of the gas company's most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers, or (ii) an amount determined by the Department that is greater than 1.5 percent of the gas company's most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers. Section 145(f).[8]

The Department may modify a plan prior to approval at the request of a gas company, or make other modifications to a plan as a condition of approval.[9] Section 145(d). The Department is required to consider the costs and benefits of the plan including, but not limited to, impacts on ratepayers, reductions of lost and unaccounted for natural gas through a reduction in natural gas system leaks, and improvements to public safety. Section 145(d). The Department is also required to give priority to plans narrowly tailored to addressing leak-prone infrastructure most immediately in need of replacement. Section 145(d).

If a plan complies with Section 145, and the Department determines that it reasonably accelerates eligible infrastructure replacement and provides benefits to customers, the Department must preliminarily accept the plan either in whole or in part. Section 145(e). The

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7 The GSEP revenue requirement includes depreciation expense, property taxes, and a return on investments associated with the plan. Section 145(e).

8 Any revenue requirement approved by the Department in excess of such cap may be deferred for recovery in the following year. Section 145(f).

9 If a gas company files a plan on or before October 31 for the subsequent construction year, the Department must review the plan within six months. Section 145(d). The plan is effective as of the date of filing, pending Department review. Section 145(d).

gas distribution company may begin recovering estimated costs beginning on May 1 of the year following submission of the plan, and collect any revenue requirement, including depreciation, property taxes, and return on investment associated with the plan. Section 145(e). Subsequently, on or before May 1 of each year, the gas distribution company must file final project documentation for construction completed the previous calendar year in order to demonstrate substantial compliance with the plan, and to demonstrate that the costs were reasonably and prudently incurred. Section 145(f).

III. SECTION 94 PROCEEDING

A. Introduction

The Attorney General asserts that the Department was required to conduct a base distribution base rate proceeding pursuant to G.L. c. 164, § 94 ("Section 94") prior to implementing Bay State's GSEP (Attorney General Brief at 6). The Attorney General maintains that a Section 94 proceeding was required to determine the impact that the GSEP will have on the other elements of the Company's base distribution rates (Attorney General Brief at 6, citing Attorney General v. Department of Public Utilities, 453 Mass. 191, 200 (2009); Attorney General Reply Brief at 4). In addition, the Attorney General asserts that a full cost of service review is necessary to determine whether Bay State's overall rates, including those implemented as a result of approval of the GSEP mechanism, are just and reasonable (Attorney General Brief at 6; Attorney General Reply Brief at 3-4).

The Company counters that Section 145 expressly authorizes the Department to establish a reconciling recovery mechanism and associated rates and does not require the

Department to invoke its authority under Section 94 (Companies Joint Reply Brief at 4). Bay State notes that the formula rate was created by the Legislature rather than as a product of the Department's exercise of its delegated authority (Companies Joint Reply Brief at 4-5). The Company also notes that the ten-month suspension period for Section 94 proceedings is inconsistent with the six-month review period expressly established in Section 145 (Companies Joint Reply Brief at 5). Finally, the Company asserts that there is no requirement in Section 145 that the Department determine the propriety of the rates by application of a just and reasonable standard or that the Department consider the impact of the GSEP mechanism on other elements of Bay State's operations, system, rates, and earnings (Companies Joint Reply Brief at 8).

B. Analysis and Findings

For the following reasons, we find that the Department is not permitted nor required under Section 145 to conduct a full base rate proceeding for Bay State prior to implementation of its GSEP. First, Bay State has proposed its GSEP as a result of a legislative act. Section 145(a) states that eligible infrastructure includes any replacements made "on or after January 1, 2015," and Section 145(d) states that a company may file the plan on or before October 31 "for the subsequent construction year," i.e., 2015. Thus, the plain language of the statute allowed Bay State to file its GSEP on or before October 31, 2014.[10]

[10] The Supreme Judicial Court has stated that a statute should be read as a whole to produce an internal consistency. Telesetsky v. Wight, 395 Mass. 868, 873 (1985), citing C. Sands, Sutherland Statutory Construction § 46.05 (4th ed. 1984).

Second, the Attorney General must fail in her assertion that the GSEP constitutes a "general increase in rates" that is subject to a Section 94 investigation because the ten-month review period granted by Section 94 is inconsistent with the six-month review period granted by the Legislature in Section 145(d). As noted above, the Company was permitted to file its GSEP on or before October 31, 2014, and the Department must issue its decision within six months, or by April 30, 2015. In addition, a basic tenet of statutory construction is to give the words their plain meaning in light of the aim of the Legislature. American Grain Product Processing Institute v. Department of Public Health, 392 Mass. 309 (1984); Purity Supreme, Inc. v. Attorney General, 380 Mass. 762, 782 (1980). Here, the Legislature recognized the need to improve existing gas pipeline infrastructure in Massachusetts and determined that it is appropriate to permit gas companies to propose plans accelerating these pipeline improvements. Section 145.

Third, the Department complied with the Section 94 statutory provisions requiring notice and a public hearing. In addition, the parties were afforded an opportunity for a full and fair hearing pursuant to G.L. c. 30A, § 10. Every party was also given the right to call and examine witnesses, to introduce exhibits, and to cross-examine witnesses who testified or sponsored exhibits in accordance with G.L. c. 30A, § 11(3).[11] In addition, consistent with the Department's Procedural Rules, the parties were afforded the opportunity to conduct discovery

[11] As stated in Section I., above, there were three days of evidentiary hearings in this proceeding, and the record consists of 282 exhibits and five responses to record requests.

on prefiled testimony. See D.P.U. 14-134, Hearing Officer Memorandum (Dec. 15, 2014); 220 C.M.R. § 1.06(6)(c).

Fourth, the Supreme Judicial Court has previously determined that it can be appropriate for the Department to conduct a single-issue rate case, i.e., changing rates to account for a cost increase in relation to a single item expense. Attorney General v. Department of Public Utilities, 453 Mass. 191, 201 (2009).[12] Further, the Department has discretion in evolving new approaches to ratesetting. NSTAR Pension, D.T.E. 03-47-A at 16. In setting rates, the Department's scope of decision is not bound by a single method. American Hoechest Corporation v. Department of Public Utilities, 379 Mass. 408, 412-413 (1980); New England Telephone & Telegraph Company v. Department of Public Utilities, 371 Mass. 67, 71 (1976). The exercise of flexible ratemaking authority is especially apt when the plain language of Section 145 requires the Department, if petitioned by a gas company for approval of a GSEP, to formulate a new mechanism for recovery of certain costs incurred by gas companies effective January 1, 2015.

Therefore, we find that the process used to review the Company's 2015 GSEP was consistent with the provisions of Section 145, and that no other process, including a base rate proceeding under Section 94, was necessary for the review of Bay State's 2015 GSEP.

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[12] We have found it appropriate to conduct a single-issue rate case where (1) the increase is dramatic and of such magnitude as to require the extraordinary treatment of a limited rate proceeding; and (2) a broad investigation entailed in a general base rate proceeding would burden ratepayers with rate case expense in excess of any savings that might be attained by examining additional issues. Cambridge Electric Light Company, D.P.U. 490, at 2-3 (1981).

IV. GAS SYSTEM ENHANCEMENT PLAN

A. Introduction

Bay State distributes natural gas to approximately 295,000 customers in 61 communities in three operating areas in Massachusetts: the Brockton operating area, the Springfield operating area, and the Lawrence operating area (Exh. CMA/DEM-2, at 5). As of December 31, 2013, the Company owns and operates 4,857 miles of distribution mains and over 260,097 services (Exh. CMA/DEM-2, at 5-6). The Company states that approximately 6.1 percent of the Company's distribution system mains are composed of non-cathodically protected steel and 14.5 percent is composed of smaller diameter cast iron and wrought iron, which means that more than one-fifth of the system is composed of relatively higher risk materials (20.6 percent) (Exh. CMA/DEM-2, at 6-7). The Company states that with large diameter cast iron mains included, approximately 20.9 percent of the distribution system qualifies as leak prone per industry standards (Exh. CMA/DEM-2, at 7). Bay State asserts that almost 19 percent of the services existing on the Company's distribution system are composed of non-cathodically protected steel (Exh. CMA/DEM-2, at 7).

Historically, Bay State has replaced an average of 35 miles of leak-prone pipe per year (see, Exh. CMA/DEM-2, at 8, Table II-2).[13] Under the proposed GSEP, Bay State anticipates replacing 44 miles of leak-prone mains and 4,900 priority services in 2015

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[13] CMA states that between 2009 and 2013, since the inception of its Targeted Infrastructure Reinvestment Factor program, it eliminated the equivalent of 177 miles of cast iron and non-cathodically protected steel mains, along with 10,079 services, (Exh. CMA-DEM-2, at 7-8, Table II-2).

(Exhs. CMA/DEM-2, at 36; AG-CMA-13-1). The Company states that under the GSEP, it anticipates replacing over 1,000 miles of leak-prone pipe and 48,000 leak-prone services within the Company's three service areas (Exh. CMA/DEM-2, at 8-9, Table II-3 and Table II-4). Bay State estimates that it will replace all eligible leak-prone infrastructure, including mains, services, meter sets and other ancillary facilities in a 20-year period, with the first five years comprising the ramp-up period, the next five years comprising a level run-rate for replacement, and the remaining ten years comprising a ramp-down period for replacing the remaining leak-prone infrastructure (Exh. CMA/DEM-2, at 10). Bay State states that it requires a ramp-up period in order to develop, train, and qualify additional internal and contractor personnel to construct and install pipelines, as well as field personnel to inspect replacement work (Exh. CMA/DEM-2, at 10, 12-13).[14] During the ramp-up period, the Company intends to increase the rate of leak-prone main replacement by five miles each year (Exh. DPU-CMA-4-4(d)). The total estimated 2015 GSEP capital cost is $44.26 million (Exhs. CMA/DEM-2, at 36-37; CMA/JTG-3, at 3, Sch. 2). Bay State's illustrative revenue requirement associated with recovery of 2015 GSEP costs beginning May 1, 2015, is $2,625,905 (Exhs. CMA/JAF-1, at 9; CMA/JTG-3, at 3, Sch. 2).

[14] Additionally, the Company will need to retain additional office personnel to manage the intake and closing of the work orders associated with the accelerated replacement of leak-prone infrastructure (Exh. CMA/DEM-2, at 13).

B. Eligible Infrastructure

1. Introduction

The Company proposes to include in its Model Tariff language substantially tracking the Section 145(a) definition of eligible infrastructure replacement, i.e., a project to replace or improve the Company's existing infrastructure that: (i) is made on or after January 1, 2015; (ii) is designed to improve public safety or infrastructure reliability; (iii) does not increase the Company's revenue by connecting an improvement for a principal purpose of serving new customers; (iv) reduces, or has the potential to reduce, lost and unaccounted for natural gas through a reduction in natural gas system leaks; and (v) is not included in the Company's current rate base as determined in the gas company's most recent base rate proceeding (Exhs. CMA/DEM-2, at 3 n.1; CMA/JTG-1 at 6; CMA/JTG-2, at 3). Based on the Section 145(a) definition of eligible infrastructure replacement, Bay State proposes a comprehensive replacement plan for leak-prone facilities that includes: (1) non-cathodically protected steel, cast iron, and wrought iron gas distribution mains; (2) services; (3) service tie-ins; and (4) meters (Exhs. CMA/DEM-2, at 10; CMA/JTG-1, at 6; CMA/JTG-2, at 3)). In addition, Bay State proposes to include the costs related to replacement of encroached pipe[15] in its GSEP (see RR-DPU-1, Atts.).

[15] Encroached pipe includes cast iron pipe that is eight inches or smaller in diameter that has been exposed and undermined by a trench crossing the natural gas pipeline or by an adjacent, parallel excavation. 220 C.M.R. §§ 113.06, 113.07.

2. Position of the Parties

a. Attorney General

The Attorney General asserts that the Department should exclude all costs related to "normal" replacements of gas infrastructure from recovery through the GSEP (Attorney General Brief at 12).[16] The Attorney General asserts that the clear intent of Section 145 is to accelerate the replacement of leak-prone pipe, focus on replacement of pipe most in need of replacement, and provide a funding mechanism to accomplish those replacements (Attorney General Brief at 12). Because the Company has an ongoing obligation to replace pipe on a routine and as-needed basis, the Attorney General contends that normal infrastructure replacement costs are expressly excluded from the GSEP (Attorney General Brief at 12).

In addition, the Attorney General asserts that most of the gas replacement infrastructure that will be replaced following the GSEP would have been replaced as part of its normal replacement levels and, as such, are accounted for in base rates (Attorney General Brief at 13). The Attorney General asserts that to the extent the Department concludes that Bay State may recover the costs related to normal replacements through the GSEP, the Department should

[16] The Attorney General interprets "normal" replacements to be those related to the Company's ongoing obligation to replace pipe on a routine and as-needed basis, including replacement of pipe identified through routine operations and inspections, system monitoring, and leak history (Attorney General Brief at 12). The Attorney General asserts that for Bay State, a "normal" level of annual replacement is 57 miles of main and 2.426 service lines (Attorney General Brief at 139, citing Exhs. AG-CMA-2-4; AG-CMA-2-5). The Attorney General based the "normal" rate of replacement on the five years immediately preceding the implementation of the Company's TIRF (Attorney General Brief at 139).

adopt a contemporaneous, downward adjustment to base rates to eliminate any double counting (Attorney General Brief at 14).

In addition, the Attorney General asserts that the Department should not allow the Company to recover replacement costs of encroached pipe through the GSEP (Attorney General Brief at 51-52, citing 220 C.M.R. §§ 113.06, 113.07). The Attorney General maintains that because the removal of encroached pipe has been mandatory since 1991, the pipe does not qualify as eligible infrastructure under Section 145(a) (Attorney General Brief at 51-52). The Attorney General also asserts that the fact Bay State has been recovering the costs of these mandatory replacements in base rates since 1991, supports a finding that the encroached pipe does not qualify as eligible infrastructure under Section 145(a) (Attorney General Brief at 51-52).

In addition, the Attorney General maintains that once encroached pipe is identified as such, the Company may not reclassify it as "planned" cast iron replacement or "other" (Attorney General Brief at 53). To remedy this issue, the Attorney General recommends that the Department establish a uniform, bright-line rule on how all gas companies record, identify, and classify encroached cast iron pipe -- by diameter, length, location, and final disposition (Attorney General Brief at 55).

b. Company

Bay State contends that the Attorney General's recommendation to exclude "normal" replacements from the cost recovery mechanism of the Company's GSEP directly contradicts the plain language of Section 145, which provides for full cost recovery of GSEP investment

(Companies Joint Reply Brief at 13-14). The Company asserts Section 145 does not contain the word "normal" to identify pre-existing levels of replacement projects, and, thus, Bay State argues that the Attorney General fails to demonstrate where Section 145 mandates or suggests excluding "normal" replacements from GSEP cost recovery (Companies Joint Reply Brief at 13-14). In addition, the Company argues that the rules of statutory construction do not allow adding words to a statute that the Legislature did not put there, either by inadvertent omission or design (Companies Joint Reply Brief at 14, citing Commonwealth v. Poissant, 443 Mass. 558, 563 (2005); Commonwealth v. Callahan, 440 Mass. 436, 443 (2003); Commonwealth v. McLeod, 437 Mass. 286, 294 (2002); Civitarese v. Middleborough, 412 Mass. 695, 700 (1992)).

The Company also disagrees with the Attorney General's assertion that double counting of costs will occur if Bay State is permitted to recover the costs of normal replacements through the GSEP (Companies Joint Reply Brief at 15). The Company maintains that the replacement project costs recovered through a gas company's currently effective base rates and the project costs recovered through GSEP are two different sets of cost pertaining to two different sets of plant addition (Companies Joint Reply Brief at 15). The Company asserts that because the Department has not historically permitted the use of future test year or allowed the inclusion of projected plant additions in rate base, it is not possible for any company to be recovering through depreciation expense in base rates any return of costs that have yet to be incurred, including costs to be incurred in calendar year 2015 (Companies Joint Reply Brief at 16).

With respect to the Attorney General's arguments regarding encroached pipe, Bay State asserts that there is no legal basis for excluding costs related to encroached pipe from the GSEP mechanism (Companies Joint Reply Brief at 41). The Company asserts that costs incurred to replace or abandon cast iron pipe after January 1, 2015, will meet every single criteria of eligible infrastructure replacement under Section 145 and, thus, the Department does not have the discretion, prerogative, or authority to exclude this class of infrastructure replacement (Companies Joint Reply Brief at 41, citing Providence & Worcester Railroad Company v. Energy Facilities Siting Board, 453 Mass. 135, 144 (2009); Goldberg v. Board of Health of Granby, 444 Mass. 627, 632-633 (2005); Kszepka's Case, 408 Mass. 843, 847 (1990); School Comm. Of Springfield v. Board of Education, 362 Mass. 417, 441 n.22 (1972)). In addition, the Company asserts that the Attorney General offers no explanation for how the Department could legally exclude encroached pipe from the GSEP under the express provisions of Section 145 (Companies Joint Reply Brief at 39).

The Company also disagrees with the Attorney General's assertion that because companies have historically recovered these costs in base rates, they may not now be recovered through the GSEP (Companies Joint Reply Brief at 39-40). The Company maintains that regardless of how the costs were recovered historically, any encroachment costs that are incurred in 2015 would not be included in the Company's current rate base (Companies Joint Reply Brief at 40).

Finally, the Company rejects the Attorney General's recommendations that the Department establish a new uniform rule for recording, identifying, and classifying encroached

cast iron pipe as a measure for preventing reclassification of ineligible encroached pipe replacement to be eligible under the GSEP cost recovery mechanism (Companies Joint Reply Brief at 42). Bay State asserts that Section 145 does not prohibit the Company from proposing to re-categorize encroached cast iron pipe to planned replacement pipe (Companies Joint Reply Brief at 42). Further, the Company maintains there does not appear to be any benefit to be gained or interest served in adopting the Attorney General's recommendation, particularly where the Attorney General agrees that the Company's current procedures already include detailed information on the identification and classification of encroached cast iron pipe (Companies Joint Reply Brief at 42).

3. Analysis and Findings

The Attorney General argues that a certain portion of annual pipe replacement should be considered the "normal" amount that Bay State would replace in a given year, and that the costs related to this "normal" portion of replacement should be excluded from the costs of eligible infrastructure as defined under Section 145 and recovered through the GSEP (Attorney General Brief at 12-13). We disagree. Section 145 does not delineate any exclusion for the costs associated with the normal replacement of pipes. Instead, the plain language of Section 145(a) permits recovery through the GSEP of any replacement costs where the project is to replace or improve a company's existing infrastructure with certain conditions, e.g., made on or after January 1, 2015, designed to improve public safety or infrastructure reliability.

Section 145(a) also specifically includes safeguards against double recovery by requiring that for any costs to be eligible for recovery through the GSEP, those costs must not

be included in the current rate base of the gas company as determined in its most recent base rate proceeding. As noted by the Company, the Department has not previously permitted projected plant additions to be included in rate base and, as such, any capital spending that occurs after January 1, 2015, is not in Bay States' current rate base, which was established in its last base rate proceeding. See Bay State Gas Company, D.P.U. 13-75, at 117-119 (2014). At the time the Company makes its reconciliation filing, Bay State will be required to demonstrate that any capital spending sought for recovery in the GSEP is incremental to costs currently in the Company's rate base.

In addition, the Attorney General asserts that because replacement of encroached pipe is mandated by Department regulations and the replacement costs have been historically recovered through base rates, Bay State should not be permitted to recover the costs relating to encroached pipe replacement in the GSEP (Attorney General Brief at 50). The Department disagrees with the Attorney General's contention. Specifically, while Bay State is required to replace encroached pipe pursuant to the Department's regulations, those regulations do not delineate any specific mechanism for cost recovery related to replaced pipe. See 220 C.M.R.§§ 113.00 et seq. Cast iron pipe is eligible infrastructure under Section 145(a). Replacing encroached cast iron pipe is consistent with the public policy intent of Section 145, i.e., public safety, environmental mitigation. The language of Section 145 does not exclude encroached cast iron pipe from the definition of eligible infrastructure. Thus, the Company's cost of replacing or abandoning encroached cast iron pipe may be included for recovery in Bay State's GSEP. Further, we recognize that there is a public safety benefit, consistent with

Section 145, to encouraging Bay State to replace not only the encroached segment of pipeline, but the entire congruent segment of that pipeline. Thus, we determine it is inappropriate to set limits on the costs that may be recovered through the GSEP.

Finally, the Attorney General recommends that the Department implement a uniform rule on how all gas companies record, identify, and classify encroached cast iron pipe -- by diameter, length, and location, and final disposition (Attorney General Brief at 55). Bay State's procedures currently include detailed information on the identification and classification of encroached cast iron pipe (see, e.g., Exh. AG-CMA-1-3, Att. 1, at 14-15). We find the Company's current procedures to be sufficient. Therefore, it is unnecessary to implement additional requirements regarding recording, identification, and classification of encroached cast iron pipe at this time. Nonetheless, we recognize that this is the initial implementation of the GSEP and as the process evolves, we will have additional information available to determine whether uniform guidelines are needed in the future.

C. Coordination with DIMP

1. Introduction

Bay State's strategy for managing leak-prone pipe is spelled out in its DIMP (Exhs. CMA/DEM-2 at 28-30; AG-CMA-1-3, Att.). Pursuant to the DIMP, the Company prioritizes leak-prone pipe segments for replacement based on consideration of, among other things, pipe material, leak history, corrosion history, operating pressure, population density, proximity to structures, public buildings or business districts, and soil conditions (Exh. CMA/DEM-2 at 29). Bay State proposes to continue prioritizing leak-prone pipe

replacement in accordance with the DIMP, including those replacements that are recovered through the GSEP (Exh. CMA/DEM-2 at 28).

2. Positions of the Parties

a. Attorney General

The Attorney General recommends that the Department should not accept Bay State's GSEP as filed, or, alternatively, condition approval of the GSEP based on the Company's ability to track and monitor performance measures to ensure that it is implementing the DIMP properly (Attorney General Brief at 103, 146). The Attorney General asserts that to meet the goals of the DIMP, Bay State should be targeting first the most risky parts of its infrastructure (Attorney General Brief at 28). By doing so, the Attorney General maintains that the Company will be removing the worst threats to the system first, which provides benefits from a public safety perspective and helps control lost and unaccounted for gas (Attorney General Brief at 28). Thus, the Attorney General contends that the Department should condition any approval of the Company's GSEP on the requirement that the GSEP prioritize the acceleration of the replacement of worst pipes first (Attorney General Brief at 28). To ensure that the worst pipes are being replaced first, the Attorney General recommends that the Department require Bay State to report on an annual basis the risk score for each project selected for the GSEP, along with the top 100 riskiest projects from a system-wide risk ranking for the same period (Attorney General Brief at 28).

With respect to coordinating projects with municipalities, the Attorney General maintains that the focus should be on the elimination of the most risk-prone pipe (Attorney

General Brief at 34). The Attorney General asserts that while being proactive in scheduling replacements based on municipal projects could be efficient and cost effective, it could result in delayed replacement of higher risk pipe (Attorney General Brief at 34). To ensure that Bay State is giving priority to replacement of high-risk pipe, the Attorney General asserts that the Department should require the Company to provide a detailed explanation of how it arrived at the replacement candidates, including the results of risk-rank modeling and showing the extent to which those rankings were altered based on judgment (Attorney General Brief at 35). The Attorney General also contends that the Department should require the Company to consider the specific relative risk involved in any given situation before reordering replacement priorities due to municipal scheduling issues (Attorney General Brief at 35).

The Attorney General, relying on information provided by the Company in its annual reports to the Pipeline and Hazardous Materials Safety Administration ("PHMSA") of the Department of Transportation ("DOT Annual Reports"), expresses concern with Bay State's gas leak backlog, stating that the data indicates an increasing number of unrepaired gas leaks allowing methane to escape into the atmosphere (Attorney General Brief at 140-142). The Attorney General states that the leak backlog has increased from 63 in 2009 to 668 in 2013 (Attorney General Brief at 141). The Attorney General disputes Bay State's explanation that the increase in the leak backlog was due to the Company's change in leak grading criteria that caused the Company to see a significant increase in the number of Grade 1 leaks on cast iron pipe (Attorney General Brief at 141, citing Tr. 1 at 55). First, the Attorney General asserts that the Company experienced a nearly doubling of the leak backlog from 2009 to 2010, prior

to the change in leak grading criteria (Attorney General Brief at 142). Second, the Attorney General states that the Company's explanation is contradicted by the PHMSA data from 2010-2013, which shows just a slight increase in the number of Grade 1 leaks that have been replaced (Attorney General Brief at 142, citing Exh. AG-CMA-2-6 Att.). Third, the Attorney General contends that the Company's system showed a slight but steady increases in lost and unaccounted for gas that is inconsistent with the Company's explanation that the leak backlog was the result of new leak criteria, but consistent with an increasingly leaky gas infrastructure system that releases more methane gas into the atmosphere (Attorney General Brief at 144). Finally, the Attorney General asserts that there would be an expectation that other gas companies would also experience rising leak backlogs similar to Bay State if the new grading was a result of a general industry change in detection criteria, but Bay State's leak backlog does not align with the leak backlog of other utilities (Attorney General Brief at 144).

