The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 14-131 April 30, 2015

Petition of The Berkshire Gas Company 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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I. INTRODUCTION

On October 31, 2014, The Berkshire Gas Company ("Berkshire" or "Company") filed a petition with the Department of Public Utilities ("Department"), pursuant to G.L. c. 164, § 145 ("Section 145"),[1] for approval of its 2015 gas system enhancement plan ("GSEP") to replace leak-prone natural gas pipeline infrastructure. The Company proposes to collect its calendar year 2015 GSEP revenue requirement of $226,850 through a gas system enhancement adjustment factor ("GSEAF"). The Company proposes to commence collecting its 2015 GSEP costs through the GSEAF beginning on May 1, 2015. The Department has docketed this matter as D.P.U. 14-131.

As part of its filing, the Company submitted to the Department the prefiled testimony of Jennifer M. Boucher, manager of regulatory economics for the Company; and David M. Grande, director of gas engineering and system operations for the Company. 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 November 10, 2014, the Attorney General filed Notice of Retention of Experts and Consultants, which the Department approved on December 11, 2014 On December 4, 2014, the Department granted the Department of Energy Resources' ("DOER") petition to intervene. On December 11, 2014, pursuant to notice duly issued, the Department held a public hearing and procedural conference.

On February 3, 2015, the Attorney General submitted to the Department the prefiled testimony of Allen R. Neale and Melissa Whitten, consultants with La Capra Associates, Inc.;

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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.

David J. Effron, utility regulation consultant; David E. Dismukes, consulting economist with the 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's office.

The Department held evidentiary hearings on February 26, 2015, February 27, 2015, and March 2, 2015.[2] On March 18, 2015, DOER, the Attorney General, and the Company submitted initial briefs. On March 26, 2015, the Attorney General and the Company submitted reply briefs. The record consists of approximately 249 exhibits and six 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. Any plan filed with the Department shall include, but not be limited to: (i) eligible infrastructure replacement[3] of mains, services, meter

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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 as: "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 rate proceeding."

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 that 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 Section 145(f). Section 145(c). Annual changes in the revenue requirement eligible for recovery pursuant to the plan[7] shall not exceed (i) 1.5 percent of the gas company's most recent calendar

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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 This 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 throughout the metal. Because the carbon flakes do not bond with the ferrous materials 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 pipelines constructed in the United States. The degrading nature of iron alloys, the age of the pipelines, and the pipe joint designs have greatly increased the risk involved with the continued use of such pipelines. http://opsweb.phmsa.dot.gov/pipeline-replacement

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

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. Section 145(d).[9] 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 gas company may begin recovering the estimated plan revenue requirement beginning on May 1 of the year following submission of 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

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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).

completed the previous calendar year 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 rate proceeding pursuant to G.L. c. 164, § 94 ("Section 94") prior to implementing Berkshire'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 Berkshire'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). Berkshire 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 6). 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 Berkshire'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 Berkshire prior to implementation of its GSEP. First, Berkshire 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 Berkshire to file its GSEP on or before October 31, 2014.[10]

Second, the Attorney General must fail in her assertion that the GSEP constitutes a "general increase" in rates 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, 315 (1984); Purity Supreme, Inc. v. Attorney General, 380 Mass. 762, 782 (1980). Here, the Legislature recognized the need to improve

[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 2A C. Sands, Sutherland Statutory Construction § 46.05 (4th ed. 1984).

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 for notice and a public hearing, and the parties were afforded an opportunity for a full and fair adjudicatory 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 on prefiled testimony. Hearing Officer Procedural Memorandum (December 12, 2014); see 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 rate setting. 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

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[11] As stated in Section I, above, there were three days of evidentiary hearings in this proceeding, and the record consists of 249 exhibits and six responses to record requests.

[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 the ratepayers with a 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).

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 Berkshire's 2015 GSEP.

IV. GAS SYSTEM ENHANCEMENT PLAN

A. Introduction

Berkshire, which has been in business for over 160 years, distributes natural gas to 40,000 customers in Berkshire county and portions of Hampshire and Franklin counties (Exh. Berkshire-DMG-1, at 4-5). The Company operates a network of approximately 759 miles of natural gas mains and over 31,000 active services (Exh. Berkshire-DMG-1, at 5). The Company states that about 18 percent of its system mileage consists of leak-prone mains and services comprising cast iron, bare steel, and non-cathodically protected coated steel pipe (Exhs. Berkshire-DMG-1, at 5, 11-13; Berkshire-DMG-2, at 5). The Company further states that these cast iron and unprotected steel facilities account for approximately 81 percent of all leaks that occurred on the Company's system in 2013 (Exh. Berkshire-DMG-1, at 11-13).