The Attorney General contends that the most logical conclusion supported by the record for the leak backlog is that Bay State has been deferring the repair of leaks on its system at an increasing rate over a several year period, leading to an artificial compliance with the performance measures in the Company's DIMP, which does not account for leak repair deferrals (Attorney General Brief at 144-145). Therefore, the Attorney General asserts that the Company may not be complying with its DIMP (Attorney General Brief at 145). The Attorney General states that the Company's performance measures in the DIMP seem to be tracking only repaired leaks and not appropriately accounting for the leak backlog (Attorney General Brief at 145). The Attorney General asserts that Bay State should review the leak

backlog data, correct any errors on a best efforts basis, and report back to the Department on the accuracy of the figures reported to PHMSA (Attorney General Brief at 145, citing Exh. AG-ARN-1, at 12-17). The Attorney General argues that the GSEPs are meant to further the risk reduction goals of the DIMP, and a reduction in leak backlog will help reduce lost and unaccounted for gas, thus the Department should not accept Bay State's plan as filed (Attorney General Brief at 146). Alternatively, the Attorney General asserts that if the Department approves Bay State's GSEP, then the Company should be required to (1) track and monitor performance measures to ensure that it is implementing the DIMP properly and (2) file with the Department a plan to address the leak backlog (Attorney General Brief at 146).

b. DOER

DOER maintains that the principal intent of the GSEP is to prioritize the removal of the highest risk pipe (DOER Brief at 2). DOER asserts that there are cost benefits associated with combining GSEP projects with municipal road construction projects, which may conflict with prioritizing the removal of the highest risk pipe (DOER Brief at 2). Thus, DOER contends that the cost and benefits must be balanced against the risk involved in each project to ensure that higher risk projects are replaced first (DOER Brief at 3). DOER supports Bay State's approach and recommends that Bay State continue to balance the condition and leak history of the pipe, the type of pipe, and regulatory obligations against the type of construction and the intrusiveness of that construction (DOER Brief at 3). In addition, DOER recommends that the Company be required to justify in its annual reconciliation filings any municipal construction projects that resulted in reordering of replacement priorities (DOER Brief at 4).

c. Company

The Company asserts that its GSEP is consistent with the DIMP (Bay State Brief at 6). Bay State maintains that the DIMP specifies implementation of an organized approach to managing risks on gas distribution systems and is designed to result in a repeatable, justifiable, and uniform approach to system knowledge, threat determination, risk ranking, mitigation, regulatory compliance, and reporting (Bay State Brief at 6-7, citing Exh. CMA/DEM-2, at 28-29).). The Company contends that the requirements in 49 C.F.R. § 192, subpart p, are high-level and performance-based, specifying the required DIMP program elements but not prescribing specific methods of implementation (Bay State Reply Brief at 11, citing Exh. AG-CMA-1-3, Att. at 3). Bay State notes that the Attorney General acknowledges this fact in her initial brief (Bay State Reply Brief at 11, citing Attorney General Brief at 10).

The Company states that in 2012, the first year that Bay State filed a DIMP with the Department, the plan was audited by the Department's Pipeline Engineering and Safety Division and the Company did not receive any findings or feedback as a result of the audit (Bay State Reply Brief at 6-7). In fact, the Company asserts, the Department has neither expressed concern with the development or execution of Bay State's DIMP nor questioned the way in which the Company identifies risks to its distribution system (Bay State Reply Brief at 7).

Bay State contends that it intends to use these same prioritization procedures that it has used previously pursuant to the DIMP to select the appropriate projects for each GSEP year (Bay State Brief at 7-8, citing Exhs. AG-CMA-1-3; CMA/DEM-2, at 28-33). Thus, the

Company maintains that its GSEP appropriately prioritizes pipeline replacement in accordance with the DIMP, which is consistent with the Section 145(c) requirement (Bay State Brief at 8).

Although Bay State asserts that it analyzes and prioritizes main segments for replacement using a worst first concept, the Company disagrees with the Attorney General's recommendation that the Department condition approval of the GSEP by requiring the replacement of worst pipes first (Companies Joint Reply Brief at 27, citing Attorney General Brief at 28; Bay State Reply Brief at 12, citing Exhs. CMA/DEM-2, at 29; AG-CMA-1-7; Tr. 1 at 146-148). Bay State asserts that there are multitudes of worst-first projects and that not all of these projects can be completed first (Companies Joint Reply Brief at 27). In addition, the Company maintains that it must have flexibility to balance worst-first ranking with numerous other considerations to address risk and to conduct a cost-effective program with available resources (Companies Joint Reply Brief at 27).

Bay State asserts that it can generally comply with the Attorney General's recommendation that the Company report annually the risk score for each project and the top 100 riskiest projects (Companies Joint Reply Brief at 27, citing Attorney General Brief at 28). Nonetheless, the Company states that it does not generate a risk score or develop prioritization factors for municipal projects (Companies Joint Reply Brief at 27). In addition, the Company contends that it is not possible to maintain a list ranking the risk of projects in a sequential manner because some projects have the same or similar risk scores (Companies Joint Reply Brief at 27). Because of these factors, the Company contends that where it can provide the

information, it will not be determinative of the sequencing of replacement projects (Companies Joint Reply Brief at 27).

In addition, because of the lack of a risk ranking for all projects, the Company asserts it cannot provide a detailed explanation of how Bay State chose replacement candidates based on a risk ranking and then show the extent to which those rankings were altered based on judgment (Companies Joint Reply Brief at 28, citing Attorney General Brief at 31, 35). The Company also asserts that it is not feasible to quantify the interplay between engineering judgment and technical computations for every project (Companies Joint Reply Brief at 28).

Moreover, the Company contends that the Attorney General's assertion that Bay State should be required to weigh the specific relative risk when considering municipal projects is unworkable (Companies Joint Reply Brief at 28, citing Attorney General Brief at 31). Bay State contends that there are two types of municipal projects that influence the prioritization of replacements: (1) projects that require the Company to take action on its own facilities to accommodate the project; and (2) projects that do not require action by the Company but provide an opportunity for Bay State to coordinate work with the municipality so that duplication of street excavation, restoration, and paving costs may be avoided (Bay State Brief at 8, citing Exh. CMA/DEM-2, at 30). Bay State explains that projects where municipal paving or infrastructure replacement project will worsen leakage or create a regulatory obligation to replace the Company's infrastructure receive the highest priority when selecting projects to undertake in coordination municipalities (Bay State Reply Brief at 13, citing Exh. CMA/DEM-2, at 32). In addition, Bay State asserts that risk is always a consideration in

the exercise of prioritizing projects but that the Company must have flexibility to complete projects with a relatively lower risk ranking where it is cost effective to do so (Companies Joint Reply Brief at 28). The Company contends that without the flexibility, it would not be able to manage its program costs or minimize the impact of construction work by coordinating main replacement work with municipalities (Companies Joint Reply Brief at 28). The Company agrees with the balanced approach recommended by DOER, and states that Bay State will explain its prioritization decisions, including decisions to move ahead with replacements, as part of a municipal project (Companies Joint Reply Brief at 70).

Bay State disagrees with the Attorney General's assertion that the Company has been deferring the repair of leaks in order to reduce the leak rate on its distribution system and thereby artificially comply with its DIMP (Bay State Reply Brief at 6). The Company argues that the Attorney General's allegation is incorrect and not based on record evidence (Bay State Reply Brief at 6). Moreover, Bay State asserts that the Company's backlog of leaks requiring repair is more properly addressed under the provisions of G.L. c. 164, § 144 ("Section 144"),[17] which sets out a uniform set of leak classification and repair subject to the Department's oversight (Bay State Reply Brief at 6).

Bay State asserts that the Attorney General seems to be operating under the mistaken impression that the Company is required to clear all leaks on its systems by the close of the year, i.e., there should never be a backlog of leaks to be repaired as of December 31 of each

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[17] Section 144 was added by Section 2 of the Acts of 2014, c. 149, An Act Relative to Natural Gas Leaks.

year (Bay State Reply Brief at 7). The Company notes that the Attorney General has not cited federal or state law or regulation to support her argument because no such law or regulation exists (Bay State Reply Brief at 7). The Company states that prior to mid-2014, when Section 144 became effective, Grade 1 leaks, [18] per the Company's operations and maintenance manual, were repaired immediately or the Company took continuous action until the leak was repaired (Bay State Reply Brief at 7). Given that Grade 1 leaks are repaired immediately, Bay State asserts that Grade 1 leaks are not included in the DOT Annual Report leak backlog information (Bay State Reply Brief at 7, citing Exh. AG-CMA-2-1; Tr. 1 at 55; Attorney General Brief at 142). Furthermore, the Company asserts that Grade 2 leaks,[19] which had been addressed prior to mid-2014 within 15-24 months, made up the majority of the leak backlog on the Company's system (Bay State Reply Brief at 8). The Company contends that based on the fact that the Company was not required to clear Grade 2 leaks within twelve months and that Grade 2 leaks are discovered throughout the year, it is logical to presume that the same Grade 2 leak could be present in one or two years of backlog reported to the DOT (Bay State Reply Brief at 8). The Company states that the treatment of Grade 2 leaks could account for the backlog increases that the Attorney General references (Bay State Reply Brief at 8). The

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[18] A Grade 1 leak is a hazard to persons or property and requires repair as immediately as possible and the gas company must take continuous action until the conditions are no longer hazardous. Section 144(b)(2).

[19] A Grade 2 leak is defined as a leak that is recognizable as non-hazardous to persons or property at time of detection but justifies scheduled repair based on probable future hazard within twelve months of detection. All Grade 2 leaks shall be reevaluated by a gas company at least once every 6 months until eliminated. Section 144(b)(3).

Company asserts that the increases are not due to the Company's deferring leak repair to depress the system leak rate in order to demonstrate artificial with its DIMP, but rather are a result of the Company following the requirements of its operations and maintenance manual prior to 2014 (Bay State Reply Brief at 8).

Bay State contends that the Attorney General relied on data reported by the Company in its DOT Annual Reports to develop her misguided conclusions regarding the Company's leak backlog and administration of the DIMP (Bay State Reply Brief at 8, citing Attorney General Brief at 140). The Company notes that the DOT Annual Reports include leaks caused by corrosion, natural forces, excavation damage, other outside force damage, materials or welds, equipment, incorrect operations, and "other" (Bay State Reply Brief at 8, citing Exh. AG-CMA-2-1, Att.). Bay State asserts that it is misleading and incorrect for the Attorney General to infer that all leaks are related to leak-prone infrastructure on the Company's system and to then arrive at the conclusion that the Company is improperly administering its DIMP (Bay State Reply Brief at 8). The Company argues that the same logic applies to the Attorney General's claims that an increase in lost and unaccounted for gas on the system is evidence that the Company is not properly administering its DIMP (Bay State Reply Brief at 9, citing Attorney General Brief at 143-144). Bay State claims that lost and unaccounted for gas can be traced to a variety of incidences on the Company's system including meter accuracy variability, damages to the Company's system by a third party, and unaccounted for gas associated with taking facilities out of service for maintenance (Bay State Reply Brief at 9). The Company contends that the Attorney General's attempt to portray the

lost and unaccounted for gas on the Company's system solely as a product of the Company's leak backlog is misleading and incorrect (Bay State Reply Brief at 9). Bay State argues that any questions or concerns of the Department or parties regarding the Company's backlog of leaks to be repaired are more properly addressed in future reviews of the Company's annual service quality report or a proceeding as designated by the Department under Section 144 (Bay State Reply Brief at 6, 10).

Bay State argues that it is properly administering its DIMP and that the Company's GSEP, as filed, presents an accelerated and reasonable plan for addressing leaks identified by the DIMP (Bay State Reply Brief at 10). The Company argues that the Department should reject the Attorney General's false accusations that Bay State has been deferring leak repairs in a scheme to artificially comply with its DIMP (Bay State Reply Brief at 10). Furthermore, Bay State argues that the Department should disregard the Attorney General's recommendation to reject the Company's GSEP as filed or, in the alternative, require the Company to track and monitor performance measures to ensure that it is implementing the DIMP correctly (Bay State Reply Brief at 10). The Company asserts that rejection of the GSEP would frustrate Bay State's ability to comply with the DIMP and would be contrary to the intent of Section 145 (Bay State Reply Brief at 10). The Company recommends that the Department approve the GSEP as filed, find that the Company's approach to prioritization is reasonable and appropriate, and recognize that the Company is properly complying with the DIMP (Bay State Reply Brief at 10,14).

3. Analysis and Findings

Pursuant to Section 145(c), the Company's GSEP must be prioritized to implement the DIMP consistent with the requirements specified in 49 C.F.R. §§ 192.1001 through 192.1015. The purpose of the DIMP is to enhance safety by identifying and reducing gas distribution pipeline integrity risks (Exh. AG-1-3, Att. 1, at 8). Based on the following considerations, we find that Bay State's GSEP is consistent with the DIMP. Specifically, the Company's GSEP is prioritized to implement the DIMP consistent with the requirements specified in 49 C.F.R. §§ 192.1001 through 192.1015.

The Attorney General and DOER recommend that certain further requirements be implemented into the DIMP where the replacement costs are going to be recovered through the GSEP. We do not accept these recommendations. Section 145 does not require the Department to implement additional measures into the DIMP, but instead requires the Department to ensure the Company's GSEP is "prioritized to implement the DIMP." Section 145(c).

The DIMP was created by federal regulations and compliance with the DIMP is governed by the U.S. Department of Transportation's Pipeline & Hazardous Materials Safety Administration and the Department's Pipeline Engineering and Safety Division (see Exh. AG 1-3, Att. 1, at 73). See also 49 C.F.R. §§ 191.11, 192.1007(g). There is a system in place for ensuring that the Company's DIMP is in compliance with federal regulations. See 49 C.F.R. §§ 191.11, 192.1007(f), 192.1007(g). Therefore, we find that a further review of the DIMP in this proceeding is not appropriate.

With respect to the Attorney General's specific arguments, we note that there is no requirement in the DIMP that a company prioritize leak-prone pipe replacements in order of worst first. See generally 49 C.F.R. § 192.1001 et seq. Instead, gas companies must consider a wide variety of factors in determining the appropriate projects to focus on. Specifically, Bay State is required to undertake a risk-based assessment of the distribution system and to identify threats to the system in the following seven categories: (1) corrosion; (2) natural forces; (3) excavation damage; (4) other outside force damage; (5) material and weld failure; (6) equipment failure; and (7) incorrect operations (Exhs. CMA/DEM-2, at 28-29; AG-CMA-1-3, Att.). Pursuant to 49 C.F.R. § 192.1007, the DIMP contains a requirement that the Company evaluate and prioritize the risk that these threats pose and implement measures to address the highest risks with an emphasis on leak management, enhanced damage prevention, operator qualification to reduce human error, and system replacement (Exhs. CMA/DEM-2, at 29; AG-CMA-1-3, Att.; AG-CMA- 1-7; AG 2-2; AG-CMA-2-3).

With respect to the Attorney General's proposal that Bay State report annually the risk score for each project and the top 100 riskiest projects, we recognize that the Company may not maintain a sequential list. Nonetheless, we determine it is appropriate to require as part of the October 31 annual filing a list of each project and its DIMP risk ranking (Exh. AG-CMA-1-3, Att., at 29-34). 49 C.F.R. § 192.1007(c). Where Bay State has not estimated and ranked a risk for a specific project, the Company should provide an explanation as to the lack of risk ranking.

The Attorney General also seeks a detailed explanation on an annual basis of how the Company chose any replacement candidate based on the risk ranking and demonstrating the extent to which the Company altered the risk ranking based on judgment (Attorney General Brief at 35). As noted above, the federal regulations and the DIMP require companies to consider a variety of factors. And we agree with the Company that it is not feasible to quantify the extent that judgment was a consideration in each case. Nonetheless, we recognize that it may be helpful to have an understanding of how any replacement project was chosen. Thus, we require Bay State to provide as a part of its October 31 annual filing a detailed explanation of how any replacement candidate was chosen, including the various factors that were taken into account.

With respect to municipal projects, we agree with DOER's recommendation that the Company take a balanced approach in determining the appropriateness of prioritizing municipal projects (DOER Brief at 4). We recognize the cost and pipeline safety benefits to coordinating with municipalities and we encourage Bay State to continue to coordinate replacement projects with municipalities and consistent with the Company's DIMP.

Finally, the Department rejects the Attorney General's recommendation, based on her analysis of Bay State's gas leak backlog data, that if the Department approves Bay State's GSEP, the Company should be required to (1) track and monitor performance measures to ensure that Bay State is implementing the DIMP properly and (2) file a plan to address the leak backlog. As we already have determined that this proceeding is not the proper venue to analyze the Company's DIMP; thus, we decline to require Bay State to take such action in this

proceeding. We agree with the Attorney General that it would be prudent of Bay State to review its leak backlog data and to correct any errors on a best efforts basis. However, the accuracy of Bay State's leak backlog data is outside the scope of this proceeding and is more properly addressed under the provision of Section 144, which sets out a uniform set of leak classification and repair subject to the Department oversight.

D. Acceleration Issues/Metrics

1. Introduction

Pursuant to the GSEP, Bay State anticipates that it will replace 44 miles[20] of leak-prone pipe in 2015, the first year of a five-year ramp-up period, and replace an annual average of 50.89 miles[21] over the years 2015 through 2033 (Exhs. CMA/DEM-2, at 36; AG-CMA-7-3; RR-DPU-3, at 2).[22] The Company plans to follow this ramp-up period with a five-year level

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[20] The 44-mile figure the Company presents in its initial filing serves as the basis for the Company's 2015 GSEP revenue requirement proposal, which remains unchanged (Exh. CMA/DEM-2, at 36-37). The Company has since submitted a budget update for informational purposes (RR-DPU-1, and Atts.). The Company has approximately 36 miles of main projects planned for replacement and has an additional 18 miles of main replacement in reserve, with the total project inventory of approximately $53 million; there are associated engineering estimates for approximately $34.7 million in project investment (RR-DPU-1, at 2). Flexibility within this plan is crucial, especially considering the Company's need to replace certain inside services, which may supplant a certain amount of main replacement over the course of its 2015 GSEP investment year (RR-DPU-1, at 2).

[21] Based on the Company's planned per-year replacements the Department calculates an average yearly replacement over the years 2015 through 2034 of 49.07 miles (DPU-CMA-1-8, Att. (Supp.)).

[22] While Bay State intends to replace leak-prone infrastructure as a more efficient and cost-effective alternative to repair, the Company will continue to seek awareness of and may include in its GSEP any leak repair methods that provide the same benefits as replacement at comparative cost (Exh. CMA/DEM-2, at 20).

run-rate of replacement before ramping down its replacement rate over the final ten years of its GSEP, with yearly replacement declining from 36.1 miles of main in 2030 to 14.4 miles in 2034, allowing flexibility to adjust resource levels as the Company endeavors to complete priority pipe replacement within 20 years (Exhs. CMA/DEM-2, at 10; DPU-CMA-1-8, Att. (Supp.); AG-CMA-7-3; RR-DPU-3, at 2). The Company additionally plans to replace an estimated 48,330 services over the course of its GSEP (Exh. CMA/DEM-2, at 8-9). Bay State ascribes enhanced public safety benefits to the accelerated replacement of leak-prone pipe through its GSEP and states that the above timelines represent such an acceleration (Exh. AG-CMA-3-6; RR-DPU-3 and Att.).

Bay State's GSEP includes an operations and maintenance ("O&M") offset, which will track the average cost of leak repairs on leak-prone pipe (Exh. CMA/DEM-2, at 26-27). Aside from the O&M offset,[23] the Company's GSEP includes no metrics or penalties designed to track Bay State's performance under the GSEP (Tr. 1 at 16-17).

2. Positions of the Parties

a. Attorney General

The Attorney General asserts that Section 145 requires the accelerated replacement of leak-prone pipe (Attorney General Brief at 15). The Attorney General argues that in order to determine if a GSEP includes accelerated replacement, the pace forecast in the GSEP must be compared to an historic pace of replacement (Attorney General Brief at 15). As a threshold issue, the Attorney General contends that Bay State's GSEP is not accelerated over the

[23] The Company's O&M offset is discussed in Section IV.G.1.g, below.

Company's historic pace of replacement, and that the Department should therefore reject the Company's proposal (Attorney General Brief at 103). Moreover, the Attorney General contends that any lag in the pace of Bay State's replacement, relative to its proposed GSEP, should be denied cost recovery under the GSEP for the period of time when it was lagging behind that pace (Attorney General Brief at 16).

While acknowledging that the Company's proposed replacement rate is slightly accelerated relative to its targeted infrastructure reinvestment factor[24] ("TIRF") program[25],, the Attorney General argues that Bay State's proposal falls short of its historic leak-prone pipe replacement rate prior to the TIRF, thereby indicating that it is possible for the Company to achieve a higher pace through base rates than the GSEP (Attorney General Brief at 146-147, citing AG-ARN-1, at 15, and Fig. 6, 18; Tr. 1, at 45). The Attorney General submits that acceleration would constitute the Company's completion of leak-prone pipe replacement in less time than the Company would have done historically, meaning that Bay State must further accelerate its planned replacement to be in compliance with Section 145(c) (Attorney General Brief at 146-147). The Attorney General contends that the Department should reject Bay State's GSEP as lacking acceleration, or approve it only on the condition that the Company

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[24] The TIRF program allows those gas companies to recover the revenue requirement (including depreciation, return on investment and property taxes) on investments made to replace leak-prone mains, services, and other facilities through a reconciling mechanism outside of base rates. Boston Gas Company/Colonial Gas Company/Essex Gas Company, D.P.U. 10-55, at 137-138, 145 (2010); New England Gas Company, D.P.U. 10-114, at 35 (2011); Bay State Gas Company, D.P.U. 13-75, at 21 (2014).

[25] Bay State's projected replacement term under its TIRF was 25 to 27 years (Tr. 1, at 45).

accelerate its replacement over the historic pace (Attorney General Brief at 147-148). The Attorney General argues that the Department has established precedent for such an action, as it rejected previous Company cost recovery proposals for infrastructure replacement due, in part, to a lack of anticipated accelerated rates of replacement (Attorney General Brief at 148, citing Bay State Gas Company, D.T.E. 05-27, at 48, and n.44 (2005)).

The Attorney General recommends that the Department condition approval of Bay State's GSEP on strong, effective performance standards, to ensure that customers receive the benefits that are associated with the GSEP (Attorney General Brief at 56). The Attorney General argues that the Department should build off of its experience with Bay State's TIRF where the Department implemented performance standards and enforcement measures (Attorney General Brief at 57, citing Bay State Gas Company, D.P.U. 13-75, at 48 (2014); Bay State Gas Company, D.P.U. 12-25, at 52 (2012). The Attorney General asserts that the Department instituted measures to ensure the realization of public benefits under Bay State's TIRF as a result of the Company's lagging replacement rate (Attorney General Brief at 149, citing Bay State Gas Company, D.P.U. 09-30, at 130-131 (2009); Bay State Gas Company, D.P.U. 12-25, at 47-48). The Attorney General asserts that Section 145 was based, in part, on the Commonwealth's experience with the TIRF mechanisms, and the clear legislative intent necessitates that the Department implement performance standards and enforcement measures for the GSEP (Attorney General Brief at 56).

The Attorney General argues that the Legislature granted the Department broad authority to implement Section 145 (Attorney General Brief at 59, citing Section 145(h)). The

Attorney General contends that because the provisions of Section 145 seek to reduce the economic and environmental waste and public safety hazards of lost natural gas from leak-prone pipe, the GSEP benefits the social welfare (Attorney General Brief at 60-64). Thus, the Attorney General avers, the Department has authority, under common law, to implement performance metrics to ensure that Bay State actually realizes the benefits envisioned by the Legislature (Attorney General Brief at 6). The Attorney General states that the Department should reject Bay State's implication that the Department lacks the authority to implement performance metrics as part of an approved GSEP (Attorney General Brief at 58-61, citing Section 145(d) and (h); G.L. c. 164, § 76; Tr. 1, at 17, 50-51). The Attorney General recommends that the Department adopt individual replacement targets for Bay State, which would be consistent with its established practice (Attorney General Brief at 58, 64-66, citing D.P.U. 13-75, at 31-32, 36-37; D.P.U. 12-25, at 47-48, 53; Exh. AG-DED-1, at 45-46). The Attorney General claims that the Department's adoption of the Attorney General's performance metric would ensure that the Company is making adequate progress towards replacing all leak-prone pipe located on its systems within 20 years (Attorney General Brief at 64).

The Attorney General recommends that the Department implement a performance metric requiring Bay State to replace at least 80 percent of its annual projected replacements without incurring a performance penalty (Attorney General Brief at 67). The Attorney General states that this performance target is based on the Company's replacement targets (Attorney General Reply Brief at 15). The Attorney General also recommends that if Bay State fails to

meet this performance target, the Company must defer cost recovery, without a return, until it meets the performance standard (Attorney General Brief at 67). The Attorney General argues that no analysis is necessary to justify this financial incentive because it is similar to financial incentives that the Department already has imposed on the Company through the TIRF, and she notes that the Company has since been in compliance with the Department's threshold replacement level (Attorney General Reply Brief at 15-16, citing D.P.U. 13-75, at 36; D.P.U. 12-25, at 54-55). Finally, the Attorney General recommends that if Bay State fails to meet this performance target in three of five years, then the GSEP will terminate (Attorney General Brief at 67). The Attorney General argues that such a drastic penalty is required to ensure that the public benefits of the GSEP are achieved (Attorney General Reply Brief at 16).

In addition, the Attorney General recommends that the Department not delay the implementation of performance standards, as suggested by DOER (Attorney General Reply Brief at 16, citing DOER Brief at 7). Instead, the Attorney General argues that performance standards should be a part of any GSEP approved by the Department (Attorney General Brief at 103; Attorney General Reply Brief at 16).

b. DOER

DOER argues that Section 145 gives the Department the authority to implement and enforce performance standards for the GSEPs (DOER Brief at 6). DOER supports performance standards for the GSEP, but states that financial penalties must be appropriate and termination of the Company's GSEP should be a last resort (DOER Brief at 6-7).

DOER does not support the Attorney General's recommended performance standard for several reasons (DOER Brief at 6). First, DOER states that the Attorney General has presented no evidence for the basis of the 80 percent threshold, and how that level would represent substantial compliance with an approved GSEP (DOER Brief at 6). Second, DOER argues that the Attorney General presented no analysis to justify the appropriateness of the financial penalty associated with deferred recovery (without a return) should Bay State fail to meet the 80 percent threshold (DOER Brief at 6). Third, DOER contends that although Section 145 contemplates discontinuation of the GSEP, such action should be a last resort given the public safety and other benefits associated with the GSEP (DOER Brief at 6).

DOER proposes two alternatives for the adoption of performance standards (DOER Brief at 7). First, DOER suggests that the Department incorporate GSEP performance standards into upcoming service quality proceedings (DOER Brief at 7, citing Order Adopting Revised Service Quality Guidelines, D.P.U. 12-120, at 75 (2014)). Second, DOER recommends that the Department direct the Company to propose performance standards as part of its May 1 GSEP filing, accompanied by supporting analysis and testimony (DOER Brief at 7).

c. Company

The Company states that its GSEP will result in the accelerated replacement of leak-prone pipe (Bay State Brief at 5; Bay State Reply Brief at 3). The Company claims that the Attorney General's proposed performance metric violates the plain language of the statute (Companies Joint Reply Brief at 17). In addition, the Company argues that termination of the

GSEP directly defeats the legislative purpose to enable the removal of leak-prone pipe from the Massachusetts gas distribution system on an accelerated basis (Companies Joint Reply Brief at 17). Bay State avers that trends in construction will not be determinable in only one or two years and variation in pace must be allowed (Companies Joint Reply Brief at 17). The Company argues that the Attorney General's assertion that the Department should reject the Company's GSEP for lacking acceleration is in conflict with the requirements of Section 145, is without merit and unsupported by evidence, and should be rejected (Bay State Reply Brief at 3-4, citing Attorney General Brief at 146-148). The Company similarly urges the Department to reject the Attorney General's recommendation to condition approval of the Company's GSEP on an increased pace of replacement over its historic pace, citing error in the Attorney General's characterization of the Company's acceleration of replacement (Bay State Reply Brief at 4, citing Attorney General Brief at 147-148). Bay State contends that instead the Department should approve the Company's GSEP as filed (Bay State Reply Brief at 5, 17). The Company avers that the Attorney General's argument is based upon a faulty characterization of the Company's pre-TIRF pace of replacement, and that she acknowledges that the Company will complete replacement more quickly under the proposed GSEP than it would have through its TIRF (Bay State Reply Brief at 4, citing Attorney General Brief at 137-139, 147; Tr. 1 at 45). The Company contends that its proposed GSEP is in compliance with Section 145 because (1) Bay State will complete its replacement four years earlier under the GSEP than it would have through its TIRF, and (2) its planned annual pace of replacement through the GSEP is higher than both the pre-TIRF (1986-2008) and projected

TIRF (2009-2033) rates (Bay State Reply Brief at 4-5, citing Attorney General Brief at 15; Exh. CMA/DEM-2, at 10; RR-DPU-3). The Company asserts that the Attorney General's arguments do not counter this evidence and should be rejected by the Department (Bay State Reply Brief at 5).

The Company states that the performance metric proposed by the Attorney General contradicts her "worst first" replacement strategy, as the performance metric will cause Bay State to emphasize quantity of replacements over the replacement of the most leak-prone infrastructure that may require a more deliberate pace to replace (Companies Joint Reply Brief at 17). The Company recommends that the Department follow the process established in Section 145 for the review of the GSEP and should not establish a system of terminating recovery over a short number of years without a significant foundation for that decision (Companies Joint Reply Brief at 18).

In addition, the Company argues that the Department should reject the Attorney General's performance metric because it is unworkable, fails to align with the plain language and statutory provisions of Section 145, and contradicts the Attorney General's own testimony (Companies Joint Reply Brief at 43). The Company contends that the pace of replacement may vary from year-to-year due to factors that are not entirely within Bay State's control, such as weather (Companies Joint Reply Brief at 43). The Company asserts that the annual GSEP review cycle will provide Bay State the opportunity to explain any variation in pace of replacement, and that arbitrary benchmarks will not benefit the Department or interested parties (Companies Joint Reply Brief at 43).

In addition, Bay State argues that a "miles replaced" metric is inappropriate because it ignores service replacements and more difficult main replacements, such as bridge crossings (Companies Joint Reply Brief at 44). Bay State avers that, as acknowledged by the Attorney General, the Department imposed a "miles replaced" standard on the Company only after a specific set of circumstances, pertaining to the level of annual program expenditure, not miles achieved, arose after the TIRF was approved (Companies Joint Reply Brief at 44, citing Attorney General Brief at 64-66). The Company avers that the Department should take a similar tack with the GSEP, that is, introduce a "miles replaced" metric only if a certain set of circumstances indicate that such a metric is appropriate and warranted (Companies Joint Reply Brief at 44).

Bay State also argues that the Attorney General's own witness testified that performance cannot necessarily be determined by the construction pace in a single year (Companies Joint Reply Brief at 44-45, citing Attorney General Brief at 15). In addition, the Company maintains that the Attorney General's proposed metric does not allow for leeway for the Department to evaluate the reasons replacements were below the projections (Companies Joint Reply Brief at 45).

The Company argues that the Department does not have the authority to deny a return on investment, as suggested by the Attorney General's proposed metric, because the language of the statute clearly allows Bay State to earn a return on GSEP investments (Companies Joint Reply Brief at 45-46). The Company asserts that there is nothing in the plain language of Section 145 that allows the Department to permanently terminate GSEP recovery because

replacement pace has fallen below a pace identified in the first year of a 20-year program (Companies Joint Reply Brief at 46).

The Company proposes that if Bay State fails to meet the 80 percent replacement target in any given construction year, it will include a detailed explanation in its annual May 1 filing as to the factors causing performance below target in its annual May 1 filing to allow the Department to investigate the reasons for such below target performance (Companies Joint Reply Brief at 47). In addition, the Company proposes that at the five-year interval for review Bay State will provide a detailed assessment of progress and remaining program activity (Companies Joint Reply Brief at 47). The Company also proposes that if there is any indication that it is off track, Bay State will submit a remediation plan with its five-year review plan to remain on target with its original program end date, or justify a new program end date (Companies Joint Reply Brief at 47).

3. Analysis and Findings

a. Introduction

Section 145 outlines several requirements pertaining to acceleration. For example, a gas company applying for its initial GSEP must include a timeline for removing all leak-prone infrastructure on an accelerated basis. Section 145(c). In addition, the Company must specify an annual replacement pace with a target end date of either (1) not more than 20 years, or (2) a reasonable end date considering the allowable recovery cap established pursuant to Section 145(f). Section 145(c).

Regarding metrics, none of the parties dispute the fact that Section 145 gives the Department the authority to establish performance standards for the GSEP. Despite the Attorney General's argument on brief that the Company did implicitly dispute this point during the proceeding, we note that the Company specifically declined to establish a firm position regarding permissible Department action on metrics and penalties under Section 145 (Tr. 1, at 50-51; Attorney General Brief at 58-59).

b. Acceleration

The Attorney General has expressed concern that Bay State's proposed GSEP is not accelerated. As noted in Section IV.A., above, Bay State has operated with a TIRF since 2009. See Bay State Gas Company, D.P.U. 09-30, at 134 (2009). While at times under its TIRF the Company was not successful at accelerating its pace of replacement over an historical average, based on the record, we find that the Company's GSEP implements an accelerated replacement of leak-prone facilities consistent with Section 145 (RR-DPU-3, and Att.).[26] See D.P.U. 12-25, at 47. The Department also will have an opportunity on an annual basis to review the Company's projected and completed replacements to ensure that the accelerated replacement of leak-prone facilities materializes.

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[26] The Company experienced an average annual replacement rate of 45 miles per year in the years 1986 through 2014 (with 2014 as an estimated value) (RR-DPU-3, Att.). Were Bay State to continue replacing priority pipe at this historical rate of 45 miles per year beginning in 2015, the Company would complete replacement some time in the year 2036, which is later than the Company's estimated completion through its proposed GSEP (RR-DPU-3, Att.).

In addition, Bay State anticipates that under its GSEP all leak-prone pipe in the Company's service territory will be replaced in 20 years (Exh. CMA/DEM-2, at 10). Thus, we find that Bay State's proposed GSEP is in compliance with Section 145(c).

c. Metrics

Both Bay State and the Attorney General have proposed performance standards or a framework for monitoring GSEP performance (Exh. AG-DED-1, at 46; Companies Joint Reply Brief at 47). In fact, the Company's proposed framework incorporates the metric proposed by the Attorney General that a gas company must complete at least 80 percent of the replacement projects in a given construction year (Companies Joint Reply Brief at 47). DOER also supports the application of metrics, but would have the Department establish those metrics in a separate proceeding (DOER Brief at 7).

The Department must decide if metrics will be an element of Bay State's initial GSEP. In Bay State's last base rate case, the Department reiterated that a 38-mile main replacement threshold would achieve a central objective of the TIRF mechanism by ensuring a sustained, aggressive, and accelerated rate of replacement of aging, leak-prone infrastructure for the benefit of public safety, service reliability, and the environment, we declined to institute a waiver provision for that requirement. D.P.U. 13-75, at 37. See D.P.U. 12-25, at 54 (citations omitted). While we denied the Company's waiver proposal, we did note that the Company replaced 43 miles of TIRF-eligible mains in the test year 2012 and that the Company intended to continue to exceed the threshold in order to meet the goals of its system modernization plan. D.P.U. 13-75, at 36. In this proceeding, Bay State has estimated that it

will complete 44 miles of leak-prone pipe replacement in 2015 and that it will average 50.89 miles of replacement per year over the years 2015 through 2033 (Exh. CMA/DEM-2, at 36; RR-DPU-3, at 2). We note that both of these figures far exceed the Company's TIRF threshold of 38 miles per year. Therefore, at this stage of GSEP oversight, the Department declines to establish performance standards or metrics for Bay State. Rather, the Department will evaluate Bay State's performance under its GSEP as it makes its annual filings.

In the event that Bay State fails to continue its acceleration consistent with its GSEP, the Department may establish performance standards for the Company. In addition, where a company fails to substantially comply with its GSEP or fails to reasonably and prudently manage project costs, the Department may exercise its authority under Section 145(h) to discontinue the GSEP and require a refund of costs charged to customers.

Regarding the Attorney General's proposed performance standard, the Department will evaluate Bay State's performance under its GSEP when the Company makes its May 1 filing, which includes a reconciliation of estimated costs to actual costs. The Department will evaluate each project based on many factors, including the basis of the actual cost of the project compared to the estimated cost. If there is a difference between the actual and estimated costs, the Company will be expected to explain this difference. In addition, the Department will investigate the number of projects and the project miles completed by the Company. Once again, if there is a difference between the actual and estimated number of projects and project miles, the Company will be expected to explain this difference.

E. Anticipated Timeline for Completion of Each Project

1. Introduction

Section 145(c)(ii) requires that the Company's GSEP include an anticipated timeline for the completion of each project. The Company proposes to implement a 20-year GSEP to replace a total of 1,023 miles of cast iron, wrought iron, and unprotected steel mains and approximately 50,000 leak-prone services (Exhs. CMA/DEM-2, at 8). On average, the Company plans to replace approximately 50 miles of mains each year during the course of the program (see, Exh. CMA/DEM-2, at 25, Table V-1; RR-DPU-3). The Company states that it plans to implement its GSEP using a series of five-year rolling plans beginning in 2015 (Exh. CMA/DEM-2, at 25, Table V-1). The Company asserts that during the first five-year plan, approximately 272 miles of leak-prone main will be replaced (Exh. CMA/DEM-2, at 25, Table V-1).

2. Positions of the Parties

Neither the Attorney General nor DOER specifically commented on the Company's anticipated timeline for the completion of each project. On brief, the Company argued in support of its 20-year timeline consisting of a five-year ramp-up, a five-year level run-rate and a ten-year ramp-down period (Bay State Brief at 6)

3. Analysis and Findings

Section 145(c)(ii) requires that the Company's GSEP include an anticipated timeline for the completion of each project. Bay State plans to implement its GSEP through a series of five-year rolling plans, beginning in 2015 consisting of a five-year ramp-up period, a five-year level run-rate period, and a ten-year ramp-down period (Exh. CMA/DEM-2, at 10). The

Company's listing of GSEP projects planned for 2015 through 2019 is provided in the Company's GSEP and includes specific projects planned for the first five years of the program (Exh. CMA/DEM-2, App. A (rev.)).

The Company notes that the replacement schedule allows for the flexibility to complete priority pipe replacement in less than 20 years given the opportunity to revise the program in the face of uncertainty (RR-DPU-3). In addition, the Company states that, in consideration of the risk profile of the pipeline on its system, resources will initially focus on the replacement of non-cathodically protected steel, shifting to cast iron and wrought iron over the course of the program (RR-DPU-3).

The Department has reviewed the Company's five-year rolling plan for the years 2015 through 2019. The five-year plan provides a detailed listing of projects to be completed in each year. Recognizing the need for changes to the project completion timeline each year, the Department concludes that the Company's five-year rolling plan allows for maximum flexibility while still allowing the Company to provide the Department with an estimated scope of work that the Company can reasonably expect to complete during each construction season. Accordingly, the Department finds that the Company's five-year rolling timeline meets the requirements of Section 145(c)(ii).

F. Estimated Cost of Each Project

1. Introduction

Bay State estimates that it will invest approximately $44.26 million for 44 miles of GSEP replacements in 2015 (Exh. CMA/DEM-2, at 36). The Company estimates an average cost per mile of replacement of $1.006 million, inclusive of service and meter replacements (Exh. CMA/DEM-2, at 36-37). In its future GSEP reconciliation filings, Bay State proposes to include construction estimates developed using the historical average project costs, including mains, services and meters (Exh. DPU-CMA-1-1; Tr. 1, at 93). For a prudency review, the Company will update the estimated project costs estimates with pre-construction budgets based on detailed engineering analysis (Tr. 1, at 24).

As the primary consideration for selecting, designing, and prioritizing projects for replacement, the Company analyzes each main segment and assigns a risk value that considers leakage history, current leakage and the probability of future leaks, and the potential consequences of future leakage (Exh. CMA/DEM-2, at 29-30; Tr. 1, at 42). The Company then considers municipal projects, mandatory replacements and opportunities to "piggy back" on street openings to avoiding restoration and paving costs (Exh. CMA/DEM-22, at 30). Upon determining the anticipated replacement projects for the construction year, project cost estimates are then determined based on the average historical per mile costs, inclusive of services and meter sets (Exh. CMA/DEM-2, at 36-37; Tr. 1, at 93).

2. Positions of the Parties

a. Attorney General

The Attorney General explains that Section 145 requires that the Company's GSEP contain the "estimated costs of each project" (Attorney General Brief at 16, citing Section § 145(c)). According to the Attorney General, the Company developed its estimated costs from historical average unit costs, instead of more robust estimates, which Bay State develops just prior to the construction season (Attorney General Brief at 18, citing Tr. 1, at 23, 25). In addition, the Attorney General claims that historical average unit cost estimates do not capture cost control efforts, such as competitive solicitations for vendor services, long-term contracts with vendors, coordination with municipal street openings, the use of pipe sleeving, and reusing or returning meter sets to inventory (Attorney General Brief at 20, citing Exh. AG-ARN-1, at 11-12).

The Attorney General claims that, because Bay State will be allowed to recover the estimated costs of each project prior to or coincident with projects being put into service, and prior to the Department's prudence determination, it is important that Bay State use the best estimate of individual project costs for GSEP projects (Attorney General Brief at 17). Further, the Attorney General contends that the use of historical average unit costs to set rates in advance of the Department's prudence determination of plant in service is akin to using a future test year, which the Department disfavors (Attorney General Brief at 17-18, citing Revenue Decoupling, D.P.U. 07-50-A at 51-53 (2008)). Moreover, the Attorney General argues that rates based on the Company's proposed average unit cost approach are not just and

reasonable and will complicate future GSEP investment prudence reviews (Attorney General Brief at 16, 17). To determine the best estimates, the Attorney General recommends using estimates based on actual projects selected for the upcoming construction season (Attorney General Brief at 18).

The Attorney General contends that Bay State develops robust pre-construction cost estimates in the normal course of business, but that the Company did not use these estimates in its GSEP filing to develop the GSEAF (Attorney General Brief at 21). The Attorney General claims that these estimates are more likely to be closer to actual installed costs when compared to the average unit cost estimates (Attorney General Brief at 18). The Attorney General maintains that better estimates will set more accurate GSEAFs effective May 1, and assist the Department to more closely track actual costs (Attorney General Reply Brief at 5).

Moreover, the Attorney General argues that Section 145 provides that the cost estimates in the Company's GSEP should reflect each project the Company plans to replace in the upcoming construction season (Attorney General Brief at 18). Therefore, the Attorney General recommends that the Department either: (1) reject the historical unit cost estimates outright; or (2) conditionally approve the GSEP, but require Bay State to use pre-construction estimates for selected individual projects in future GSEP filings, and require Bay State to update the 2015 cost estimates with pre-construction estimates (Attorney General Brief at 21). More specifically, the Attorney General recommends that Bay State update the unit cost estimates from its October 31 filing with more accurate pre-construction cost estimates by the end of each calendar year, if available, or by the end of January (Attorney General Reply Brief at 5).

The Attorney General maintains that the Company has not explained why it should not be required to submit to the Department more detailed pre-construction costs prior to the May 1 effective date of the GSEAF (Attorney General Reply Brief at 5).

Finally, the Attorney General explains that the Department typically relies on contemporaneous project documentation when evaluating the prudence of capital projects (Attorney General Brief at 21-22, citing Bay State Gas Company, D.P.U. 09-30, at 114 (2009)). The Attorney General claims that the Company's proposed historical average unit cost pricing will diminish the effectiveness of cost variance reporting in future prudence reviews, because Bay State can explain every cost overrun by relying on actual costs used in construction compared to estimated costs used for planning purposes (Attorney General Brief at 22-23). Thus, the Attorney General purports that the Company's burden to accurately estimate capital costs will be eliminated (Attorney General Brief at 23, citing Exh. AG-ARN-1, at 12). Therefore, the Attorney General urges the Department to clarify that: (1) future prudence reviews should measure project cost variance against each project's pre-construction estimate developed just prior to the construction season; and (2) Bay State cannot satisfy its obligation to document cost variance by simply explaining that actual costs happen to be different than the estimates (Attorney General Brief at 23).

b. Company

The Company maintains that its use of historical average unit costs to estimate replacement costs for mains and services is appropriate and consistent with its method for developing annual capital budgets (Bay State Reply Brief at 15, citing Exhs. AG-CMA-1-2;

AG-CMA-1-12; Tr. 1 92-93)). According to the Company, there is no language in Section 145 defining or restricting the "estimated cost of each project," and there is no requirement suggesting that Bay State must file a particular level of detail for that estimate (Companies Joint Reply Brief at 19). Thus, Bay State claims that it has fulfilled the Section 145 requirement by providing the estimated cost of each project known at the current stage of its construction process, and that no change is necessary to address the Attorney General's recommendations (Bay State Brief at 12; Companies Joint Reply Brief at 18-20).

Bay State claims that it provided project-specific estimates based on the best information known at the current phase of the construction cycle (Companies Joint Reply Brief at 19-20). The Company claims that the annual construction budget is the best estimate possible as of the October 31 filing for rates effective the following May 1 (Companies Joint Reply Brief at 20, citing, Tr. 1, at 23-24). Bay State asserts that it strives to meet its annual construction budgets with specific construction projects moving in or out of the construction queue depending on prioritization decisions (Companies Joint Reply Brief at 20-21, citing Tr.-1, at 23-26, 93, 94-95). According to the Company, there are unforeseen variables and uncertainties affecting project timing and scheduling, and regarding contractor costs and Company overheads, that require the Company to use high-level cost estimates to develop the GSEP revenue requirement for the October 31 filing (Bay State Reply Brief at 15, citing Exhs. CMA/DEM-2, at 22, 30-33; AG-CMA-1-2; RR-DPU-1; Companies Joint Reply Brief at 21-22).

Bay State argues that it develops more detailed and finalized project-specific budgets (i.e., pre-construction cost estimates) after a project is selected for implementation and developed for construction (Bay State Reply Brief at 15, citing Exhs. CMA/DEM-2, at 32; AG-CMA-1-2; Tr. 1 at 23-25, 92-93). According to the Company, each step of its process to select a project for implementation and construction development produces detailed cost estimates (Bay State Reply Brief at 15-16)). Therefore, the Company asserts that it reevaluates project budgets on an ongoing basis to update information from contractor costs, overhead rates, field reports, emerging work, permitting requirements, and resource availability (Bay State Brief at 11, citing Exh. DPU-CMA-3-2; RR-DPU-CMA-1; Tr. 1, at 23-25, 92-94).

According to the Company, it cannot effectively manage the construction queue and ensure the best possible balance of projects completed during the construction year if it is required to create detailed, pre-construction cost estimates by October 31 each year (Companies Joint Reply Brief at 21). Moreover, Bay State claims that developing pre-construction cost estimates for a selected group of projects in advance of their typical construction sequencing is unlikely to produce more accurate information than the annual construction budget because priorities will change based on emerging system needs, changing field conditions, weather-related issues, or municipal concerns (Companies Joint Reply Brief at 20). As a result, the Company contends that it will substitute projects for those included in the revenue requirement estimate (Companies Joint Reply Brief at 21). Thus, Bay State argues that updating the estimates is a wasteful and inefficient use of the Company's time and

resources (Companies Joint Reply Brief at 21). Additionally, Bay State maintains that it will continuously update the historical unit cost estimates to pre-construction cost estimates following project selection, and when actual costs become known and available (Bay State Brief at 12; Companies Joint Reply Brief at 19).

Finally, Bay State explains that it will submit the traditional documentation required by the Department, such as project authorization reports, work orders, project close-out reports, and variance reports, as part of the Department's prudence review[27] on actual GSEP investments in each May 1 prudence filing (Bay State Reply Brief at 16; Companies Joint Reply Brief at 22).

The Company concludes that the Attorney General's recommendations regarding the Company's GSEP cost estimates are misguided and do not reflect the realities of developing budgets for leak-prone infrastructure replacement plans (Bay State Reply Brief at 16). The Company does not agree that any action is necessary to implement the Attorney General's objectives (Companies Joint Reply Brief at 119, citing Attorney General Brief at 17, 21-23). Additionally, Bay State argues that the Department should reject the Attorney General recommendation to require the Company to develop detailed pre-construction cost estimates as part of the October 31 filings or later as a submission during the Department's review of October 31 filings (Bay State Reply Brief at 16-17; Companies Joint Reply Brief at 21-22).

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[27] The Company recommends that the Department review the pre-construction estimates and the Company's processes in the course of the GSEP true-up proceedings, consistent with the approach employed by the Department for cost review and variance analysis in TIRF program proceedings (Companies Joint Reply Brief at 22).

3. Analysis and Findings

Section 145(c) requires that the Company's GSEP include, in part, "the estimated cost of each project." The Company develops project estimates based on historical average unit costs and conceptual level project sizes (Exh. AG-CMA-1-2; Tr. 1, at 92-93). Bay State completes detailed project cost estimates at the end of a planned project's pre-construction stage throughout the year (Exhs. DPU-CMA-3-2; AG-CMA-1-2; Tr. 1, at 24-25, 93). Bay State did not provide pre-construction cost estimates for any of its planned 2015 GSEP projects, but proposes to use the historical average unit cost estimates for a subset of projects planned for construction in 2015 (Exhs. CMA/DEM-2, at 35-36; DPU-CMA-3-2; Tr. 1, at 24-25, 93). Bay State calculates its estimated $44.26 million investment for 44 miles of GSEP replacements in 2015 using prior year actual or average actual historical rate per mile, inclusive or mains, services and meters applied to the number of miles to be replaced (Exh. CMA/DEM-2, 35-36).

The Department recognizes that the GSEP project list is not static, and that the order of prioritization of projects may change for a number of reasons, including new information on leak performance, and coordination with municipalities on construction and paving projects (Exhs. CMA/DEM-2, at 33; DPU-CMA-3-2). Accordingly, we recognize that the order of projects listed in Bay State's October 31 filing may not be the same order that projects are ultimately completed by the Company, that Bay State may not finalize its GSEP project schedule before the October 31 filing, and, therefore, the Company is unable to provide pre-construction cost estimates as far in advance as the Attorney General requests

(Exh. DPU-CMA-3-2; Tr. 1, at 24-25, 93-94). Thus, we find it reasonable that the Company is unable to incorporate the pre-construction cost estimates into the estimated GSEP revenue requirement. Further, the Department is concerned that imposing such a requirement may be unworkable and may result in less accurate estimates.

The Company's historic average unit costs estimates are the Company's best estimates for the upcoming construction season (Exh. DPU-CMA-3-2; Tr. 1, at 24-25). Also, the increase to rates from the change to the GSEP revenue requirement is capped and subject to two tests to ensure labor overheads and clearing account burden costs recovered through the GSEP are not over capitalized (Exh. CMA/JTG-1, at 16).[28] With these provisions in effect, we find that the Company's proposal to use historical average unit cost estimates to develop its estimated GSEP revenue requirement is reasonable. Given the nature of the GSEP cost recovery mechanism, which allows cost recovery prior to or concurrent with GSEP replacements, in the interest of cost control efforts, and to ensure that the Department receives information that best reflects pre-construction estimates, the Department directs Bay State to provide for each project the last pre-construction cost estimate developed prior to commencing construction. While the Department does not expect a separate filing for each project, we do expect a pre-construction cost estimate for each project. Thus, within 30 days of this Order, the Company is directed to inform the Department of the most efficient way to achieve this goal. These filings will not be subject to any formal process prior to our May 1 investigation. These filings will be incorporated into the Company's subsequent May 1 filing. The Company

[28] The two tests are discussed in Section IV.G.1.f., below.

must explain any discrepancy where the actual GSEP revenue requirement in the May 1 filing includes any projects without an associated pre-construction cost estimate provided in an informational filing over the course of the previous year.[29]

G. Rate Change Request

1. Revenue Requirement Calculation

a. Rate of Return

i. Introduction

The return on the Company's investment in its infrastructure is a component of the GSEP revenue requirement (Exh. CMA/JTG-1, at 6). The Company proposes to use the rate of return approved by the Department in the Company's most recent base rate proceeding, D.P.U. 13-75 (2014), which is defined as the after-tax weighted average cost of capital adjusted to a pretax basis by using current federal and state income tax rates (Exhs. CMA/JTG-1, at 11; CMA/JTG-3, at 5, Sch. 4; CMA/JAF-2, at 23; CMA/JAF-3, at 23).

The Company states that the calculation of its pretax rate of return is based on a debt/equity ratio of 46.32 percent to 53.68 percent, respectively (Exh. CMA/JTG-3, at 5, Sch. 4). The calculation also includes a long-term debt cost rate of 5.83 percent, a cost of equity rate of 9.55 percent, and a gross-up factor of 59.8 percent[30] (Exhs. CMA/JTG-1, at 15;

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[29] The Department recognizes that the construction year already has commenced for 2015, so that it may not be possible to provide pre-construction cost estimates for some projects.

[30] The gross-up factor includes a federal income tax rate of 35 percent and a state income tax rate of eight percent (Exhs. CMA/JTG-1, at 15).

CMA/JTG-3, at 5, Sch. 4). The Company states that, based on these calculations, its resulting pretax rate of return is 11.28 percent (Exh. CMA/JTG-3, at 5, Sch. 4).

ii. Positions of the Parties

(A) Attorney General

The Attorney General argues that the Company should not use the overall weighted cost of capital as the rate of return on rate base for the GSEP because it is not the appropriate cost of capital for incremental plant additions (Attorney General Brief at 80-81, citing The Berkshire Gas Company, D.P.U. 14-131, Exh. AG-TN-1, at 4-5). Rather, according to the Attorney General, the appropriate rate of return is the Company's cost rate of short-term debt because the GSEP should recover only the incremental costs associated with leak-prone main replacements, and short-term debt is the appropriate source of funds for such construction (Attorney General Brief at 80-81, citing D.P.U. 14-131, Exh. AG-TN-1, at 4).

The Attorney General argues further that short-term debt is the only source of funds that should be funding incremental GSEP plant investments because the Department has not approved the issuance of permanent financing for these investments, and will not approve any permanent capital until after the incremental investment has been made (Attorney General Brief at 81-82). Thus, the Attorney General contends that it would be inappropriate to use anything other than a short-term debt interest rate as the return on investment in the GSEP (Attorney General Brief at 82). The Attorney General maintains that because the Company has several sources of short-term debt, including money pools, notes, and lines of credit, the Department

should use the rate from the source that has the lowest interest rate to ensure that customers are provided the least-cost service (Attorney General Brief at 82-83).

(B) Company

Bay State states that its proposed GSEP revenue requirement includes the after-tax rate of return approved by the Department in the Company's most recent rate case, adjusted to a pre-tax basis by using the current federal and state income tax rates applicable to the GSEP Investment Year (Bay State Brief at 14, citing Exh. CMA/JTG-1). The Company opposes the Attorney General's view on rate of return for two reasons (Companies Joint Reply Brief at 60). First, Bay State argues that the Attorney General's recommendation to use a short-term debt rate is contradictory to the plain language and legislative purpose of Section 145 (Companies Joint Reply Brief at 60). According to Bay State, Section 145 provides that the GSEP revenue requirement shall include a return associated with the investments made under the approved plan (Companies Joint Reply Brief at 60, citing Section 145(e)). The Company explains that in construing statutory language, a court will adopt the specialized meaning associated with a word or phrase if the language has a technical or specialized meaning, which it does in this case (Companies Joint Reply Brief at 60, citing Simon v. State Examiners of Electricians, 395 Mass. 238, 243 (1985); United States Jaycees v. Massachusetts Commission Against Discrimination, 391 Mass. 594, 601 (1984); School Committee v. Board of Education, 362 Mass. 417, 439 (1972)). Bay State claims that in the context of utility ratemaking, "return" refers to the after-tax weighted average cost of capital established in each gas company's most recent base rate proceeding, adjusted to a pretax basis (Companies Joint Reply

Brief at 61, citing Exh. CMA/JTG-2, at 7). Further, the Company argues that it would be an error of law to adopt the Attorney General's proposal because it rests expressly on the premise that the short-term debt rate should apply to incremental investment, and there is no reference to the term "incremental" in the statute (Companies Joint Reply Brief at 61).

Second, Bay State contends that the Attorney General's proposal regarding the exclusive use of short-term debt is flawed as a matter of general utility financing principles (Companies Joint Reply Brief at 62). The Company claims that it does not finance its GSEP investments exclusively using short-term debt, and there is no evidence that it relies on short-term debt exclusively for construction or ongoing financing after new infrastructure is placed in service (Companies Joint Reply Brief at 61). Rather, the Company states that it may use short-term debt as one source of financing during construction, but as the Attorney General's own witness conceded, it may also finance capital expenditures using cash from operations rather than short-term debt (Companies Joint Reply Brief at 61, citing Tr. B at 35). The Company agrees that it cannot issue long-term debt or equity without Department approval, but it maintains that it can and does obtain such approval based on anticipated financing needs before plant facilities are actually constructed (Companies Joint Reply Brief at 62). Therefore, the Company argues that it is erroneous for the Attorney General to contend that the Department will not approve any permanent capital to finance that investment until after that incremental investment has been made (Companies Joint Reply Brief at 62, citing Attorney General Brief at 82). The Company states that, for example, in Bay State Gas Company, D.P.U. 13-129 (2013), Bay State sought approval to issue $50 million in long-term

debt over a subsequent 24-month period, in part to "fund the Company's ongoing capital expenditure program," and the Department approved this issuance even though many of the facilities to be financed had not yet been constructed (Companies Joint Reply Brief at 62).

iii. Analysis and Findings

The Attorney General contends that the appropriate rate of return for the GSEP is the Company's cost rate of short-term debt. In contrast, Bay State argues that the appropriate rate of return is the weighted average cost of capital established in the Company's most recent base rate proceeding.

In this proceeding, the Department will not set the rate of return for Bay State's GSEP based on a specific borrowing rate (e.g., short-term debt, money pool, note, line of credit) or value of funds (cash from operations). Although these sources of funds may be used by companies to finance construction projects,[31] they do not represent the capital attraction concept of return on investment for ratemaking purposes. Accordingly, the Department finds that the weighted average cost of capital is the appropriate return to be applied in calculating the GSEAF effective May 1, 2015.[32] In establishing the cost of equity component of a

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[31] Ordinarily, utilities finance construction through short-term borrowings, such as short-term notes, money pools, and lines of credit. Once those borrowing levels have reached a level determined by the company, that company will then issue long-term debt to retire the short-term debt. See Fitchburg Gas and Electric Light Company, D.P.U. 19084, at 45 (1977). On some occasions, even long-term debt may be used to finance construction. Assabet Water Company, D.P.U. 08-49, at 8-9 (2008); Nantucket Electric Company/Massachusetts Electric Company, D.T.E. 04-74, at 17-18 (2004).

[32] In making this finding, the Department does not decide the meaning of "return" as used in Section 145 beyond this case.

company's weighted average cost of capital, the Department considers a company's base rate proceeding to be the more appropriate context in which to determine the rate of return for the GSEP, where a detailed evaluation of risk and return on equity is typically performed. D.P.U. 07-50-A at 73, citing Essex County Gas Company, D.P.U. 87-59, at 68 (1987); Boston Gas Company, D.P.U. 1100, at 135-136 (1982); New Bedford Gas and Edison Light Company, D.P.U. 20132, at 35-36 (1980). A base rate proceeding also allows parties the opportunity to fully and fairly vet any change in risk characteristics that may arise from the stability or lack of stability of any newly implemented mechanism. There is no evidence in this proceeding on those risk characteristics or their effects on the Company's required rate of return on GSEP investments.

In Bay State's next base rate case, the Department will consider the impact of the GSEP rate mechanism along with all other factors affecting the Company's required return on equity ("ROE"). See D.P.U. 07-50-A at 74. Accordingly, the Department expects Bay State to include evidence regarding the effects of the GSEP rate mechanism on its required ROE as part of its pending base distribution rate case, and as part of its direct testimony in any future base distribution rate case. Such analysis must be provided as part of the Company's case-in-chief; a generalized statement that such risk has been considered in determining the proposed ROE will not be sufficient. D.P.U. 07-50-A at 74.

b. Annual Depreciation Expense Adjustment

i. Introduction

In this Section, the Department decides whether Bay State should take into account the revenues it receives in base rates associated with the depreciation expense approved in its most recent base rate case[33]in determining the amount of GSEP capital costs included in the calculation of the revenue requirement allowed to be recovered through the GSEAF.

The Company proposes to calculate the GSEP capital costs by subtracting from the cost of GSEP plant investments and the cost of removal of distribution assets (after both are adjusted by the Company's overheads and burdens test, if warranted), the accumulated reserve for depreciation, and the deferred tax reserve[34] (Exhs. CMA/JTG-1, at 13; CMA/JTG-3, at 3, Sch. 2; DPU-CMA-1-17).[35] The Company proposes no adjustment to the GSEP capital costs

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[33] Utility companies recover depreciation and amortization expense as part of their overall revenue requirement determined in base rate cases. For Bay State's depreciation and amortization expense currently allowed in base rates, see D.P.U. 13-75, at 217. Utilities calculate annual depreciation expense by multiplying plant balances by depreciation rates. The revenue requirement used to set base distribution rates includes the resulting depreciation expense (also called accrual) just as it includes any other expenses. Bay State Gas Company, D.P.U. 10-52, at 32, n.20 (2012), citing D.P.U. 12-25 , Exh. AG-MJM-1, at 5 (2012).

[34] The Company may additionally make other accumulated deferred income tax adjustments as part of this GSEP capital costs calculation (Exh. CMA/JTG-3, at 3, Sch. 2)

[35] The cost of the GSEP plant investments is the total cost of GSEP investments from the commencement of GSEP or the end of the test year of the Company's most recent rate case, whichever is later, to the end of the respective GSEP investment year (Exhs. CMA/DEM-2, at 3, n.1; CMA/JTG-3, at 3, Sch. 2; CMA/JAF-3, at 23).

to take into account the revenues it receives in base rates associated with its depreciation expense.

The Attorney General proposes two options to adjust the Company's proposed GSEP capital cost allowed to be recovered through the GSEAF (Tr. B at 43-44).[36] In the Attorney General's first proposal, she recommends adjusting the Company's annual net plant in service included in the GSEP capital costs by subtracting the annual depreciation expense on mains, services, and meter sets included in the Company's cost of service that was approved in its most recent base rate case (Exh. AG-DJE-1, at 5-6). The Attorney General's second proposal, a "depreciation net-out test," would be the third step in a three-part test, to ensure that the recovery outside of base rates of any non-revenue producing investments, which includes GSEP investments, is net of the depreciation expense approved in the Company's most recent base rate case (Exh. AG-DED-1, at 30-31). This test caps the amount of GSEP capital costs that are allowed to be recovered through the GSEAF to the lesser of (1) total non-growth capital expenditures in the respective GSEP investment year minus the Company's annual depreciation expense approved in its most recent base rate case, and (2) the Company's actual GSEP capital expenditures in the respective GSEP investment year (Exh. AG-DED-1, at 31-33).

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[36] The Attorney General's witness, Mr. Dismukes, considers these options as mutually exclusive (Tr. B at 44).

ii. Positions of the Parties

(A) Attorney General

The Attorney General recommends that the Department reject the Company's argument that a depreciation net-out test is not applicable to GSEP investments due to the omission of such a test from Section 145 (Attorney General Brief at 101). She further asserts that the Department should ensure that the Company is not recovering costs both through base rates and through its GSEAF by either (1) modifying the Company's net plant in service by the annual depreciation expense on mains and services included in Bay State's cost of service in its most recent base rate case, or (2) requiring Bay State to adopt the depreciation net-out test described above (Attorney General Brief at 71-72, 77, 101, citing Exh. AG-DJE-1, at 6; Boston Gas Company, Essex Gas Company, and Colonial Gas Company, D.P.U. 10-55, at 75-76, 142 (2010); Attorney General Reply Brief at 17). The Attorney General agrees with the recommendation from DOER that the Department should institute the same test that it has approved in past TIRF programs; however she also acknowledges that this test is but one way to ensure against double recovery, and emphasizes that irrespective of which method the Department orders, the Department should ensure that the method implements appropriate ratepayer protections by ensuring against double recovery of depreciation costs (Attorney General Reply Brief at 17, citing DOER Brief at 8-9; D.P.U. 13-75, at 62; D.P.U. 13-75-C at 12; D.P.U. 10-55, at 142).

The Attorney General contends that the Department has previously found that an offset to plant in service for depreciation expense included in a company's base rates is appropriate in

various contexts, and has signaled that such a mechanism may be appropriate for the ratemaking treatment of Bay State's GSEP (Attorney General Brief at 71-73, citing D.P.U. 13-75, at 62; D.P.U. 10-55, at 75-76; Massachusetts Electric Company and Nantucket Electric Company, D.P.U. 09-39, at 78-84 (2009)). The Attorney General argues that the Department should adopt a three-part incremental cost recovery test including the depreciation net-out test for GSEPs as a ratepayer protection for the same reasons that the Department determined to apply the test in previous TIRF proceedings (Attorney General Brief at 77). The Attorney General asserts that the Department's previous decisions rejecting a depreciation net-out test do not apply here because: (1) this proceeding is occurring outside of a base rate case and therefore forecloses the ability to adjust base rates to reflect the institution of a new mechanism; (2) the discipline in controlling expenditures imposed by regulatory lag is absent in this case; and (3) the GSEP is a statutory program and thus removes much of the need to provide financial incentive for the Company to spend more on pipe replacement (Attorney General Brief at 74, citing Section 145).

The Attorney General argues that there is no merit to any of the Company's claims that (1) the net-out test would reduce planned spending, (2) GSEP-eligible investment is not in current base rates, and (3) Section 145 does not explicitly reference a depreciation net-out test (Attorney General Brief at 74, citing Tr. 1, at 160-162). The Attorney General posits that the Company's first argument is irrelevant to Department consideration, reasoning that if a depreciation net-out test would reduce collections via removal of a potential opportunity for the Company to double count types of investments already included in base rates, the test would be

working as intended (Attorney General Brief at 75). The Attorney General emphasizes that the Company does not argue that the net-out test is an inappropriate mechanism to prevent against over recovery of investment (Attorney General Brief at 75).

The Attorney General asserts that the Department should reject the Company's claim that all of its program costs are incremental and therefore includable in the GSEP recovery mechanism (Attorney General Brief at 70, citing Exh. AG-DJE-1, at 5). The Attorney General contends that the GSEP recovery mechanism will be one-sided if the Department does not require the Company to recognize its ongoing recovery of the cost of embedded plant, and that this realization is especially important because without examining base rates or requiring a reconciliation, the Department will not be able to determine whether total recovery of base rates and the GSEP cost recovery mechanism are just and reasonable (Attorney General Brief at 70, 76, and n. 238, citing Exh. AG-DJE-1, at 5). The Attorney General asserts that Bay State's proposal to reconcile leak repair expense and overhead costs with amounts recovered through base rates is inconsistent with the Company's opposition to the utilization of a deprecation net-out test (Attorney General Brief at 73). The Attorney General argues that, as demonstrated by the actions taken over the last nine years by companies without a TIRF, base rates are sufficient to recover the cost for main and service replacement (Attorney General Brief at 71, n.223, citing Exh. AG-DED-1, Sch. DED-3). The Attorney General further contends that the Company does not address the actual purpose of the net-out test, which is to guard against double recovery of the incremental depreciation of new infrastructure, not to

guard against double recovery of the depreciable component of replaced infrastructure (Attorney General Brief at 75, citing Tr. 1, at 160-162).

Finally, the Attorney General opposes the Company's argument that no specific mention of a depreciation net-out test in the statue indicates that inclusion of such a test is impermissible. She highlights this argument's inconsistency with the Company's request to include income taxes in the GSEP revenue requirement, which are not mentioned in Section 145 and which she argues are not included in the GSEP revenue requirement because the return on rate base lacks an equity component (Attorney General Brief at 75-76, n.236). Moreover, the Attorney General maintains that Section 145(h) expressly grants the Department the ability to promulgate rules and regulations to implement Section 145 (Attorney General Brief at 75-76).

(B) DOER

DOER supports the application of a three-part test recommended by the Attorney General (DOER Brief at 8-10, citing Exhs. AG-DED-1, at 31). DOER argues that the Department has instituted the same requirement in the past and that such a requirement ensures compliance with Section 145 (a)(v) (DOER Brief at 10, citing Section 145(a)(v); D.P.U. 10-55, at 142).

(C) Company

The Company asserts that it has included in the Model Tariff the definition of eligible infrastructure replacement projects as defined in Section 145(a), including the stipulation that an eligible infrastructure project is one that is not included in the Company's current rate base

as determined in the Company's most recent base rate proceeding (Bay State Brief at 13-14, citing Exh. CMA/JTG-1, at 5). The Company maintains that the revenue requirement calculation associated with eligible GSEP investment[37] includes costs for depreciation expense, property taxes, and the after-tax rate of return approved in the Company's most recent base rate case updated to a pre-tax basis (Bay State Brief at 14, citing Exh. CMA/JTG-1, at 8). The Company contends that the proposed GSEAF resulting from the Company's proposed GSEP revenue requirement is reasonable, supported, and will have minimal impacts to ratepayers (Bay State Brief at 18, citing Exhs. CMA/JTG-1 through CMA/JTG-3; CMA/JAF-1 through CMA/JAF-4). Moreover, the Company asserts that it has provided evidence demonstrating that its proposed GSEP revenue requirement and GSEAF are consistent with Section 145, are calculated in such a way in the proposed local distribution adjustment clause ("LDAC") tariff as to exclude recovery for costs associated with the GSEP that are included in base rates, and should be approved as submitted (Bay State Brief at 19-20, citing Exhs. CMA/JTG-1, at 18; CMA/JAF-2, at 24; CMA/JAF-3, at 24).

The Company makes both legal and substantive arguments against the Attorney General's proposals regarding a depreciation offset or net-out requirement.[38] The Company

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[37] Eligible GSEP investment consists of the cost of eligible infrastructure replacement projects planned for the current GSEP investment year, plus the cumulative actual and planned cost of such projects completed through the end of the year prior to the current GSEP investment year (Exh. CMA/JAF-2, at 23).

[38] The Companies address both the Attorney General's proposal to remove annual depreciation expense from plant, and her depreciation net-out test recommendation on reply brief without always specifying whether their arguments pertain to one or the

asserts (1) that the Legislature established the GSEP ratemaking mechanism purposefully, (2) that the Attorney General's recommendation for a depreciation net-out test is without legal basis, and (3) that the Department must implement the GSEP in accordance with Section 145 (Companies Joint Reply Brief at 59).

The Company argues that the Attorney General ignores the language and legislative history of the statute, as well as the Court's precedent on statutory construction (Companies Joint Reply Brief at 55). The Company asserts that, per the plain language of Section 145, the Attorney General's recommendations are invalid because: (1) Section 145 does not require any kind of depreciation net-out test or offset; (2) the Legislature was well aware of the Department's ratemaking practices and declined to include a depreciation net-out test or offset requirement; (3) the statute's legislative history shows that the Legislature considered and then omitted language specific to a depreciation net-out test; and (4) the Department must follow the Court's precedent on statutory construction (Companies Joint Reply Brief at 51-56). The Company argues that, under Massachusetts law, the Department's ratemaking authority does not supplant legislative directive (Companies Joint Reply Brief, at 56).

The Company additionally refutes what it characterizes as the Attorney General's policy arguments, declaring that: (1) the Attorney General's recommendations run contrary to legislative intent; (2) the GSEP cost recovery mechanism will not result in double recovery of infrastructure costs related to depreciation; and (3) the Attorney General has provided no

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other recommendation, or both. We will treat the Companies' arguments as applying to both of the Attorney General's recommendations.

analysis of the monetary effect of her recommendations, which may be substantial, nor has she analyzed their potential to achieve her stated goals (Companies Joint Reply Brief, at 56-58, 72).

The Company claims that the possibility that a depreciation net-out test could reduce collections is not irrelevant, as the Attorney General suggests, and is contrary to legislative intent (Companies Joint Reply Brief at 56, citing Attorney General Brief at 75). The Company declares that the Legislature intended for accelerated replacement, which could be jeopardized if a depreciation net-out test substantially reduces eligible recovery (Companies Joint Reply Brief at 56, citing Attorney General Brief at 75; Bay State Gas Company, D.P.U. 13-75-C at 10-12 (2014)).

The Company contends that it will not double recover the incremental depreciation of newly-installed infrastructure, and argues that its existing rates recover return on and of past investment, whereas the GSEP will provide recovery for investments completed after January 1, 2015 (Companies Joint Reply Brief at 56, 72, citing Attorney General Brief at 75; DOER Brief at 10; Exh. AG-DED-1, at 4; Tr. 1, at 161-162; Tr. B at 28-29). Moreover, Bay State argues that, as the Attorney General acknowledges, the Company is proposing in the calculation of its GSEP revenue requirement to remove depreciation expense associated with plant that it retires through the GSEP, thus there cannot be double recovery (Companies Joint Reply Brief at 57, citing Tr. A at 51). The Company characterizes the Attorney General's position as a concern that if rate base declines from the test year amount, the Company will over collect in its base rates relative to the Company's capital investment (Companies Joint

Reply Brief at 57). The Company argues that the Attorney General's depreciation net-out test proposals do not account for ebb and flow of investment, in keeping with the Department's treatment of O&M costs (Companies Joint Reply Brief at 57).

The Company argues that the Attorney General's depreciation net-out test proposal may substantially reduce cost recovery under the GSEP due to non-GSEP factors,[39] which would contradict the intent of Section 145 (Companies Joint Reply Brief at 58, citing Section 145(b)). Moreover, the Company contends that the Attorney General has not calculated the anticipated monetary impact of such a test, nor has she considered if or how the Attorney General's goal of preventing double recovery would be achieved, which is akin to the circumstances surrounding the Department's elimination of a net-out test in D.P.U. 13-75 (Companies Joint Reply Brief at 57-58, citing D.P.U. 13-75-C at 10-11).

iii. Analysis and Findings

Depreciation expense allows a company to recover its capital investments in a timely and equitable fashion over the service lives of the investments. Fitchburg Gas and Electric Light Company, D.T.E. 98-51, at 75 (1998); Boston Gas Company, D.P.U. 96-50 (Phase I) at 104 (1996); Milford Water Company, D.P.U. 84-135, at 23 (1985); Boston Edison Company, D.P.U. 1350, at 97 (1983). The depreciation expense included in the Company's current base rates is based on plant balances determined in the Company's most recent base rate case, which was decided in 2014. See D.P.U. 13-75.

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[39] For example, the amount that the Company spent on non-growth, non-GSEP investments.

It is well-settled that a regulated utility cannot collect the cost for the same item through both its base rates and a separate rate. See NSTAR Electric Company, D.P.U. 08-56/D.P.U. 09-96, at 20 (2010); see, e.g., Boston Edison Company/Cambridge Electric Light Company/Commonwealth Electric Company, D.T.E./D.P.U. 06-82-A at 39-40 (2010) (disallowing double recovery of Capital Project Scheduling List costs through a separate factor when they were already recovered through base rates); Boston Gas Company/Colonial Gas Company/Essex Gas Company, D.T.E. 04-62, at 25 (2004) (denying request to consolidate recovery of gas acquisition costs because doing so would result in double recovery of these costs through base rates and the gas adjustment factor ("GAF"); Essex County Gas Company, D.P.U. 87-59-A at 7 (1988) (denying proposed adjustment of amortization associated with data processing equipment because doing so would result in double recovery of conversion costs); see also D.P.U. 85-270, at 180-183 (it is "patently unfair" to require ratepayers to pay for a specified expense item twice).

The GSEP eligible investment that the Company will place into service over the course of its initial GSEP investment year will constitute new and discrete investment not accounted for by the Company's current annual depreciation expense. The Company proposes, in the calculation of its GSEP revenue requirement, to reduce its annual GSEP-related depreciation expense by the book depreciation associated with the plant it retires during that GSEP investment year (Exh. CMA/JTG-3, at 3, Sch. 2). Based on these factors, we do not find that there is double recovery of depreciation expense with the inclusion in the GSEAF of depreciation expense on GSEP eligible investment. Therefore, we find that a depreciation

net-out test, including the depreciation-related tests proposed by the Attorney General, is not needed in the establishment of the GSEAF under Section 145.

In light of these findings, we do not find it necessary to reach the Company's arguments on statutory construction pertaining to the legislative history of Section 145 and a consideration of the treatment of depreciation in the versions of bills in the development of Section 145. Further, in consideration of the possible administrative complexity, volume of GSEP investment as compared to total Company capital expenditure, and concerns regarding the potential for over recovery on the part of the Company, the Department may explore in Bay State's current base rate case, Bay State Gas Company, D.P.U. 15-50, the feasibility and merits of separating GSEP recovery entirely from rate base (see Exh. AG-CMA-3-40, Att.; Tr. B at 46-47).

c. Calculation of GSEP-Related Depreciation Expense

i. Introduction

To determine the GSEP-related depreciation expense for use in the Company's estimated GSEP revenue requirement and actual GSEP revenue requirement at the time of the reconciliation filing, the Company proposes to apply its book depreciation rates approved in the Company's last base rate case to (1) the annual eligible plant additions, including any required adjustments, and (2) its annual plant retirements in the proposed GSEP investment year (Exhs. CMA/JTG-1, at 13-14; CMA/JTG-3, at 3, 8, Schs. 2, 7; Tr. 1, at 135-137). The Company's estimated revenue requirement for year one of its GSEP includes only half a year of annualized depreciation expense, since the Company will incur depreciation expense over

the course of the first GSEP investment year as it makes plant additions (Exhs. CMA/JTG-1, at 14; CMA/JTG-3, at 3, Sch. 2; DPU-CMA-1-18; DPU-CMA-1-19; AG-CMA-3-53).

The Attorney General proposes a requirement for the Company to calculate its depreciation expense for use in the GSEP revenue requirement by dividing the annual depreciation accrual rate by twelve and applying the resulting rate to the average monthly plant balance over the course of the year (Exh. AG-DJE-1, at 6). The Attorney General intends her proposal to more accurately reflect the timing of plant additions during a GSEP investment year (Exh. AG-DJE-1, at 6). The Attorney General recommends that the Department require this method for the Company's actual GSEP revenue requirement, but accept the Company's current method of determining depreciation expense for the purposes of examining Bay State's estimated GSEP revenue requirement (Exh. AG-DJE-1, at 6-7).

ii. Positions of the Parties

(A) Attorney General

The Attorney General contends that the Company's calculation of rate base includes net plant calculated by subtracting accumulated depreciation from the balance of plant in service, with accumulated depreciation calculated using depreciation expense consisting of the average of year-beginning and year-end plant balances at annual depreciation accrual rates approved by the Department (Attorney General Brief at 77). The Attorney General argues that, to more precisely reflect the pattern of plant additions over the course of a year, this method should be changed to a monthly accrual rate applied to the average plant balance each month (Attorney General Brief at 77-78). The Attorney General asserts that while an estimated revenue

requirement ideally would reflect the expected timing of plant additions, this method might not be realistically feasible in the forecasting stage, yet the Company should be required, when reconciling its estimate to its actual GSEP revenue requirement, to reflect depreciation expense calculated by applying monthly depreciation accrual rates (consisting of the annual rates divided by twelve) to monthly average plant balances over the course of the year (Attorney General Brief at 78, 101). The Attorney General affirms that the Company's proposal to use the beginning and year-end balances is sufficient for the purposes of establishing its estimated GSEP revenue requirement for a given year (Attorney General Brief at 78, citing D.P.U. 14-131, Exh. AG-DJE-1, at 6-7).

(B) DOER

DOER posits that the Company's proposal for calculating GSEP depreciation expense on the average of beginning and end of year plant balances assumes an even distribution of GSEP-related plant additions throughout the GSEP investment year (DOER Brief at 10, citing Tr. B at 6). DOER contends that this assumption does not reflect the reality of the planned timing for GSEP-related plant additions and that, because plant additions will be more heavily weighted towards the end of the year, the Department should adopt the Attorney General's recommendation to require that the Company calculate its actual GSEP revenue requirement using the actual monthly balances of plant in service (DOER Brief at 10-11, citing Exh. AG-DJE-1, at 6-7; Tr. 1, at 132).

(C) Company

The Company disagrees with the Attorney General's recommendation, supported by DOER, for the Company to calculate depreciation expense on a monthly basis in its actual GSEP revenue requirement, and argues that such a recommendation is not consistent with precedent regarding TIRFs, and that it would be unnecessarily complex (Companies Joint Reply Brief at 59, 73, citing Attorney General Brief at 77-78; DOER Brief at 10-11; Boston Gas Company and Colonial Gas Company, D.P.U. 11-36, at 36 (2014)).

iii. Analysis and Findings

The use of test year-end rate base is applied for traditional ratemaking purposes in setting base distribution rates. See Western Massachusetts Electric Company, D.P.U. 08-40, at 6-7 (2009); Massachusetts Electric Company, D.P.U. 92-78, at 5 (1992); Boston Edison Company, Policy Statement of the Commission Concerning the Adoption of Year-End Rate Base, D.P.U. 160 (1980). The Department has historically accepted test year-end plant-in-service balances without requiring companies to provide the timing of additions and retirements that comprise that balance. D.P.U. 08-40, at 7; See, e.g., D.P.U. 92-78, at 5.

The GSEP is an accelerated program available to local gas distribution companies for the purpose of replacing aging or leak-prone natural gas infrastructure, with cost recovery through a reconciling mechanism separate from base rates. Section 145(b). Under GSEP, there will be a more defined plant investment activity during an investment year than investment activity considered in a base rate case, where there would be an ebb and flow of plant investment. Taking into account this difference, we find it appropriate to adopt the

Attorney General's proposal for the Company to calculate its depreciation expenses for use in the GSEP revenue requirement by (i) dividing the annual depreciation accrual rate by twelve and (ii) applying the resulting rate to the average monthly plant balance over the course of the year (Exh. AD-DJE-1, at 6). This use of average monthly accrual rates and monthly plant balances will better reflect investments over the investment year.

Also as recommended by the Attorney General, this method will apply to the Company's actual GSEP revenue requirements, but will not apply to the Company's estimated GSEP revenue requirement (Exh. AD-DJE-1, at 6-7). Bay State can apply its proposed method of determining depreciation expense for purposes of calculating its estimated GSEP revenue requirement.

This use of average monthly accrual rates and monthly plant balances is similar to the method applied by the Department in calculating the return component of the revenue requirement for a capital investment reconciling mechanism for Western Massachusetts Electric Company ("WMECo"). See Western Massachusetts Electric Company, D.P.U. 08-40 (2009). The approach taken by the Department in D.P.U. 08-40 confirms our adoption of the method for calculating depreciation expense for purposes of the GSEP.

In D.P.U. 08-40, the Department determined that it was not appropriate to apply traditional test year-end ratemaking treatment because, with WMECo's capital investment program entering its first year of implementation: (1) specific in-service dates of the items comprising the program rate base were readily available and the number of transactions were reasonably manageable and (2) unlike a base rate case, there was no ebb and flow of plant.

D.P.U. 08-40, at 6-7. The Department further found that the use of these specific in-service dates would provide more accurate results than the use of an annual average, and, if the Department were to adopt the WMECo's proposal of year average rate base, customers would be required to pay a return on investment for months during which expenditures were not incurred. D.P.U. 08-40, at 6-7.

Therefore, upon filing of actual project costs, and reconciliation of the Company's estimated and actual GSEP revenue requirements, Bay State must incorporate a monthly calculation of its depreciation expense related to GSEP investments as part of the GSEP revenue requirement that it uses to reconcile actual GSEP costs against previous estimates.

d. Property Tax Calculation

i. Introduction

For the purposes of revenue requirement calculations, property taxes are calculated as the product of the prior year net plant and the effective property tax rate (Exhs. CMA/JTG-2, at 5, 9; CMA/JTG-3, at 6). The prior year net plant is calculated as the value of plant in service on December 31 of the prior year (Exh. CMA/JTG-3, at 6). The effective property tax rate is the rate that was established in the Company's most recent base rate case, which was derived by dividing the Company's property tax expense by its net plant in service, as approved in the base rate case (Exhs. CMA/JTG-2, at 5, 9; CMA/JTG-3, at 6). Because the assessed valuations of property typically lag the billing of property taxes by a year and a half, property taxes are $0.00 in Year One of the Company's GSEP program (2015) due to the Company's lack of GSEP-eligible infrastructure in 2014 (Exh. CMA/JTG-1, at 11).

ii. Positions of the Parties

(A) Attorney General

The Attorney General contends that the Company's property tax calculations are incorrect for Year Two (2016) of the GSEP program (Attorney General Brief at 83-84, citing Exh. AG-DJE-1, at 7-8). According to the Attorney General, property tax expenses for July 1 through June 30 fiscal year should be calculated based on the net plant as of the preceding December 31 (Attorney General Brief at 84, citing G.L. c. 59, § 57). As such, the Attorney General contends that the property tax expense for Year Two of the Company's GSEP program (2016) should be one-half of the Company's annual (2015) property tax expense calculated by applying the effective property tax rate to one-half of the GSEP-eligible net plant as of the end of 2015 (Attorney General Brief at 84, citing G.L. c. 59, § 57). The Attorney General does not propose any modifications to the Company's property tax calculations for Year One (2015) or Years Three (2017) and beyond (Attorney General Brief at 84).

(B) Company

The Company agrees with the Attorney General's proposition that its property taxes in Year Two should be only one-half of the annual property tax expense calculated by applying the effective property tax rate to one-half of the GSEP-eligible net plant as of the end of the prior year in order to reflect the actual timing of the property tax expense (Companies Joint Reply Brief at 63-64).

iii. Analysis and Findings

While municipalities and other taxing authorities operate on a fiscal year basis running from July 1 through June 30, property valuations used to establish property tax rates are based

on a taxpayer's assets in place as of January 1. Milford Water Company, D.P.U. 12-86, at 239 (2013). Consequently, taxing authorities customarily bill the first and second fiscal quarter property taxes during the third and fourth calendar quarters of the year being assessed, based on one-fourth of the prior fiscal year's total final tax amount. New England Gas Company, D.P.U. 10-114, at 263 (2011). In view of this timing difference, the Department finds that for the purpose of calculating the Company's GSEP revenue requirement, the Company's property taxes in Year Two (2016) should include only one-half of the Company's annual property tax for GSEP-eligible net plant. Therefore, the property tax expense for Year Two should be calculated first by applying the effective property tax rate to the GSEP-eligible net plant as of the end of 2015, and taking one-half of that amount. The Department requires no change in the method for calculating the property tax expense for Year One or Year Three and beyond.

e. Property Tax Abatements

i. Introduction

For the purposes of revenue requirement calculations, property taxes are included in the formula for the Company's GSEP recovery, referred to in the Model Tariff as the PTMS variable[40] within the GSEAF formula (Exhs. CMA/JTG-1, at 10-11; CMA/JTG-2, at 9). Property tax rates are approved during a Company's most recent base rate case and reflect the

[40] The Model Tariff defines the PTMS variable as "[t]he property taxes calculated based on the cumulative net GSEP plant investment at the end of the GSEP Investment Year multiplied by the Property Tax Rate established by the Department in the Company's most recent general distribution rate proceeding" (Exh. CMA/JTG-2, at 9).

test year property tax expense as a proportion of net plant in service (Exhs. CMA/JTG-1, at 16; CMA/JTG-2, at 9). Neither Section 145 nor the Company's Model Tariff contains language specifically referencing property tax abatements (Exh. AG-MW-1, at 21, citing Section 145 (e)).

ii. Positions of the Parties

(A) Attorney General

The Attorney General argues that the Department should condition any approval of the GSEP on the addition of language that would revise the definition of the PTMS variable to credit tax abatements when they are received (Attorney General Brief at 94). The Attorney General contends that the Model Tariff filed by the Company does not demonstrate how the GSEP rate recovery formula, specifically the PTMS variable, will channel any property tax abatements through the reconciliation process (Attorney General Brief at 94). According to the Attorney General, neither Section 145 nor the Company's Model Tariff states whether property tax abatements are to be included in the calculation of the Company's total GSEP revenue requirement (Attorney General Brief at 94-95, citing Section 145(e)). The Attorney General concludes that because the Company's GSEP currently lacks any language referencing property tax abatements, it is left to the Company's discretion as to whether to make an adjustment to account for the abatements (Attorney General Brief at 95, citing Exh. AG-MW-1, at 21-22). The Attorney General notes that if property tax abatements reduced the effective tax rate below that established in the test year, the resulting lower revenue requirement would not be required

to be returned to the Company's customers (Attorney General Brief at 95, citing Exh. AG-MW-1, at 22).

The Attorney General acknowledges that there is Department precedent supporting the establishment of a test year property tax rate and not recognizing post-test year abatements, but argues that this precedent was developed for the base rate treatment of property tax expenses and should not apply to cost flow-through rates like the GSEAF (Attorney General Brief at 97). Accordingly, the Attorney General recommends that the abatements be accounted for when received by "[summing] all property tax abatements and credits by netting this total against the rate year property tax expense before recalculating the property tax rate and applying it to average rate base in the Revenue Requirements calculation or as a separate line item offset" (Attorney General Brief at 95-97).

(B) Company

Bay State objects to the Attorney General's recommendation that the PTMS variable language be adjusted to credit property tax abatements when they are received (Companies Join Reply Brief at 68). The Company argues that the formula embedded in the Model Tariff for property tax expense does not recover property tax increases occurring after a gas company's base rate proceeding, resulting in an asymmetrical revenue requirement calculation (Companies Joint Reply Brief at 68). Further, Bay State asserts that the Attorney General's position would allow for the accumulation of abatement credits over multiple years to be applied to a single year's property tax, which could result in a "nonsensical result of a negative GSEP property tax expense" (Companies Joint Reply Brief at 69). The Company therefore requests that the

Department "not include property tax abatements in the [GSEAF] formula" (Companies Joint Reply Brief at 69).

iii. Analysis and Findings

The Department's policy concerning the proper treatment of poperty tax abatements is long-standing. Boston Edison Company, D.P.U. 1720, at 80 (1984). Property tax abatements received within the test year are treated on a cash basis to reduce property tax expense in the cost of service; post-test year abatements are not accounted for unless they are of an extraordinary amount. Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid, D.P.U. 09-39, at 244 (2009); D.P.U. 1720, at 80. GSEP investments will generally consist of mains and services, which are classified as personal property for purposes of property tax assessments. See Milford Water Company, D.P.U. 12-86, at 262 n.162 (2013).[41] In view of the fact that municipalities bill personal property taxes on the basis of a single valuation for all of the personal property owned by the taxpayer in that community, it is not possible to disaggregate property tax abatements among GSEP and non-GSEP investments.

Based on these considerations, the Department sees no compelling reason to depart from past precedent as relates to the calculation and timing of property taxes and abatements in this case. Therefore, the Department finds that property tax abatements used for the purposes

[41] Municipalities categorize property for tax purposes as: (1) real estate, representing land and structures; and (2) personal property, representing items such as machinery and equipment, furniture, and inventories. D.P.U. 12-86, at 262 n.162. Under this classification system, mains and service lines would be considered personal property.

of GSEP revenue requirement calculations will be calculated during a company's base rate proceeding. Post-test year abatements will not be recognized unless they are of extraordinary amounts. D.P.U. 09-39, at 244.

As pertains to language specifically referencing property tax abatements, the Attorney General recommends that such language be added to the GSEP and GSEAF formula in order to limit the Company's discretion regarding whether and how to make adjustments to account for these abatements (Attorney General Brief at 94). The Company rejects this position and asserts that such language should not be added to the GSEP (Companies Joint Reply Brief at 68).

The property tax rate, as defined in the Model Tariff, is based upon the rate "determined in the Company's most recent general distribution base rate proceeding" (Exh. CMA/JTG-2, at 5). The PTMS variable, likewise, is derived from the property tax rate "established by the Department in the Company's most recent general distribution rate proceeding" (Exh. CMA/JTG-2, at 9). These two components of the Model Tariff ensure that the property tax rate used in calculating the Company's GSEP revenue requirement is the rate calculated in the Bay State's most recent base rate proceeding. Since this property tax rate is inclusive of property tax abatements, the Department finds that is not necessary for Bay State to include additional language related to the inclusion of property tax abatements in its GSEP or in its GSEAF formula.

f. Labor Overhead and Clearing Account Burden Costs

i. Introduction

The Company proposes to recover labor overhead and clearing account burden costs through the GSEAF to the extent that it meets the following two tests (Exhs. CMA/JTG-1, at 16; CMA/JTG-2, at 10; CMA/JAF-1, at 6-7; DPU-CMA-1-15).[42] Using the first test, the Company demonstrates that labor overhead and clearing account burden costs included in the O&M expense of base rates and the pensions expense factor ("PEF") have not been shifted to GSEP project costs (Exhs. CMA/JTG-1, at 9; DPU-CMA-1-15). This showing is achieved by comparing (a) the overhead and clearing account burden costs charged to O&M expense in the Company's most recent base rate case, D.P.U. 13-75 (2014), and the PEF, with the (b) labor overhead and clearing account burden costs charged to O&M expense in the GSEP investment year (Exh. DPU-CMA-1-15). In the event that the amount included in base rates and the PEF is greater than the amount charged to O&M expense in the GSEP investment year, then the Company will reduce the GSEP project costs to be recovered through the GSEAF by the difference (Exh. DPU-CMA-1-15). In the event that the actual overhead and clearing account burden costs charged to O&M expense in the GSEP investment year exceed the amount included in base rates and the PEF, then no

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[42] There are five types of labor overhead and clearing account burden costs that have a portion of their cost charged by the Company to capital projects for cost recovery: fringe benefits; non-productive labor; supervision and clerical expenses; storeroom operation expenses; and vehicle operations and maintenance expenses (Exh. AG-CMA-4-1).

adjustment is required to the GSEP project costs to be recovered though the GSEAF. D.P.U. 13-75, at 58-59.

With the second test, the Company demonstrates that the overall level of the actual capitalized labor overhead and clearing account burden costs are allocated equally to all capital projects in any given year, including GSEP projects (Exhs. CMA/JTG-1, at 9; DPU-CMA-1-15). The rate at which labor overhead and clearing account burden costs are allocated to GSEP projects is compared to the rate at which they are allocated to all capital projects (Exh. DPU-CMA-1-15). The Company currently employs these two tests in its TIRF mechanism (Exh. CMA/JTG-1, at 16). These two tests are also currently utilized in the TIRF mechanisms of National Grid and the Liberty Utilities (New England Natural Gas Company) Corp. D.P.U. 10-55, at 75-76, 142 (2010).

No party opposed the recovery of labor overhead and clearing account burden costs in the GSEP or the associated two tests included in the Model Tariff and LDAC Tariff.[43]

ii. Analysis and Findings

The two tests proposed by Bay State have been approved by the Department for use in the Company's TIRF, as well as for the TIRFs of National Grid and Liberty Utilities. Because of the similarities in the TIRF and GSEP programs, we find that the same two tests are appropriate for use in ratemaking for the GSEP program. Therefore, we approve the two tests. Nonetheless, we note that Section 5.0 of the Company's Model Tariff and Section 8.5 of

[43] DOER and the Attorney General advocate use of the third test in the GSEPs to preclude the unintended recovery of costs already included in base rates (DOER Brief at 8; Attorney General Brief at 72). The third test is addressed in Section IV.G.1.b above.

Bay State's LDAC Tariffs do not specifically delineate the two tests. Therefore, we require the Company to provide language in its Tariffs explaining the calculation that will occur on an annual basis. The specific language is provided in Section IV.I., below. In addition, we direct the Company to demonstrate, as part of its annual GSEP filings that the labor overhead and clearing account burden costs that is proposes to recover through the GSEAF meet the requirements of the two tests.

g. Operations and Maintenance Offset

i. Introduction

Bay State proposes to include an operations and maintenance ("O&M") offset in its revenue requirement calculations associated with the GSEP (Exhs. CMA/DEM-2, at 26-27; CMA/JAF-2, at 17-20). The Company states that the O&M per mile offset represents the most recent three-year weighted average of leak repair costs per mile for non-cathodically protected steel mains, cast iron mains, and wrought iron mains on its system (Exhs. CMA/DEM-2, at 26; CMA/JTG-3, at 7, Sch. 6; AG-CMA-2-27; AG-CMA-3-4, Atts. (A), (B)). Bay State proposes to multiply the O&M savings by the total miles of mains replaced or abandoned during the annual GSEP plan year to determine the O&M offset in the annual GSEP revenue requirement (Exhs. CMA/JAF-2, at 24; CMA/JAF-3, at 24). The Company states that the O&M offset amount applicable to calendar year 2015-eligible GSEP investments is $1,544 per mile of replaced mains, and that this amount is based on average leak repair costs for 2011, 2012, and 2013 (Exh. CMA/JTG-3, at 7, Sch. 6). The Company states that it will

apply a half-year approach to the calculation of the O&M offset in year one (Exhs. CMA/JTG-3, at 3, Sch. 2, line 72; DPU-CMA-1-19).

The Company states that O&M expenses may increase over time for numerous reasons, including inflation (Exh. CMA/DEM-2, at 26). Bay State reports that, as new leaks arise, and as it performs repairs on leak-prone mains or replaces them with plastic mains, the inventory of leak-prone mains also will change (Exh. CMA/DEM-2, at 26). The Company states that it will calculate its O&M offset on the basis of a three-year rolling average of leak repair costs per mile, in order to provide a more stable O&M offset than it could achieve simply by using the leak repair cost per mile for a single year (Exhs. CMA/DEM-2, at 26-27; CMA/JTG-1, at 7-8, 12).

ii. Positions of the Parties

(A) Attorney General

The Attorney General maintains that the O&M offset calculation proposed by the Company is appropriate (Attorney General Reply Brief at 8; citing Bay State Brief at 15). However, the Attorney General contends that Bay State has provided insufficient explanation regarding its verification process for the leak-rate data it proposes to use in calculating the O&M offset (Attorney General Reply Brief at 8).

The Attorney General argues that the Company should tie the leak-rate data it uses to determine the basis for its O&M offset to the leak-rate data it reports to other entities, specifically the leaks-per-mile data it reports to PHMSA (Attorney General Brief at 87, citing Exh. AG-MW-1, at 42-43; Attorney General Reply Brief at 8). The Attorney General

contends that leak-rate data should be verified for consistency as part of the process for approving the GSEAF and as part of the reconciliation process (Attorney General Brief at 88). The Attorney General maintains that either the leak-rate data used to calculate the O&M offset should be checked for consistency with the PHMSA data, or the PHMSA data should be provided in a supporting schedule along with the GSEP filing (Attorney General Brief at 88). The Attorney General argues that the O&M offset represents an important source of savings and has the potential to reduce bill impacts for customers, and she therefore recommends that the Department mandate that the Company file a standard, transparent and verifiable O&M offset calculation that uses the data filed by the Company with PHMSA (Attorney General Brief at 88-89; Attorney General Reply Brief at 8).

(B) Company

The Company contends that its proposal represents the three-year weighted average cost of leak repairs on non-cathodically protected steel, small diameter cast iron, and wrought iron mains, multiplied by the total miles replaced during the GSEP investment period to determine the savings credited to customers all as tracked through the Company's work management systems (Companies Joint Reply Brief at 65). Bay State argues that it reports leak repairs to PHMSA on an aggregated basis for all materials types, and that the Company therefore cannot use this information alone to compute the O&M offset for the replacement of leak-prone infrastructure (Companies Joint Reply Brief at 65). The Company argues that it must supplement the PHMSA data with data from its work-management system or other databases in calculating the O&M offset (Companies Joint Reply Brief at 65).

Bay State contends that it closely follows the reporting protocols for the annual PHMSA reports, which are prescriptive (Joint Reply Brief at 65). As a result, the Company argues that there are differences between the way in which inventory and replacement data are reflected through the USDOT reports and the way in which the Company may actually track inventory and replacements through a work management system (Joint Reply Brief at 65). Bay State argues that, rather than using the PHMSA data as the basis for the O&M offset, the Department should adopt the O&M offset as proposed by the Company (Joint Reply Brief at 65).

iii. Analysis and Findings

The Department has determined in TIRF proceedings that calculating O&M offsets on the basis of a three-year rolling average of costs of repairs per mile and leaks per mile data is appropriate and consistent with the Department's rate structure goals of rate continuity and earnings stability. Boston Gas Company and Colonial Gas Company, D.P.U. 13-78, at 4 (2014); Boston Gas Company and Colonial Gas Company, D.P.U. 11-36, at 32 (2014); New England Gas Company, D.P.U. 10-114, at 72 (2010); Bay State Gas Company, D.P.U. 09-30, at 120, 134 (2009). An O&M offset performs the same function in calculating the GSEAF as it was used in calculating the TIRF. Therefore we find the Company's proposal for calculation of an O&M offset, which is the same as we approved in the TIRF proceeding, is appropriate.

In its filing, the Company proposed an O&M offset applicable to calendar year 2015-eligible GSEP investments of $1,544 per mile (Exhs. CMA/JTG-1, at 7; CMA/JTG-3,

at 7, Sch. 6). This figure is based on the average leak repair cost per mile for 2011, 2012, and 2013 (Exh. CMA/JTG-3, at 7, Sch. 6). The Company calculates a projected O&M offset of $33,968, which represents the O&M savings credit for a half-year in 2015 (Exh. CMA/JTG-3, at 3, Sch. 2 and at 7, Sch. 6). The Department finds that the Company has adequately documented its proposed O&M offset calculation consistent with established Department precedent. Therefore, the Department approves the Company's proposed O&M offset calculation.

Regarding the Attorney General's assertion that the Company should be required to file a standard, transparent, and verifiable O&M offset calculation that incorporates data filed with PHMSA, we find this requirement unnecessarily burdensome possibly creating inefficiencies for the Company without enhancing the Department's review of the Company's future GSEP filings. We agree with the Company that the PHMSA data is different than the data needed to calculate the O&M offset, and we find that reconciling these incompatible data sources represents an inefficient use of resources. Furthermore, the Department has used a prudence review[44] in assessing companies' annual TIRF filings.[45] See D.P.U. 13-78, at 13; D.P.U. 10-

[44] A prudence review must be based on how a reasonable company would have responded to the particular circumstances that were known or reasonably should have been known at the time a decision was made. Boston Gas Company, D.P.U. 93-60, at 24-25 (2003); Western Massachusetts Electric Company, D.P.U. 85-270, at 22-23 (1986); Boston Edison Company, D.P.U. 906, at 165 (1982). A review of the prudence of a company's actions is not dependent upon whether budget estimates later proved to be accurate, but rather upon whether the assumptions made were reasonable, given the facts that were known or that should have been known at the time. Massachusetts-American Water Company, D.P.U. 95-118, at 39-40 (1996); Boston Gas Company, D.P.U. 93-60, at 35 (1993); Fitchburg Gas and Electric Light Company, D.P.U. 84-145-A at 26 (1985).

55, at 129. As in the TIRF proceedings, the Department will evaluate the prudence of each project proposed for cost recovery in a GSEP proceeding on a case-by-case basis. We find that our prudence review renders the Attorney General's proposal to tie the leak-rate data used to calculate the O&M offset to the PHMSA data unnecessary because this adjustment would not enhance our prudence review, which is expansive and would be unaffected by the altering the source of leak-rate data. Therefore, the Department rejects the Attorney General's proposal to standardize O&M offset calculations by using data provided by each individual company to PHMSA, and accepts the Company's proposed O&M offset calculation.

2. Application of Revenue Cap

a. Introduction

Section 145 (f) provides, in part, that "[a]nnual changes in the revenue requirement eligible for recovery shall not exceed (i) 1.5 percent of the gas company's most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers."[46] Bay State proposes that annual changes in GSEP recovery billed in any year be limited by a cap in an amount equal to 1.5 percent of the Company's most recent calendar year total firm revenues ("Revenue Cap") (Exh. CMA/JAF-1, at 8). Bay State's total firm revenues include total revenues billed to all firm customers and the imputed cost of gas

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[45] Because the subject of O&M offset is no different from that addressed in past TIRF programs, the Department will therefore apply that same standard of O&M offset to review the GSEP filings.

[46] Sales customers receive gas supply and delivery services from a local gas distribution company ("LDC") Tr. 1, at 88). Transportation customers receive only delivery services from an LDC (Tr. 1, at 88).

revenues for transportation customers,[47] determined at the time of the October 31 GSEP filing (Exhs. CMA/JTG-1, at 8; CMA/JTG-2, at 10).

The Company proposes to establish a GSEAF effective May 1, 2015, to recover the revenue requirement for the Company's 2015 GSEP expenditures (Exh. CMA/JAF-1, at 9; CMA/JTG-3, at 3, Sch. 2). For the 2015 GSEP year, the Company's revenue requirement of $2,625,905 does not exceed its calculated Revenue Cap of $8,187,661 (Exh. CMA/JTG-3, at 2, Sch. 1).

b. Positions of the Parties

i. Attorney General

The Attorney General explains that Section 145 fixes the upper limit of the GSEP revenue requirement at 1.5 percent of gas revenues attributable to the Company's sales and transportation customers (Attorney General Brief at 89, citing Section 145(f)). The Attorney General contends that the Company interprets the phrase "gas revenues attributable to sales and transportation" to include imputed gas revenues (Attorney General Brief at 90-91, citing Exh. AG-MW-1, at 26). The Attorney General purports that these phrases, however, have two different implications (Attorney General Brief at 91).

According to the Attorney General, the Company's calculation of imputed gas revenues includes an assumed cost of gas commodity that Bay State would have incurred if it supplied gas to customers that receive only firm transportation (distribution) service from the Company

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[47] The imputed cost of gas revenues are calculated by multiplying the monthly usage by the GAF (Tr. 1 at 82).

(Attorney General Brief at 91, citing Exh. AG-MW-1, at 26-27). The Attorney General states that these customers receive distribution transportation service from the Company, but receive gas supply service from a third-party supplier (Attorney General Brief at 91, citing Boston Gas Company and Colonial Gas Company, D.P.U. 14-132, Exh. AG-MW-1, at 26-27). The Attorney General concludes that Section 145 does not permit Bay State to include the effect of "imputed" gas supply costs for transportation customers in the Revenue Cap calculation (Attorney General Brief at 91).

As a result, the Attorney General argues that there are three issues related to the definition of the Revenue Cap (Attorney General Brief at 91). First, the Attorney General seeks to clarify that the "gas revenues attributable to . . . transportation customers" are those revenues collected by the Company for distribution transportation service and reported in regular filings for review and approval by the Department (Attorney General Brief at 91).

Second, and separate from the first issue, the Attorney General notes that Bay State may have included the throughput of capacity-exempt transportation customers[48] in its computation of "imputed" gas supply costs for transportation customers (Attorney General Brief at 91-92, citing Exh. AG-MW-1, at 26). The Attorney General maintains that these

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[48] Capacity-exempt customers are either new customers who have elected to go directly to marketer service, or customers who were receiving transportation-only service prior to the unbundling of gas services in 1998 and for whom the gas companies have no obligation to procure pipeline capacity. Emergency Authorization for Gas Capacity Planning, D.P.U. 14-111, at n.1 (2014). A capacity-eligible customer is a customer that is either currently a sales customer of the Company or has been a sales customer of the Company, and consequently has been assigned upstream capacity by the Company to meet its supply needs (Tr. 1, at 88-89).

customers are not included in the Company's planning load, which is used to develop the GAF rate, but that Bay State uses the GAF to calculate the imputed cost of gas for transportation customers (Attorney General Brief at 92).

Finally, the Attorney General asserts that the total gas revenue used to calculate the Revenue Cap should be verifiable and tied to reports filed with and reviewed by the Department (Attorney General Brief at 92). The Attorney General explains that the Company's Annual Return to the Department[49] includes data on gas revenues attributable to sales customers and transportation customers (Attorney General Brief at 93).[50] Therefore, the Attorney General recommends that the Department require Bay State to include only the gas revenues attributable to sales customers and gas revenues attributable to transportation customers, as reported on the Company's Annual Return, in the calculation of the Revenue Cap (Attorney General Brief at 93-94).

ii. DOER

DOER disagrees with the Attorney General's assertion that the calculation of the Company's total revenue for determining the Revenue Cap should exclude the imputed gas supply revenues for capacity-exempt customers (DOER Brief at 7). DOER maintains

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[49] Pursuant to G.L. c. 164, § 83 and 220 C.M.R. § 79.01, each gas company must file an Annual Return with the Department by March 31 of each year, reporting financial and operating activity for the prior calendar year.

[50] The Attorney General cites to the total sales to ultimate customers and revenues from transportation of gas of others on pages 43-44 of the Company's Annual Return (Attorney General Brief at 93, citing NSTAR Gas Company, D.P.U. 14-135, Exh. AG-13-3, Att. C at 36).

Section 145 neither discerns nor distinguishes that any type of transportation customer be excluded from the calculation (DOER Brief at 5, 8, citing Section 145(f)). DOER explains that the purpose of the Revenue Cap is to place an annual limit on the cost increases to customers who are assessed the GSEAF (DOER Brief at 7). Thus, DOER asserts that the Attorney General's argument regarding the distinction between capacity-exempt and capacity-eligible customers is arbitrary and illogical (DOER Brief at 8). According to DOER, if the Department excludes gas revenue from a group of customers who will be subject to the Revenue Cap, the effective Revenue Cap will be less than the 1.5 percent allowed by Section 145 (DOER Brief at 8).

DOER requests that the Department clarify that the Revenue Cap is distinguishable from the Company's obligations to assure safe and reliable service (DOER Brief at 5). DOER maintains that if Bay State experiences infrastructure issues requiring immediate action to assure safe and reliable service, then the Company must retain the duty and responsibility to assure such investments are made regardless if the investment would exceed the Revenue Cap (DOER Brief at 5).

Further, DOER explains that the Company's existing TIRF recovers the cost of accelerated replacement of leak-prone pipe (DOER Brief at 4). According to DOER, the TIRF revenue requirement is capped at one percent of total revenues/distribution revenues ("TIRF Cap") (DOER Brief at 4).[51] DOER maintains that the purpose of the TIRF Cap is to mitigate

[51] DOER notes that Bay State's cap was modified to 3.75 percent of distribution revenues, which is intended to equate to 1 percent of total revenues originally approved by the

customers' bill impacts from the Company's TIRF program (DOER Brief at 4). DOER argues that Section 145 establishes which facilities are subject to the Revenue Cap, but it does not distinguish between pre-existing programs and new programs (DOER Brief at 5). DOER contends that the Company records TIRF replacement costs after December 31, 2014 (DOER Brief at 5). Therefore, DOER contends that any such TIRF investment meets the eligible infrastructure categories defined in Section 145(a) and is subject to the Revenue Cap (DOER Brief at 5).

iii. Company

The Company argues that the plain language of Section 145 states that the Revenue Cap is calculated on a gas company's "most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers" (Companies Joint Reply Brief at 66). The Company argues that the Attorney General concedes that the use of words "sales and transportation customers" does not exclude any subgroup of customers (Companies Joint Reply Brief at 67, citing Tr. A at 27). According to the Company, Section 145 does not differentiate between capacity-eligible transportation customers and capacity-exempt transportation customers (Companies Joint Reply Brief at 66). Moreover, Bay State claims that the Attorney General acknowledges that no transportation customer purchases gas commodity from the Company (Companies Joint Reply Brief at 67, citing Tr. A at 28).

Department (DOER Brief at 4 n.4, citing Bay State Gas Company, D.P.U. 13-75, at 30-31 (2014).

Bay State maintains that Section 145 does not refer to transportation customers associated with the Company's planning load (Companies Joint Reply Brief at 66). The Company contends that the "planned portfolio" of gas supply also may not reflect the cost of gas supply for any capacity-eligible customer (Companies Joint Reply Brief at 67). Bay State asserts that there is no difference between a capacity-eligible customer and a capacity-exempt customer in the GAF rate (Companies Joint Reply Brief at 67). Thus, the Company argues that the Attorney General inaccurately asserts that the Company's GAF rate recovers the gas supply costs associated with a "planned portfolio" of gas supply procured for all firm sales customers, which therefore does not reflect the cost of gas supply for any "capacity-exempt" customer (Companies Joint Reply Brief at 67).

According to Bay State, the Revenue Cap is intended to replicate bill impacts from the GSEAF that its entire customer base will experience year-to-year (Companies Joint Reply Brief at 68). The Company asserts that all distribution customers, including capacity-eligible and capacity-exempt transportation customers, are assessed in the local distribution adjustment factor ("LDAF"), which will include the GSEAF (Companies Joint Reply Brief at 68). Therefore, Bay State asserts that the Department should reject the Attorney General's recommendation to exclude the revenues associated with capacity-exempt transportation customers from the Revenue Cap (Companies Joint Reply Brief at 68). Moreover, in response to the Attorney General's argument that the amount of revenue used to calculate the Revenue Cap should be verifiable and tied to a report of filing reviewed and approved by the

Department, the Company claims that there is no such report quantifying the gas revenues for capacity-eligible customers (Companies Joint Reply Brief at 67).

Additionally, Bay State claims that the Department may increase the Revenue Cap to a percentage of total firm revenues, including gas revenues attributable to sales customers and including imputed cost of gas revenues for the Company's transportation customers, greater than 1.5 percent (Bay State Brief at 16, citing Section 145(f)). In response to DOER, the Company asserts that it will not invest in any TIRF projects after January 1, 2015 (Companies Joint Reply Brief at 71). The Company argues that capital charges associated with the TIRF that will occur in 2015 and 2016 will relate to plant placed into service prior to December 31, 2014 (Companies Joint Reply Brief at 71). The Company maintains that these charges would not meet the definition of "eligible infrastructure replacements" under Section 145 and, therefore, would not be subject to the Revenue Cap (Companies Joint Reply Brief at 71). Therefore, the Company asserts that the Department should allow the TIRF mechanisms to operate separately from the GSEP (Companies Joint Reply Brief at 71).

c. Analysis and Findings

The parties disagree whether the Company may include certain revenues for the Revenue Cap calculation. When interpreting a statute, the "statutory language should be given effect consistent with its plain meaning and in light of the aim of the Legislature unless to do so would achieve an illogical result." Welch v. Sudbury Youth Soccer Assoc., Inc., 453 Mass. 352, 354-355 (2009), quoting Sullivan v. Brookline, 435 Mass. 353, 360 (2001). The Department will interpret a statute:

> according to the intent of the Legislature ascertained from all its words construed by the ordinary and approved usage of the language, considered in connection with the cause of its enactment, the mischief or imperfection to be remedied and the main object to be accomplished, to the end that the purpose of its framers may be effectuated.

Commonwealth v. Welch, 444 Mass. 80, 85 (2005), quoting Bd. of Ed. v. Assessor of Worcester, 368 Mass. 511, 513 (1975).

Section 145 provides that total firm revenues include the "gas revenues attributable to sales and transportation customers." The term "gas revenues" is not synonymous with the term "distribution revenues." For example, the Department approved a TIRF for Boston Gas Company, Essex Gas Company, and Colonial Gas Company, which included a cap on the annual change in revenue requirement set at one percent of Boston Gas-Essex Gas' and Colonial Gas' respective total revenues from firm sales and transportation throughput, with transportation revenues being adjusted by imputing National Grid's cost of gas charges. Boston Gas Company/Colonial Gas Company/Essex Gas Company, D.P.U. 10-55, at 70, 133 (2010). However, under Bay State's TIRF, the revenue requirement is set at 3.75 percent of its total distribution revenues from firm sales and transportation throughput during the most recent investment year. Bay State Gas Company, D.P.U. 13-75, at 30-31 (2014).

In establishing the GSEP, had the Legislature intended to limit the Revenue Cap to include revenues from sales and only distribution transportation service, the statute could have used the term "distribution revenues" rather than "gas revenues" attributable to transportation customers. The Department concludes that the plain language in Section 145, that is, "gas revenues attributable to sales and transportation customers," allows the Company to include in

the Revenue Cap all revenues that are both billed and attributed to all customers taking service under one of the Company's rate classes, including the adjusted transportation revenues calculated by imputing the Company's GAF for each annual period.

Moreover, the Department agrees with the Company and DOER that the purpose of the Revenue Cap is to place an annual limit on the cost increases to the customers who are assessed the GSEAF (see DOER Brief at 7; Companies Joint Reply Brief at 68). All customers, including capacity-exempt and capacity eligible customers, are distribution customers that are charged the LDAF (Tr. 1, at 88; M.D.P.U. No. 176, § 2.0). The Department finds that there is no differentiation of transportation customers between capacity exempt and capacity-eligible customers in Section 145. Therefore, the Department accepts the Company's calculation of the Revenue Cap. Further, the Department declines to adopt the Attorney General's request that total gas revenue used to calculate the Revenue Cap should equal total sales to ultimate customers and revenues from transportation of gas of others included in the Company's Annual Return.

The Department agrees with DOER that the Revenue Cap is distinguishable from the Company's obligations to assure safe and reliable service. Although the Revenue Cap limits the rate impact on customers, it does not impose on Bay State any limit on the level of capital investment that it can undertake in a given year. See New England Gas Company, D.P.U. 10-114, at 66 (2011). Bay State has full discretion to exercise its judgment in fulfilling its obligation to maintain the safety and reliability of its distribution system. See D.P.U. 10-114, at 66. The Department has previously found that revenue caps on TIRF programs

provide the appropriate incentive for gas companies to at least sustain, and potentially increase, their pace of replacement of leak-prone mains on their distribution systems. See D.P.U. 10-114, at 66; D.P.U. 10-55, at 133; Bay State Gas Company, D.P.U. 09-30, at 134 (2009).

Finally, the Department addresses DOER's recommendation that TIRF program costs recorded after December 31, 2014 should be subject to the Revenue Cap. Section 145 provides, in part, that an "eligible infrastructure replacement" is "a replacement or an improvement of existing infrastructure of a gas company that: (i) is made on or after January 1, 2015." Section 145(a). The Company asserts that it will not invest in any TIRF projects after January 1, 2015 (Companies Joint Reply Brief at 71). The Department agrees that TIRF program investments made before December 31, 2014 do not meet the definition of eligible infrastructure in Section 145. Accordingly, the Department finds that the TIRF program investments are not subject to the GSEP Revenue Cap.

3. Reconciliation Proposal

a. Introduction

Bay State intends to make two filings each year regarding the GSEP (Exh. DPU-CMA-1-1). The first filing will be made on May 1[52] and will reconcile the actual capital expenditures for the previous GSEP year, along with the revenue requirement on those actual capital expenditures, to the estimated capital expenditures that have been approved for that year (Exh. DPU-CMA-1-1). In addition, the May 1 filing will reconcile the over/under

[52] No filing will be made on May 1 of the first year of the GSEP, i.e., May 2015 (Exh. MHK/AEL-1, at 13).

billing of (a) the actual amounts billed to customers to (b) the actual revenue requirement approved by the Department (Exh. DPU-CMA-1-1).

The second filing will be made on October 31 of each plan year (Exhs. CMA/JTG-2, at 11-12; DPU-CMA-1-1). The October 31 filing will reconcile the amount authorized for recovery by the Department resulting from its review of the May 1 filings against the revenue billed through the applicable GSEAFs (Exh. DPU-CMA-1-1). This reconciliation would determine the amount of any over- or under-recovery of amounts ultimately authorized for recovery by the Department based upon actual data (Exh. DPU-CMA-1-1). The over- or under-recovery of GSEP costs would either be credited to or recovered from customers (Exh. CMA/JAF-2, at 25).

Bay State proposes to implement a rate change in the GSEAF once a year, on May 1 (Exh. DPU-CMA-1-1; Tr. 1 at 122). No party commented on the Company's reconciliation proposal.

b. Analysis and Findings

The Department finds that the Company's proposed method for reconciling GSEP costs is consistent with Section 145, but nonetheless, the Department is not convinced that changing the GSEAF once a year on May 1 is the proper course of action. Section 145 does not specify how often a gas company should change its GSEAF. Typically gas companies change their

firm gas sales rates at least twice each year through the GAF, on May 1 and on November 1. See 220 C.M.R. § 6.01 (adjust firm gas sales rates on semi-annual basis).[53]

If the Department were to accept the Company's proposal to change its GSEAF only once a year, on May 1, then these over- or under-recovery balances would continue to accrue carrying charges for an additional six months before they are either credited to or recovered from customers.[54] The Department considers this six-month lag in recovery as unnecessary. As noted above, gas customers already see their firm gas sales rates change at least twice each year through the GAF. In addition, all gas companies currently change their LDAFs at least once a year, on November 1.[55] Therefore, incorporating any over- or under-recovery balance into the November 1 LDAF will not result in any additional rate changes for gas customers and it would eliminate the accrual of additional carrying charges on any over- or under-recovery balances. Consequently, Bay State is directed to modify the Model Tariff to incorporate the fact that the GSEAF will change twice each year, on May 1 and November 1. This change should be incorporated into the Company's compliance filing to this Order.

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[53] The GAF may change on a more frequent basis because each gas company is required to revise its GAF whenever the company determines that the projected deferred gas-cost balance at the end of the period will be less than or greater than five percent of the total season gas costs stated in that company's effective GAF. Investigation Regarding Cost of Gas Adjustment Clause, D.T.E. 01-49-A at 8 (2001).

[54] The Department anticipates that it will be issuing an Order on October 31 of each year that will include over- or under-recovery balances stemming from the reconciliation calculations referenced above.

[55] Bay State, National Grid, and Unitil change their LDAFs twice a year. See, e.g., Boston Gas Company/Colonial Gas Company, D.P.U. 13-GAF-P5 (October 30, 2013); Boston Gas Company/Colonial Gas Company, D.P.U. 13-GAF-O5 (April 30, 2013).

4. Gas System Enhancement Adjustment Factor

a. Introduction

The GSEAF is the rate that recovers the aggregate GSEP revenue requirement approved by the Department for actual and planned eligible GSEP investment beginning January 1, 2015, and for each annual period January 1 through December 31 of the GSEP investment year (Exhs. CMA/JTG-2, at 2, 4; CMA/JAF-2, at 22, 24, 25). The Company proposes that the recovery period begin May 1 of each GSEP investment year for spending on planned or completed projects expected to be placed in service through the conclusion of the GSEP investment year (Exhs. CMA/JTG-2, at 4; CMA/JAF-2, at 22, 24; DPU-CMA-1-24).

Specifically, the Company proposes the following GSEAFs by rate-class sector for effect May 1, 2015, through April 30, 2016 (Exhs. CMA/JAF-1, at 9; CMA/JAF-4, at 1):

Rate Classes	**GSEAFs ($/therm)**
Residential	$0.0065
Low Annual Use Commercial And Industrial ("C&I")	$0.0064
Medium Annual Use C&I	$0.0041
High Annual Use C&I	$0.0034
Extra High Annual Use C&I	$0.0029

To determine its GSEAFs, Bay State first calculated a revenue requirement of $2,625,905 based on the Company's pretax rate of return applied to the average annual rate base, plus a half year of book depreciation and property taxes (which are $0 in year one) for

the cumulative GSEP investments in the respective GSEP investment year (i.e, January 1, 2015, through December 31, 2015) (Exhs. CMA/JTG-3, at 3, Sch. 2; CMA/JAF-4, at 1; DPU-CMA-1-19). The Company then subtracted a half-year of the estimated 2015 O&M offset as set forth in its Model Tariff for its five rate-class sectors (Exhs. CMA/JTG-3, at 3, Sch. 2; CMA/JAF-2, at 24-26).[56]

Second, the Company compared the revenue requirement to 1.5 percent of total annual revenues from sales and transportation throughput during that same calendar year (Exhs. CMA/JTG-3, at 2, Sch. 1; CMA/JAF-2, at 27-28). The revenue requirement allowed to be collected through the GSEAFs in any one GSEP recovery year (May through April) may not exceed the Revenue Cap (Exhs. CMA/JTG-1, at 8-9; CMA/JTG-2, at 10; CMA/JAF-1, at 6-8; CMA/JAF-2, at 29). Based on 2013 revenues of $545,844,054, the Company calculated its Revenue Cap at $8,187,661, which is well above its proposed GSEP-related revenue requirement of $2,625,905, leaving zero above the cap and no deferral for future recovery (Exh. CMA/JTG-3, at 2, Sch. 1).

Finally, the Company allocated the $2,625,905 revenue requirement to each rate class using a rate-base allocator as set forth in the Model Tariff (Exhs. CMA/JTG-3, at 2, Sch. 1;

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[56] The revenue requirement for the Company in subsequent years also includes the reconciliation of the revenues billed through the GSEAF over the prior year with the actual eligible GSEP revenue requirement for the same period with carrying costs on the average monthly balance at the prime rate (Exhs. CMA/JTG-3, at 2, Sch. 1; CMA/JAF-2, at 25). Under the Company's proposal, calculations for subsequent years will include a full year O&M offset instead of half and will also include the full annual value of depreciation expense (Exhs. CMA/JTG-3, at 3, Sch. 2; DPU-CMA-1-18; DPU-CMA-1-19).

CMA/JAF-1, at 9; CMA/JAF-2, at 25). The Company then divided those amounts by the forecast sales for May 2015 through April 2016 for each respective rate sector to derive the rate-sector-specific GSEAFs noted above (Exhs. CMA/JAF-1, at 9; CMA/JAF-2, at 26; CMA/JAF-4, at 1).

b. Analysis and Findings

The Department has reviewed the Company's proposed GSEAFs and supporting schedules, and finds them to be appropriate. Accordingly, we allow the GSEAFs of $0.0065, $0.0064, $0.0041, $0.0034 and $0.0029 per therm for the residential, low annual use C&I, medium annual use C&I, high annual use C&I, and extra-high annual use C&I sectors, respectively, to take effect May 1, 2015, subject to further review and investigation. Nonetheless, we recognize that where the Department is directing the Company to revise its GSEAF twice each year, on May on and November 1, instead of once a year as proposed, further changes are required to the Company's calculation of the GSEAF in subsequent years to implement the change to the reconciliation adjustment for effect on November 1 each year. The Company should include such changes in its revised tariff submitted in compliance with this Order.

H. Customer Costs and Benefits

1. Introduction

The Company included in its GSEP a description of the customer cost and benefits of its GSEP (Exh. CMA/DEM-2, at 22-27).

a. Costs

Bay State states that the total cost of main replacement is the sum of labor costs, distribution system materials, contractor charges, road surface restoration, police traffic safety detail, road opening permits and environmental permitting (Exh. CMA/DEM-2, at 22). The Company explains that factors outside of the Company's control, such as weather, site conditions, and municipal requirements regarding work hours also influence infrastructure replacement costs (Exh. CMA/DEM-2, at 22). Bay State asserts that the GSEP enables the Company to structure its infrastructure replacement projects in a comprehensive manner in coordination with municipal paving projects (Exh. CMA/DEM-2, at 22). Bay State maintains that the GSEP also allows the Company to take advantage of the economies of scale, such as equipment and materials procurement, associated with long-term contracts with construction firms, thereby improving the cost-effectiveness of individual replacement projects and the overall GSEP (Exh. CMA/DEM-2, at 22).

b. Benefits

Bay State contends that the GSEP will provide the following benefits: (1) increased safety and reliability of its distribution system; (2) reduction of greenhouse gas emissions; (3) a reduction in the cost and inconvenience experienced by municipalities and customers; and (4) the creation of new jobs as a result of increased construction work (Exh. CMA/DEM-2, at 23-27).

i. Safety and Environmental

(A) Safety and Reliability

The Company asserts that it has structured its GSEP to allow for the replacement of the leak-prone infrastructure which, over the course of the GSEP, will reduce the leak rate on the system (Exh. CMA/DEM-2, at 23). Bay State reports that it has a significant amount of leak-prone pipe on its distribution system, with a composite main leak rate of 0.89 leaks-per-mile (Exh. CMA/DEM-2, at 23). The Company contends that assuming the replacement program, at worst, keeps pace with the rate of failure on the existing priority pipe inventory, annual leakage associated with corrosion, cast iron joint leaks, and cast iron breakage will decrease annually year-over-year to the point that Bay State could experience as much as 60 percent fewer leaks on an annual basis (Exh. CMA/DEM-2, at 24). Bay State maintains that a reduction in aggregate leak rates to this level will represent a substantial improvement in public safety and reliability of service (Exh. CMA/DEM-2, at 24).

(B) Environmental Impacts

The Company maintains that the GSEP will provide environmental benefits because it will lead to a reduction in gas leaks, which release natural gas to the atmosphere (Exh. CMA/DEM-2, at 24). Bay State reports that methane is a principal component of natural gas, and that methane emissions occur on the distribution system as a result of leaking infrastructure (Exh. CMA/DEM-2, at 24). The Company maintains that methane is a greenhouse gas that absorbs global infrared radiation that would otherwise escape to space (Exh. CMA/DEM-2, at 24). The Company states that the impact of methane leakage on the environment is reduced by

either replacing leak-prone mains and services or repairing gas leaks (Exh. CMA/DEM-2, at 24). The Company claims that the GSEP could potentially reduce 79,760 metric tonnes of carbon dioxide emissions throughout the 20-year program (Exh. CMA/DEM-2, at 25, Table V-1).

ii. Municipal Cost and Convenience

Bay State asserts that, when a leak occurs, the Company and municipalities must deploy resources on an emergency basis to investigate the leak (Exh. CMA/DEM-2, at 25). The Company states that municipalities incur costs in training, equipping, and maintaining the resources necessary to respond to natural gas emergencies, and that municipalities experience the inconvenience of emergency and unplanned street openings and emergency coordination with the Company to enable leak repairs (Exh. CMA/DEM-2, at 25). The Company maintains that it can minimize these costs with a greater level of system replacement and a substantial reduction in the number of leaks (Exh. CMA/DEM-2, at 25-26). Bay State also contends that the accelerated main replacement under the GSEP would enable it to reduce the municipal costs and inconvenience that occur when the Company must interrupt service periodically to accommodate emergency and unplanned repairs near customers' homes and businesses, because the GSEP would substantially reduce the Company's need to conduct unplanned and emergency street opening for repair work (Exh. CMA/DEM-2, at 26).

iii. Job Creation

Bay State asserts that its TIRF program resulted in the creation of new jobs in Massachusetts over the past four years, and that it expects the GSEP also will increase the

amount of construction work performed on the system, which in turn would create or preserve jobs (Exh. CMA/DEM-2, at 27). Additionally, the Company maintains that the GSEP will create and preserve jobs within the Company (Exh. CMA/DEM-2, at 27).

2. Position of the Parties

a. Attorney General

The Attorney General argues that the Legislature intended for the Department to consider the costs versus the benefits for proposed GSEPs during its investigations (Attorney General Brief at 29). However, the Attorney General contends that the Company failed to provide its costs and benefits in a quantified manner that will enable the Department to adequately consider them (Attorney General Brief at 29). Rather, the Attorney General contends that the Company has provided only a general description of the benefits that could arise from the GSEP programs (Attorney General Brief at 29).

The Attorney General states that, although the language of Section 145(c) requires gas companies to provide only "a description of customer costs and benefits under the plan," Section(d) requires the Department, in approving a GSEP, to "consider the costs and benefits of the plan including, but not limited to, impacts on ratepayers, reductions of lost and unaccounted for natural gas through a reduction in natural gas system leaks and improvements to public safety" (Attorney General Brief at 30). The Attorney General argues that this provision implies that the Legislature expects the Department to conduct a thorough review of GSEP costs and benefits (Attorney General Brief at 30). The Attorney General maintains that the gas companies collective infrastructure replacement proposals seek over $16.3 million in

ratepayer financial support in 2015 alone, and that it is therefore incumbent upon the Department to conduct a comprehensive review of the costs and benefits of the GSEPs (Attorney General Brief at 30).

The Attorney General acknowledges that there is uncertainty and potential subjectivity associated with quantifying the benefits of the GSEP (Attorney General Brief at 30). However, the Attorney General contends that the Department has the technical expertise to give the appropriate weight to the accuracy of any particular benefit or cost estimate in reaching its decision (Attorney General Brief at 30). Further, the Attorney General argues that there is Department precedent for finding that ignoring benefits simply because they are difficult to quantify would skew the comparison of costs and benefits, and that benefits do not need to be precisely quantified for the Department to consider them (Attorney General Brief at 30-31, citing Massachusetts Electric Company and Nantucket Electric Company, D.P.U. 10-54, at 172-173 (2010)).

The Attorney General therefore recommends that the Department find the Company's GSEP filing is incomplete (Attorney General Brief at 31). If the Department approves the GSEP, the Attorney General recommends that the Department require future GSEP filings to provide updated information regarding the benefits GSEP-related infrastructure replacements have had compared to what was previously anticipated (Attorney General Brief at 31). The Attorney General further recommends that the Companies provide comparisons of realized public safety and environmental benefits, local in-state economic development benefits from construction activities, and local job creation (Attorney General Brief at 31). The Attorney

General also recommends that the Department require the Company to include rate impacts associated with the GSEP in future GSEP filings, as well as the forecast of the effect on Company earnings (Attorney General Brief at 31).

b. DOER

DOER contends that there are certain costs and benefits related to the GSEPs that can be quantified (DOER Brief at 13). Among the objectively quantifiable GSEP benefits, DOER lists gas cost savings, O&M savings, and reduced methane emissions associated with reduced leaks (DOER Brief at 13). In addition, DOER contends that the cost of the GSEPs can also be quantified (DOER Brief at 13).

DOER contends that the Legislature's primary motivation for instituting the GSEP is the public safety benefit associated with accelerating the replacement of leak-prone pipes (DOER Brief at 13). DOER argues that while many of the benefits can be quantifiable, attempts to quantify the benefits of public safety are so speculative as to provide no guidance to the Department in evaluating the GSEP (DOER Brief at 13). DOER supports the quantification of costs and benefits using generally accepted methodologies (DOER Brief at 13). DOER further argues that the full cost of the GSEP is not the cost of replacing the pipelines, but instead the incremental cost associated with the accelerated plan (DOER Brief at 13). Therefore, DOER argues that the incremental cost is the correct cost to use in any cost-benefit analysis (DOER Brief at 13). However, with respect to public safety benefits, DOER recommends requiring only a detailed description of how the activities under the GSEP

have impacted the safety and reliability of a company's distribution system (DOER Brief at 13-14).

c. Company

Bay State argues that the Attorney General's recommendations are not requirements under the plain language of Section 145, and that they are either impractical or impossible for the Company to implement (Joint Reply Brief at 29). Regarding the plain language, the Company states its GSEP filing includes a "description of the costs and benefits of the plans," as required by Section 145(c)(v), and a bill impact analysis, as required by Section 145(d) (Joint Reply Brief at 29). Bay State maintains that there is no additional data that is practical for it to provide or that is required by the statute (Joint Reply Brief at 29).

Regarding the Attorney General's recommendation that the Department require that the Company provide comparisons of realized public safety and environmental benefits, Bay State states that it has quantified the environmental benefits associated with leak reductions to the extent that it is practicable to do so through information provided in its initial filing and in discovery (Companies Joint Reply Brief at 29). The Company contends that, in its post-construction filings, it could re-quantify the environmental benefits based on the actual amount of infrastructure removed from the system (Companies Joint Reply Brief at 29). However, the Company argues that it cannot quantify the estimated or "realized" public safety benefits (Companies Joint Reply Brief at 29). The Company argues that the Attorney General admits that these benefits would include avoidance of incidents and damages to property as well as the avoidance of injury to persons or the avoidance of possible death and that these

benefits are difficult to quantify (Companies Joint Reply Brief at 29-30, citing Tr. B at 21; Exh. AG-DED at 24). Further, the Company contends that the Attorney General was unable to produce any analysis of the public-safety benefits associated with leak-prone infrastructure removal and the Company is not aware of the existence of any such analysis (Companies Joint Reply Brief at 30, citing Exh. CMA-AG-1-3). Bay State argues that the Attorney General has admitted that her recommendation is based on policy rather than the legislative intent of Section 145 (Companies Joint Reply Brief at 30, citing Tr. B at 21).

The Company states that there is no basis for the Department to accept a recommendation that the Company can or should be able to quantify the public-safety benefits of the GSEP because there is no evidence that this exercise can be reasonably accomplished (Companies Joint Reply Brief at 30). Similarly, Bay State argues that the Company is not in a position to quantify local in-state economic development benefits from construction activities and local job creation because this is not its area of expertise, and because Section 145 contains no instruction, directive, or intent for the Company to perform these quantifications (Companies Joint Reply Brief at 30). Furthermore, the Company contends that this sort of analysis is unnecessary (Companies Joint Reply Brief at 30). The Company maintains that the Legislature would not have enacted Section 145 if it did not perceive that there was an overall net benefit for Massachusetts citizens in eliminating leak-prone infrastructure from the gas distribution systems (Companies Joint Reply Brief at 30). The Company concludes that the legislative intent, as indicated by the statutory language, is for the Company to include a description of the costs and benefits of the GSEP, and for the Department to consider those

costs and benefits in approving the GSEP (Companies Joint Reply Brief at 30). According to Bay State, there is no further requirement explicitly or implicitly encompassed within Section 145 (Companies Joint Reply Brief at 30).

3. Analysis and Findings

The Department finds that the Company has adequately fulfilled the requirements for documenting the costs and benefits of the GSEP as required by Section 145. Section 145 expressly calls for a company to provide a "description of customer costs and benefits under the plan" it its GSEP. Section 145(c). We disagree with the Attorney General's assertion that the language of Section 145 required the Company to provide greater quantification of costs and benefits than the descriptions the Company has provided (see Attorney General Brief at 29). By contrast, in St. 2008, c. 169,[57] § 83 ("Section 83), governing the procurement of long-term contracts for renewable energy, the Legislature unambiguously required petitioners to quantify costs and benefits. In Section 83, the Legislature required the Department to "take into consideration both the potential costs and benefits of such contracts, and … approve a contract only upon a finding that it is a cost effective mechanism for procuring renewable energy on a long-term basis." In D.P.U. 10-54, at 127, we stated that this directive to assess whether a long-term contract is cost-effective required companies to quantify costs and benefits because of the statutory obligation to approve contracts only if the benefits outweigh the costs. Here, there is no statutory requirement for the Company to document the GSEP's cost-effectiveness. Similarly, we disagree with the Attorney General's assertion that

[57] An Act Relative to Green Communities. St. 2008, c. 169.

D.P.U. 10-54 provides precedent for the Department to find that a company should quantify benefits even when doing so is difficult (see Attorney General Brief at 30). As we found above, Section 83 contains an express cost-effectiveness test; Section 145 does not. Consistent with the requirements of Section 145, the Company has provided in its proposed GSEP a "description of customer costs and benefits under the plan" (Exh. CMA/DEM-2, at 22-27).

Further, we find that the Company has provided sufficient information for the Department to satisfy the requirements of Section 145(d) "to consider the costs and benefits of the plan, including, but not limited to, impacts on ratepayers, reductions of lost and unaccounted for natural gas through a reduction in natural gas system leaks, and improvements to public safety." The Company has provided a bill impact analysis (Exh. CMA/JAF-5). The Company also considered reductions of lost and unaccounted for natural gas through a reduction in natural gas leaks, improvements to public safety, the environmental impact of reduced carbon dioxide emissions, municipal cost and convenience, and job creation (Exh. CMA/DEM-2, at 22-27). The Department agrees with the Company and DOER that the quantification of those benefits would be so speculative as to provide no guidance in evaluating this (DOER Brief at 13; Companies Joint Reply Brief at 30). Many of the benefits enumerated by the Company and cited in Section 145 will accrue not only to the Company's ratepayers, but are social benefits accruing to the public. In this instance, the Department's technical expertise in assigning particular weight to benefits and costs would be ineffective because values associated with social benefits are not realistically quantifiable (see Attorney General Brief at 30).

The Department finds that that the requirements for future GSEP filings recommended by the Attorney General are unnecessary.[58] These requirements exceed the purpose of Section 145, which contains no directive for the Company to perform these types of analyses Therefore, the Department finds that the Company's detailed description of the GSEP's costs and benefits satisfies the requirements of Section 145.

I. Model Tariff

1. Introduction

As part of its GSEP filing, the Company included a Model Tariff developed jointly with the other Massachusetts natural gas local gas distribution companies (Exhs. CMA/JTG-1, at 3; CMA/JTG-2). The Model Tariff describes the cost recovery components that the Company will use to recover costs associated with its GSEP. (Exh. CMA/JTG-1, at 4). Bay State intends to incorporate the terms of the Model Tariff into its LDAC tariff (Exh. CMA/JTG-1, at 4). The LDAC tariff will specify the costs to be collected via the GSEAF and incorporated for billing purposes within the Company's LDAF (Exhs. CMA/JAF-1, at 3-4, 10; CMA/JAF-2, at 39).

In this section, we address the issue of expenditure classification raised by the Attorney General. In addition, we address modifications to the Model Tariff to make it comport with our directives given elsewhere in this Order. Finally, we identify a limited number of

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[58] For example, comparison of anticipated benefits with realized benefits, for public safety and environment, economic development, and job creation; also, forecast of effect of GSEP on the Company's earnings (see Attorney General Brief at 31).

remaining issues and typographical errors in the Model Tariff and in the Company's proposed LDAC tariff M.D.P.U. No. 176.

2. Positions of the Parties

a. Attorney General

In addition to the arguments addressed elsewhere in this Order, the Attorney General argues that the Model Tariff does not contain any accounting guidelines regarding the classification of an expenditure as either a capital cost or an O&M expense (Attorney General Brief at 97). The Attorney General contends that each company should be required to use the same criteria for unit property classification for GSEP cost accounting as it used in the test year of its last base rate case (Attorney General Brief at 97). The Attorney General further argues that, without an accounting guideline, it would be possible for a company to shift work that is classified as O&M in the test year of its last rate case into a capital expenditure under the GSEP simply by changing the accounting criteria for a unit of property (Attorney General Brief at 98-99). Accordingly, the Attorney General recommends that the Department condition any approval of a GSEP on a company's using the same criteria for unit of property classification for GSEP cost accounting as it used in the test year of its last base rate case (Attorney General Brief at 99).

b. Company

Regarding the Attorney General's proposal for an accounting standard, the Company agrees that it should be required to indicate and explain in its annual GSEP filings any change regarding use of the unit of property classification for GSEP cost accounting as used in the test

year of its last base rate case (Companies Joint Reply Brief at 69-70). The Company further states that there may be reasons why a change would be warranted or appropriate, subject to the Department's review in a GSEP filing (Companies Joint Reply Brief at 70).

3. Analysis and Findings

We begin by addressing the Attorney General's recommendation that the Model Tariff should contain an accounting standard regarding the classification of expenditures as either a capital cost or an O&M expense (Attorney General Brief at 97-98). Specifically, the Attorney General is concerned that companies may redefine their internal accounting criteria for property units in such a way as to shift regular operation and maintenance expenses into GSEP-eligible capital costs. The Department's accounting instructions are found in the Uniform System of Accounts for Gas Companies ("USOA-Gas Companies"), codified as 220 C.M.R. § 50.00 et seq. While General Instruction 10 of the USOA-Gas Companies requires companies to submit questions of doubtful interpretation to the Department to maintain uniformity of accounting, the Department recognizes that a company's internal accounting criteria may still become the subject of contention from time to time. On this basis, the Department finds that the inclusion of specific plant accounting instructions in the Model Tariff will facilitate the review of future GSEP filings by the Department and other interested parties.[59] Therefore, we direct the Company to modify Section 2.0 "DEFINITIONS" in the

[59] In doing so, the Department recognizes that there may be occasions, such as the promulgation of a revised accounting standard by the Financial Accounting Standards Board, that affect the definition of a unit of property. In such situations, the Company may request a modification of our directives here as part of its GSEP filing.

Model Tariff as follows. First, the Company shall insert at the end of Section 2.0(4) the following language:

> The costs booked to the above accounts shall be determined in accordance with the Company's application of the Uniform System of Accounts for Gas Companies, 220 C.M.R. § 50.00, Gas Plant Accounts, in use during the test year of its previous rate case filed pursuant to G.L. c. 164, § 94.

Second, the Company shall insert at the end of Section 2.0(5) the following language:

> The costs associated with leak repair expense shall be determined in accordance with the Uniform System of Accounts for Gas Companies, 220 C.M.R. § 50.00, Operation and Maintenance Expense Accounts, in use during the test year of its previous rate case filed pursuant to G.L. c. 164, § 94.

We now turn to changes to the Model Tariff that comport with our directives given elsewhere in this Order. First, we have directed the Company to change its GSEAF twice each year, on May 1 and November 1. Therefore, we direct the Company to reflect this change in the following sections and anywhere else as warranted:

- Section 1.3 "Effective Date"
- Section 2.0 "DEFINITIONS," particularly, subparts (9) "GSEAF," and (13) "GSEP Reconciliation Adjustment"
- Section 3.1 "Gas System Enhancement Adjustment Factor ('GSEAF') Formula"
- Section 4.0 "LIMITATIONS ON ANNUAL GSEAF CHARGES"

Second, in Section IV.G.1.f., above, we approved the Company's proposal to implement the same two-step test used in the TIRF mechanisms, but the Model Tariff does not state how each of the two steps operates. Therefore, we direct the Company to replace the

language in Section 5.0 "OVERHEAD AND BURDEN ADJUSTMENTS" with the following language:

> For purposes of GSEP calculations, the actual overheads and burdens shall be reduced to the extent that actual O&M overheads and burdens in a given year including the Pension and PBOP Expense Factor ("PEF") are less than the amount included in base rates as determined in D.P.U. 13-75 and the PEF. Such reduction shall be the difference between the actual O&M overheads and burdens and PEF and the amount included in base rates and the PEF. In addition, the percentage of capitalized overheads and burdens assigned to GSEP projects shall be set equal to the ratio of GSEP to non-GSEP direct costs in any given year.

Third, the Company shall modify the tariff language to comport with the Department's directive in Section IV.G.1.c., above, regarding the calculation of depreciation expense using a monthly convention.

Fourth, to create consistency between the definitions of "GSEP Revenue Requirement" as stated in Section 2.0 "DEFINITIONS," subparts (13) and (14), the Company shall add the phrase "for this purpose" in the second sentence of subpart (13) as follows: "The GSEP Revenue Requirement, for this purpose, shall reflect actual cumulative Eligible GSEP Investment." In addition to any other necessary changes to comport with directives elsewhere in this Order, we direct Company to delete the word "following" in subpart (14) for clarity:

> (14) GSEP Revenue Requirement is the accumulated revenue requirements through December 31 of each GSEP Investment Year, which are calculated as part of the GSEP

Plan filed each October 31 for the subsequent construction year, based on the Eligible GSEP Investment to be completed during the ~~following~~ GSEP Investment Year and inclusive of the actual and planned Eligible GSEP Investment incurred through the end of the year prior to the current GSEP Investment Year.

Fifth, the Department notes the following typographical error in one line in Section 2.0(4) "Eligible GSEP Investment" and directs the Company to change it as follows[60]:

Account No. ~~380~~381/381 Meters – Distribution

Finally, the Company shall amend its proposed LDAC tariff M.D.P.U. No. 176 as follows:

- Section 8.1(2) "Applicability": Correct the typographical error by changing "Section 8.03" to the appropriate section name;
- Section 8.3(1) "Gas System Enhancement Adjustment Factor ('GSEAF') Formula," Section 8.6(1), under "Reconciliation Adjustments," and at page 43: Replace the ".xx" and ".XX" notations with the exact account number(s) the Company will use "to record the cumulative difference between the recovery and actual amount of expenses associated with [GSEP] expenditures" (Exhs. CMA/JAF-2, at 43; DPU-CMA-1-22);
- Section 8.2 (4) "Eligible GSEP Investment": Remove the item "Account No. 367/367 Mains – Transmission," from the Company's LDAC tariff as this

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60 Bay State indicated that it books meters and services to the same account (Tr. 1, at 117-119). This treatment is in contravention of the USOA-Gas Companies. Companies are obligated to maintain their books and accounts in accordance with the Uniform System of Accounts for Gas Companies. D.P.U. 13-75, at 119 n.82; D.P.U. 12-25, at 113-115; Southern Union Company, D.P.U. 07-46, at 9 (2007).

category of facility is not applicable for Bay State's proposed GSEP (Exh. DPU-CMA-1-23; Tr. 1, at 114-117).

Accordingly, the Company is directed to file for Department review within 30 days of the date of this Order a new GSEPAC tariff, M.D.P.U. No. 176 to comport with the above-noted changes.

J. Future Filings

1. Introduction

The Attorney General recommends that the Company include certain additional information in its future GSEP filings (Attorney General Brief at 23-28; 31-50). Below, we discuss each of the Attorney General's recommendations.

2. Three-Year Rolling Plan Review

a. Positions of the Parties

i. Attorney General

The Attorney General states that Section 145 provides for the recognition of the DIMP in the Company's initial GSEP filing, stating that the Company files its DIMP to the Department annually (Attorney General Brief at 25). The Attorney General argues that it is unclear whether the GSEP, once approved, will be in effect for 20 years or more (Attorney General Brief at 25). The Attorney General contends that, although Section 145 imposes a five-year reporting requirement on the Company, there is no prohibition in Section 145 on more frequent monitoring by the Department (Attorney General Brief at 25, citing Section 145(c)). The Attorney General states that she supports the Department's ability to annually track and monitor the GSEP in implementing the DIMP, but recommends that the

Department reauthorize the GSEP every three years on a rolling basis (Attorney General Brief at 25-26). The Attorney General argues that this measure is needed because of the changing nature of the DIMP and the uncertainty inherent in projecting which projects the Company will replace (Attorney General Brief at 27). The Attorney General contends that a three-year reauthorization period, coupled with the annual project filings and reconciliation process, strikes a reasonable balance between administrative oversight and reasonable capital planning (Attorney General Brief at 27).

The Attorney General therefore further recommends that the Department accept only the first three years of the GSEP conditioned upon the Company filing for reauthorization of the GSEP and Model Tariff in October of the second year of the plan, for effect the following May. (Attorney General Brief at 27-28). The Attorney General concludes that the Department should conditionally approve any GSEP subject to a full reauthorization every three years, in addition to the annual plan project filing and reconciliation proceeding, as proposed by the Company (Attorney General Brief at 28).

ii. Company

The Company argues that the Attorney General's three-year rolling plan renewal recommendation should be rejected because it is inconsistent with Section 145, which, it argues, establishes a clear and unambiguous timeline for the Department's review, approval, and oversight of the GSEP (Companies Joint Reply Brief at 23). The Company argues that Section 145 establishes three intervals for Department review, approval and oversight: (1) the initial plan, with a target end date of not more than 20 years; (2) an annual review of that plan;

and (3) a five-year review of the plan, which requires the Company to file with the Department summaries of its progress under the plan during the previous five years and a summary of work to be completed during the next five years, in five-year intervals (Companies Joint Reply Brief at 23, citing Section 145(c). The Company contends that it will make future GSEP filings on an annual basis on October 31 each year, and that, under this schedule, the Department will have an opportunity to annually review the Company's progress under the GSEP for the previous year (Companies Joint Reply Brief at 24). The Company states that it has no objection to including in its annual filing information regarding pace, level of completion in the prior GSEP year, or any other progress information desired by the Department (Companies Joint Reply Brief at 25). The Company maintains that its initial filing in this matter is intended to represent a template for subsequent filings, subject to any Department-mandated modifications (Companies Joint Reply Brief at 25).

The Company contends that, after this initial year, the Department will be approving the GSEP on an annual basis in accordance with the statutory scheme, which allows for variation in the initial plan particularly where there is a change that affects the annual revenue cap (Companies Joint Reply Brief at 25, citing Section 145(c)). The Company maintains that this information will be available to the Department during each annual review as part of the evidentiary process, and, as a result, there is no reason or legal basis for the Department to establish a three-year rolling plan renewal (Companies Joint Reply Brief at 25). The Company argues that the GSEP effectively renews on an annual basis, with the initial plan setting the program goal subject to adjustment on an as-needed basis (Companies Joint Reply Brief at 25).

b. Analysis and Findings

We agree with the Company that Section 145 is explicit with regard to the timing for GSEP filings, and the Department's subsequent review, approval, and oversight of GSEPs. We find that the Attorney General's recommendation to implement a three-year rolling plan renewal is unnecessary. The Department will review the Company's GSEP based on required annual filings. See Section 145(c). In addition, consistent with Section 145, the Department will review the Company's GSEP at five-year intervals.[61] See Section 145(c). As a result of these reviews, the Department also may require modifications to a GSEP, establish new filing requirements, or establish specific remedial actions. We find that these reviews provide adequate opportunity for the Department to review, approve, and perform necessary GSEP-related oversight. Therefore, we reject the Attorney General's recommendation to implement a three-year rolling review of the GSEP.

3. Company Data and Databases

a. Positions of the Parties

i. Attorney General

The Attorney General argues that the Department should direct the Company to conduct an internal review of its data and databases and to submit an annual report on this internal review, including an explanation of the basis for all reclassifications of pipe categories (Attorney General Brief at 35). The Attorney General contends that the foundations of the

[61] In five-year increments, the Company must provide the Department with a summary of its replacement progress to date, a summary of work to be completed during the next five years, and any similar information the Department may require. Section 145(c).

Company's GSEP and pipe replacement programs are its data and databases concerning information on system components and service and leak history (Attorney General Brief at 35). The Attorney General maintains that all of the critical factors in the design and implementation of Bay States' GSEP depends on the availability of accurate and reliable data, including the identification of its universe of leak-prone pipe, the selection of candidate replacement pipe sections for a plan period, the selection of specific replacement targets for each year, and the calculation of leak rates (Attorney General Brief at 35). Because the Company had a TIRF, the Attorney General contends that determining the level of infrastructure replacement included in its base rates requires an analysis of its historical replacement performance during the period prior to the TIRF program (Attorney General Brief at 36).

The Attorney General contends that, due to the importance of the Company's data and databases to the GSEP, the Department should require the Company to conduct an internal review of its data and databases and submit an annual report on this internal review, including an explanation of the basis for all reclassifications of pipe categories (Attorney General Brief at 40). The Attorney General recommends that this report be submitted annually by October 31, along with the Company's proposed replacement program for the upcoming year (Attorney General Brief at 40).

ii. Company

The Company argues that the data issues identified by the Attorney General relate exclusively to the nuances of DOT reporting (Companies Joint Reply Brief at 31). The Company contends that protocols for the DOT reports are prescriptive and that it closely

followed them (Companies Joint Reply Brief at 31). As a result, the Company argues that there are differences between the way in which inventory and replacement data are reflected through the DOT reports and the way in which the Company actually tracks inventory and replacements through a work management system (Companies Joint Reply Brief at 31). Bay State maintains that the existence of these differences is not indicative of a problem with the Company's internal data or databases, but rather that the data is simply different than what is reported on DOT reports in some cases due to the reporting protocols (Companies Joint Reply Brief at 31). The Company maintains that the Attorney General has not identified any particular problem with its data or databases other than an inconsistency with the DOT reported data (Companies Joint Reply Brief at 31-32). Moreover, the Company contends that there is no practical approach for performing an internal review of data and databases each year, nor has the Attorney General suggested a reasonable scope or approach for the broad recommendation (Companies Joint Reply Brief at 32). Therefore, the Company argues that the Department should reject this recommendation (Companies Joint Reply Brief at 32).

b. Analysis and Findings

The Department is not persuaded by the Attorney General's recommendation that the implementation of an annual internal review of and report on the Company's data and databases is necessary at this time. Consistent with the Company's representations, we find that the data contained within the DOT reports may not necessarily be identical to the data the Company uses to track its inventory and replacements. However, we direct the Company to provide a detailed explanation for the differences between these two data sets as part of its next

annual October GSEP filing. That explanation also should address the large shifts in its inventory of steel service lines as shown in its DOT reports for 2011 through 2013. Furthermore, we find that the data on the miles of main and number of service lines replaced by year in the five-year period prior to the TIRF is necessary to allow the Department to evaluate the rate of acceleration in the Company's replacement of mains and services. Therefore, we direct the Company to provide this data as part of its next annual October GSEP filing.

4. Reporting Requirements in TIRFs

a. Positions of the Parties

i. Attorney General

The Attorney General recommends that the Department expand the reporting requirements for the GSEP to require the Company to provide all relevant materials currently required by the Department in annual TIRF filings on a standardized basis (Attorney General Brief at 40-41). The Attorney General states that capital authorization request and approval forms, project closure reports, and project variance forms are items currently included in the Department's current TIRF reporting requirements and should be required as part of GSEP filings (Attorney General Brief at 41).

The Attorney General also recommends that the Department expand its required reporting requirements to include the following: (1) projected and actual cost of mains replacements by material type; (2) projected and actual feet and diameter of mains replaced and the projected and actual feet and diameter of replacement mains by project and material type;

(3) projected and actual cost of service replacements by project and material type; (4) projected and actual feet and diameter of services replaced and the projected and actual feet and diameter of replacement services by project and material type; (5) a detailed explanation for deviations from budgeted (estimated) costs in excess of ten percent from actual and from updated estimated costs for mains and services separately by project and material type; (6) a detailed explanation for any deviations from the estimated schedule in excess of one month for both mains and services, as well as updated estimated schedules for mains and services; (7) leak rates from five prior years by material type and cause and leaks repaired or cleared by material type and cause; (8) annual rate impacts of the program by customer class; and (9) documentation showing economic impacts of construction activity, at a minimum quantifying the percentage of program expenditures made within the state and out of state (Attorney General Brief at 41).

The Attorney General argues that these reporting requirements would not be unduly burdensome for the Company to prepare, and that they would assist in the Department's ongoing oversight of the GSEP (Attorney General Brief at 41-42). Additionally, the Attorney General recommends that the Department require the Company to clearly articulate any changes in cost allocation methodologies in future GSEP filings, and to include any rate impact caused by the GSEP in cost-benefit analyses included in future GSEP filings (Attorney General Brief at 42).

ii. Company

The Company argues that the Department should reject these recommendations because they are either duplicative of the Company's proposals or are not reasonable or feasible for the Company to implement (Joint Reply Brief at 32). Specifically, the Company rebuts each recommendation as follows:

(1) **Attorney General Recommendation**: The Department should require the Company to report on projected and actual cost of mains replacements by material type (Attorney General Brief at 41).

Company Response: The Company contends that this requirement is redundant because this information is required as part of the post-construction filing on May 1 of each year to demonstrate that project costs were reasonably and prudently incurred. The Company asserts that breakdowns of material types are provided to the extent that it is feasible to do so (Companies Joint Reply Brief at 32).

(2) **Attorney General Recommendation**: The Department should require the Company to report on projected and actual feet and diameter of mains replaced and the projected and actual feet and diameter of replacement mains by project and material type (Attorney General Brief at 41).

Company Response: The Company argues that this requirement is redundant because its annual May 1 post-construction filing will demonstrate that costs were reasonably and prudently incurred (Companies Joint Reply Brief at 33).

(3) **Attorney General Recommendation**: The Department should require the Company to report projected and actual cost of service replacements by project and material type (Attorney General Brief at 41).

Company Response: The Company argues that it does not track service replacement costs on a projected or disaggregated basis (Companies Joint Reply Brief at 33). Rather, the Company contends that service replacements are either accomplished through mains replacement projects or on a proactive basis apart from a mains replacement project as part of a blanket work order (Companies Joint Reply Brief at 33). The Company contends that independent, proactive service replacement costs are required as part of the post-construction filing on May 1 of each year to demonstrate costs were reasonably and prudently incurred, and that the Department has accepted that projected and actual cost of independent proactive service replacements in

conjunction with main projects are not accounted for like main replacement projects (Companies Joint Reply Brief at 33). Therefore, the Company argues that service replacement costs may be included in a main replacement project or produced as an average cost per the blanket work order (Companies Joint Reply Brief at 33).

(4) **Attorney General Recommendation**: The Department should require the Company to report on projected and actual feet and diameter of services replaced and the projected and actual feet and diameter of replacement services by project and material type (Attorney General Brief at 41).

Company Response: The Company contends that it does not track the feet and diameter of the services it replaces (Joint Reply Brief at 33). The Company states that it will provide the projected and actual number of services replaced in its annual May 1 post-construction filing to demonstrate that costs were reasonably and prudently incurred, and that it will provide this information by material type (Companies Joint Reply Brief at 33).

(5) **Attorney General Recommendation**: The Department should require the Company to provide detailed explanations for deviations from budgeted costs in excess of ten percent from actual and from updated estimated costs for mains and services separately by project and material type (Attorney General Brief at 41).

Company Response: The Company contends that this information is required as part of its annual May 1 post-construction filing to demonstrate that costs were reasonably and prudently incurred (Joint Reply Brief at 33-34). The Company contends that service replacement costs are either included in main replacement projects or completed pursuant to blanket work orders, and, therefore, variance reports apply only to main replacement projects (Companies Joint Reply Brief at 33-34).

(6) **Attorney General Recommendation**: The Department should require the Company to provide a detailed explanation for deviations from its schedule in excess of one month from the actual and updated estimated schedule for mains and services separately (Attorney General Brief at 41).

Company Response: Bay State argues that this recommendation is unworkable and meaningless (Companies Joint Reply Brief at 34). The Company contends that it does not establish its construction schedule in a manner that sets firm construction dates for a comparison of projected to actual, and this type of information provides no value in the construction process (Companies Joint Reply Brief at 34).

(7) **Attorney General Recommendation**: The Department should require the Company to provide leak rates from five prior years by material type and cause and leaks repaired or cleared by material type and cause (Attorney General Brief at 41).

Company Response: The Company states that it plans to provide this information on an annual basis as part of its October 31 plan and as part of its annual May 1 reconciliation filing (Companies Joint Reply Brief at 34). The Company states that it also plans to provide progress reports on number of miles of main replaced and number of services replaced (Companies Joint Reply Brief at 34).

(8) **Attorney General Recommendation**: The Department should require the Company to provide annual rate impacts of the program by customer class (Attorney General Brief at 41).

Company Response: The Company states that it provided this information in its initial plan filed on October 31, 2014 (Companies Joint Reply Brief at 34). The Company maintains that it anticipates providing this information on an annual basis as part of its October 31 plan (Companies Joint Reply Brief at 34).

(9) **Attorney General Recommendation**: The Department should require the Company to provide documentation showing economic impacts of construction activity, at a minimum quantifying the percentage of program expenditures made within the state and out of state (Attorney General Brief at 41).

Company Response: The Company argues that this requirement should be rejected because it is not able to show economic impacts of construction activity, and because Section 145 does not require such a showing (Joint Reply Brief at 35). The Company contends that it is not feasible for it to track expenditures on "in state" versus "out of state" basis, nor is it clear what the Attorney General means by this differentiation (Companies Joint Reply Brief at 35).

(10) **Attorney General Recommendation**: The Department should require the Company to provide the proposed all relevant materials currently required by the Department in annual TIRF filings including capital authorization request and approval forms, project closure reports, and project variance forms (Attorney General Brief at 41).

Company Response: The Company argues that this requirement is redundant because all of this information is included in the Attorney General's other recommendations, and the Company already anticipates including this information in its annual May 1 post-construction filings to demonstrate that project costs are reasonably and prudently incurred (Companies Joint Reply Brief at 35).

b. Analysis and Findings

The Department addresses each of the Attorney General's recommendations regarding additional reporting requirements as follows:

(1) We find that the Attorney General's recommendation that the Company report on projected and actual costs of main replacements by material type is redundant because this information already is required for inclusion in the Company's annual reconciliation filing.

(2) We find that the Attorney General's recommendation that the Company report on projected and actual feet and diameter of mains is redundant because this information is already required for inclusion in the Company's annual reconciliation filing.

(3) We find that the Attorney General's recommendation that the Company report projected and actual cost of service replacement projects by material type is unnecessary at this time. Based on the Department's review of TIRF filings, we agree with the Company that its service replacement activities fall within one of two categories: (1) on a proactive basis as part of a blanket work order; or (2) as part of a mains replacement project. Consistent with the Company's representations, it will provide information regarding the costs associated with blanket work order service replacements as part of its annual reconciliation filing. Regarding services replaced as part of a mains replacement project, the Department has held that service replacement costs may be included in a main replacement project or produced as an average cost per the blanket work order. See Boston Gas Company and Colonial Gas Company, D.P.U. 11-36, at 16 (2014). Therefore, we find that this recommendation would result in no

change to the Company's reporting requirements because the Company already provides this information in other contexts.

(4) We find that the Attorney General's recommendation that the Company report on projected and actual feet and diameter of services replaced is unnecessary at this time. The Company states that it does not track the feet and diameter of the services it replaces, but rather it accounts for the number of services it replaces (Joint Reply Brief at 33). Consistent with the Company's representations, it will provide the projected and actual number of services replaced in its annual reconciliation filing. Therefore, we find that this recommendation would result in no change to the Company's reporting requirements.

(5) We find that the Attorney General's recommendation that the Company provide explanations for deviations from budgeted costs is unnecessary because, consistent with the Company's representations, it will provide this information in its annual reconciliation filing.

(6) We find that the Attorney General's recommendation that the Company provide a detailed explanation for deviations in its estimated schedule is not necessary at this time. As the Company states, it does not establish its construction schedule in a manner that sets firm construction dates for a comparison of projected to actual construction schedules, and we find that it is unnecessary for the Company to provide this information as part of the GSEP.

(7) We find that the Attorney General's recommendation that the Company provide leak rates from five prior years by material type and cause and leaks repaired or cleared by type or cause is not necessary at this time. The Company states that it will provide this information as parts of both its annual GSEP and its annual reconciliation filing. Therefore,

we find that this recommendation would result in no change to the Company's reporting requirements.

(8) We find that the Attorney General's recommendation that the Company provide annual rate impacts of the program by customer class is redundant. The Company provided this information in this proceeding, and will continue to provide this information in its annual GSEP filings (Exh. CMA/JAF-5).

(9) We find that the Attorney General's recommendation that the Company provide information regarding the economic impacts of its construction activity is beyond the scope of this proceeding and as such is unnecessary. We agree with the Company that Section 145 requires no such information. Therefore, we decline to accept the Attorney General's recommendation.

(10) We find that the Attorney General's recommendation that the Company adopt the Department's current TIRF reporting requirements is redundant because, consistent with the Company's representations, Bay State will provide this information as part of its annual reconciliation filing. Therefore, we find that this recommendation would result in no change to the Company's reporting requirements.

5. Implementation Plan

a. Positions of the Parties

i. Attorney General

The Attorney General contends that the Department should direct the Company to supplement its GSEP with an implementation plan that includes the Company's plans and target

replacements for the first year, the replacement methods that it intends to use, and the contracting practices and provisions that it intends to use to ensure contractor performance and to contain costs (Attorney General Brief at 42). The Attorney General argues that the Department should also direct the Company to include in its implementation plan an assessment of the feasibility and cost saving potential of lower cost options, such as insertion of existing mains with plastic (Attorney General Brief at 42). The Attorney General maintains that, in this proceeding, the Company failed to provide a full implementation plan, which, she maintains, renders it difficult to understand the Company's overall replacement strategy (Attorney General Brief at 42). The Attorney General contends that the Company has provided only a generic description of its replacement plan that does not provide concrete information on what the Company actually plans to do (Attorney General Brief at 42). The Attorney General states that she understands the Company's need for flexibility in addressing specific situations, but it nevertheless should describe the actual methods that it plans to use to replace leak-prone pipe (Attorney General Brief at 43). Accordingly, the Attorney General argues that the Department should direct the Company to provide an implementation plan that includes a full assessment of the feasibility and cost saving potential of lower cost options (Attorney General Brief at 45).

ii. Company

The Company argues that this recommendation should not be adopted because the Company's initial filing in this proceeding is the implementation plan for 2015 (Companies Joint Reply Brief at 35). The Company maintains that it has provided plans and targets for

replacements in the first year of the GSEP, and that the Attorney General has not specified here any particular issue or concern with those first-year replacement targets or plans (Companies Joint Reply Brief at 35). Bay State argues that, through this proceeding's initial filing and discovery, it has provided substantial evidence on replacement methods, contracting practices, and information regarding cost incurrence and cost containment, as well as other information, and that there is no additional information necessary for the Department's approval of the 2015 GSEP (Companies Joint Reply Brief at 36). The Company maintains that issues relating to alternative replacement technologies relate to its annual May 1 post-construction filing, where the Department will review and approve actual project costs (Companies Joint Reply Brief at 36). The Company states that, within that review, it will demonstrate that its replacement methods resulted in prudent and reasonably incurred costs (Companies Joint Reply Brief at 36).

b. Analysis and Findings

The specific items requested by the Attorney for inclusion in an implementation plan (i.e., plans and target replacements for the first year, replacement methods, contracting practices and provisions, and the feasibility and cost saving potential of lower cost options) relate to matters that are still under development and under consideration for whether any item is necessary as a GSEP filing requirement. Furthermore, these are items that the Company may be required to provide during the reconciliation phases of its future GSEP filings. Therefore, we decline to accept the Attorney General's recommendation that the Department direct the Company to include an implementation plan at this time.

6. Coordination of Main and Service Replacements

a. Positions of the Parties

i. Attorney General

The Attorney General contends that the Company should repair, rather than replace, leaking services when feasible and when not a part of a main services replacement project (Attorney General Brief at 45). The Attorney General cites as an example of avoidable inefficiency, a situation where the Company first pays a field crew to disconnect an old service and tie a new service into a steel main, only later to pay a field crew to remove and reattach the new service to a replacement main made of plastic (Attorney General Brief at 45). In order to avoid this type of inefficiency, the Attorney General recommends that the Department condition any approval of a GSEP on the Company developing and employing an express written policy that coordinates GSEP-eligible service and main replacements, rather than repairs, in a cost-effective sequence of work, and does not maintain a policy of replacing services separate from main replacement work (Attorney General Brief at 45-46). Lastly, the Attorney General recommends that the Company submit that policy with its annual GSEP filing (Attorney General Brief at 46).

ii. Company

First, Bay State contends that this recommendation should not be adopted (Companies Joint Reply Brief at 36). The Company states that it only very rarely repairs services, and that, if there is a leak on the service line attached to a customer's premises, that service is replaced at the time the leak is detected as a matter of public safety (Companies Joint Reply Brief at 36-37). Second, the Company argues that the Department already has expressly

approved recovery of costs associated with services replaced outside the context of a mains-replacement program (Companies Joint Reply Brief at 37, citing New England Gas Company, D.P.U. 10-114-B at 7 (2012); Bay State Gas Company, D.P.U. 10-52, at 11-14 (2012); Boston Gas Company and Colonial Gas Company, D.P.U. 11-36, at 16 (2014). Third, Bay State argues that if a service is replaced and constitutes "eligible infrastructure replacement," it is eligible for recovery through GSEP rates (Companies Joint Reply Brief at 37). The Company reports that services are properly replaced either as part of a main replacement project or due to other factors warranting replacement, and, that as a result, there is no valid purpose for Attorney General's recommendation (Companies Joint Reply Brief at 37).

b. Analysis and Findings

We agree with the Company that it is unnecessary to include a written policy regarding the coordination of main and services replacement with this initial GSEP filing. Consistent with the Company's representations, we acknowledge that the Company typically replaces, rather than repairs, services on an emergency basis as a matter of public safety, and we rely on its reasonable engineering judgment in that regard (Companies Joint Reply Brief at 37). However, we direct the Company to provide in its next annual GSEP filing a written policy stating its approach to determining when it will either replace or repair leaking services in emergency situations.

7. Leak Detection Technology

a. Positions of the Parties

i. Attorney General

The Attorney General maintains that the leak detection methods that the Company currently employs represent a combination of new and older technologies (Attorney General Brief at 48). The Attorney General argues that it is essential that the Company continues to investigate and evaluate leak-detection equipment, and, when cost-effective, to implement that technology in order to track and monitor the progress of the replacement of eligible leak-prone infrastructure (Attorney General Brief at 48). The Attorney General states that, although the Company does not appear to be deficient in its current leak detection technology, she nevertheless recommends that the Company include a discussion of the new developments in leak detection technology in its annual GSEP filing as a reporting requirement (Attorney General Brief at 48-49). Contending that advancements in leak detection technology, as adopted by the Company, will be limited by the frequency of the Company's leak surveys, the Attorney General recommends that the Company reports on the frequency of leak surveys, percentage of system surveyed, and any special surveys conducted during the course of the year as part of the annual GSEP filing reporting requirements (Attorney General Brief at 49).

ii. Company

Bay State argues that this recommendation should be rejected because it is beyond the scope of Section 145, which does not address leak detection or surveying nor set any requirement for reporting on leak detection or surveying (Companies Joint Reply Brief at 37). Moreover, the Company contends that leak detection and surveying are O&M functions on the

Company's systems, and no O&M expenses are included in the 2015 GSEP factors (Companies Joint Reply Brief at 37-38). Therefore, the Company argues that there is no valid purpose for the Attorney General's recommendation.

b. Analysis and Findings

Leak detection activities are not expressly part of Section 145. Further, the Department relies on the reasonable engineering judgment of the Company in its leak detection methods and the technologies employed. Therefore, we decline to accept the Attorney General's recommendation.

8. Ramp-Up Issues

a. Positions of the Parties

i. Attorney General

The Attorney General argues that the Department should direct the Company to provide updates on its efforts to acquire additional internal and external resources (Attorney General Brief at 49). The Attorney General contends that the distribution companies have provided varying degrees of specificity regarding the numbers of additional crews and internal staff that they will need during the construction season and how those resources will be ramped up over time (Attorney General Brief at 49). The Attorney General maintains that Liberty Utilities' filing is exemplary in this regard (Attorney General Brief at 49, citing Liberty Utilities (New England Natural Gas Company) Corp., D.P.U. 14-133, Exh. LU-1, at 14-15). However, the Attorney General contends that the Company should provide additional information, stating that the Company has not informed the Department how it plans to specifically address the practical issues associated with the ramp-up of additional external and internal resources

(Attorney General Brief at 49). The Attorney General also maintains that the record lacks information regarding the Company's contracting practices and anticipated contract provisions for ensuring contractor performance and containing costs (Attorney General Brief at 49-50).

ii. Company

The Company argues that the Department should decline to accept this recommendation because it is the Company's responsibility to secure the resources necessary to conduct the GSEP (Companies Joint Reply Brief at 38). Bay State argues that Section 145 has no requirement for the Department to rest approval on the practical issues associated with the hiring of external and internal resources, but that its filing contains adequate information in this regard (Companies Joint Reply Brief at 38). In addition, the Company maintains that, during discovery, the Company addressed its contracting practices and anticipated contract provisions (Companies Joint Reply Brief at 38, citing Exhs. DPU-CMA-1-4; DPU-CMA-1-6; AG-CMA-7-6; AG-CMA-7-7; AG-CMA-13-2). The Company argues that its responses to discovery directly addressed resource acquisition and plans for crew resources in the 2015 GSEP construction year (Companies Joint Reply Brief at 38-39, citing Exhs. DPU-CMA-1-4; DPU-CMA-1-6; AG-CMA-7-6; AG-CMA-7-7; AG-CMA-13-2). As a result, the Company argues that there is no valid purpose for the Attorney General's recommendation.

b. Analysis and Findings

We agree with the Attorney General that uniformity among the distribution companies in providing information regarding ramp-up issues would enhance our review of future GSEP filings. We agree that the information provided by Liberty Utilities regarding additional crews

and internal staff requirements and how those resources will be ramped up over time provides an ideal model. We direct Bay State to include in its annual GSEP filings the same type of information provided by Liberty Utilities regarding resources and deployment (See, D.P.U. 14-133, Exh. LU-I, at 14-15).

K. Conclusion

Based on the above analysis, we conclude that the Company's GSEP complies with the requirements of Section 145. We authorize the Company to implement its 2015 GSEP, consistent with the directives contained in this Order. We note that, in enacting Section 145, the Legislature has created a cost-recovery incentive that promotes gas companies to repair or replace leak-prone infrastructure for the purpose of improving public safety and reliability, and to reduce or potentially reduce lost and unaccounted for natural gas through a reduction in natural gas system leaks. The Department will monitor the gas companies' performance and the prudence of costs incurred related to GSEP investments in future reconciliation filings, and we will review future October 31 GSEP filings to determine that the plans meet Section 145 requirements. In light of the legislative authorization to accomplish repair or replacement of leak-prone infrastructure through the GSEP process as outlined in Section 145, we encourage the parties to consider settling future October 31 GSEP filings.

V. ORDER

Accordingly, after due notice, hearing, and consideration, it is

ORDERED: That the petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for approval of a 2015 gas system enhancement plan, as modified herein, is APPROVED; and it is

FURTHER ORDERED: That the gas system enhancement adjustment factors of Bay State Gas Company d/b/a Columbia Gas of Massachusetts in the amounts of $0.0065 per therm, $0.0064 per therm, $0.0041 per therm, $0.0034 per therm, and $0.0029 per therm for the residential sector, low annual use commercial and industrial sector, medium annual use commercial and industrial sector, high annual use commercial and industrial sector, and extra-high annual use commercial and industrial sector, respectively, to take effect May 1, 2015, are APPROVED, subject to further review and investigation; and it is

FURTHER ORDERED: That tariff M.D.P.U. No. 176 filed by Bay State Gas Company d/b/a Columbia Gas of Massachusetts on October 31, 2014, to become effective May 1, 2015, is DISALLOWED; and it is

FURTHER ORDERED: That Bay State Gas Company d/b/a Columbia Gas of Massachusetts shall file a new tariff consistent with the Department directives herein; and it is

FURTHER ORDERED: That Bay State Gas Company d/b/a Columbia Gas of Massachusetts shall comply with all other directives contained in this Order.

By Order of the Department,

/s/
Angela M. O'Connor, Chairman

/s/
Jolette A. Westbrook, Commissioner

/s/
Robert E. Hayden, Commissioner

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.