Historically, the Company has replaced these leak-prone mains at a rate of 3.4 to 4.4 linear miles per year (Tr. at 9). Consistent with Section 145, Berkshire has developed a GSEP to replace 109 miles of leak-prone cast iron and bare steel infrastructure on an accelerated

basis over the next 20 years, starting January 1, 2015, and ending December 31, 2034 (Exhs. Berkshire-DMG-1, at 6, 7; Berkshire-DMG-2, at 15). Berkshire states that it intends to retire approximately 5.5 miles of main each year of the GSEP, depending on a variety of factors and opportunities (Exh. Berkshire-DMG-1, at 6; Tr. 1, at 26).

The Company states that it will implement the GSEP through a series of three-year rolling plans, beginning with 2015 through 2017, and will then revise its GSEP after the 2015 construction season to address years 2016 through 2018 (Exh. Berkshire-DMG-1, at 7). Berkshire explains that the three-year period allows the Company to provide a more accurate and meaningful estimated scope of work that the Company expects to complete during that period, and the rolling component affords the Company the flexibility to better accommodate changes in pipe replacement prioritization based on new information (Exh. Berkshire-DMG-1, at 8). The Company will provide regular updates that include summary explanations of variations in the schedule or progress, with more detailed summaries every five years consistent with the provisions of Section 145 (Exh. Berkshire-DMG-1, at 8). In addition, on October 31 of each year, the Company will file for approval of the GSEAF (the rate that recovers the aggregate GSEP revenue requirement approved by the Department), with recovery beginning on the following May 1 (Exh. Berkshire-JMB-1, at 13). For 2015, Berkshire forecasts a revenue requirement of $226,850, although the actual amount will not be reconciled until May 1, 2016, once the actual spending for CY 2015 is known (Exh. Berkshire-JMB-1, at 18).

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. BGC-JMB-2, at 2,BGC-JMB-3, at 3,). Based on the Section 145(a) definition of eligible infrastructure replacement, Berkshire proposes a comprehensive replacement plan for leak-prone facilities that includes: (1) unprotected steel and cast iron gas distribution mains; (2) services; (3) meter sets; and (4) other ancillary facilities composed of non-cathodically protected steel, cast iron, and copper (Exhs. Berkshire DMG-1, at 6, 17-18; Berkshire-JMB-1, at 8; BGC-JMB-2, at 2, BGC-JMB-3, at 2-3). In addition, Berkshire proposes to include the costs related to replacement of encroached pipe[13] in its GSEP (see Exh. AG 15-1; Tr. 1, at 53-55).

[13] Encroached pipe includes cast iron pipe, 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).[14] 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 the Company's 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 Berkshire may recover the costs related to normal replacements through the GSEP, the Department should adopt a contemporaneous, downward adjustment to base rates to eliminate any double counting (Attorney General Brief at 14-15).

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[14] 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 Berkshire, a representative "normal" level of annual replacement is approximately 3.8 miles of main and 264 service lines (Attorney General Brief at 114, citing Exh. AG-PTFR-1, at 36-37).

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 since Berkshire has been recovering the costs of these mandatory replacements in base rates since 1991, the Department should find 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). 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

Berkshire 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 that Section 145 does not contain the word "normal" to identify pre-existing levels of replacement projects, and, thus, Berkshire 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 13-15). 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 Berkshire 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, Berkshire 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,

444 Mass. 627, 632-633 (2005)). 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 eligible under the GSEP cost recovery mechanism (Companies Joint Reply Brief at 42). Berkshire 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 Berkshire 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, and 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 Berkshire's current rate base, which was established in its last base rate proceeding. See The Berkshire Gas Company, D.T.E. 01-56 (2002). At the time that the Company makes its reconciliation filing, Berkshire 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 because the replacement costs have been historically recovered through base rates, Berkshire should not be permitted to recover the costs relating to encroached pipe replacement in the GSEP (Attorney General Brief at 51-52). The Department disagrees with the Attorney General's contention. Specifically, while Berkshire 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 Berkshire's GSEP. Further, we recognize that there is a public safety benefit, consistent with Section 145, in encouraging Berkshire to replace not only the encroached segment of pipeline but the entire congruent segment of that pipeline. Thus, we determine that 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, location, and final disposition (Attorney General Brief at 55). Berkshire's procedures currently include detailed information on the identification and classification of encroached cast iron pipe (see, e.g., Exh. AG 15-1; Tr. 1, at 53-55). 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

Berkshire's strategy for managing leak-prone pipe is spelled out in its DIMP, which has been in effect since August 2011 (Exhs. Berkshire-DMG-2, at 6-8; Berkshire-DMG-3; Tr. 1, at 35). Pursuant to the DIMP, the Company prioritizes leak-prone pipe segments for replacement based on consideration of, among other things, leak repair history, type of leaks, pipe material, surrounding geography, segment length, nearby construction activity, field conditions, customer issues, and open leaks (Exhs. Berkshire-DMG-2, at 6-8; Berkshire-DMG-3, at 9, 10, 13-14, App. B, Section 2). Berkshire proposes to continue prioritizing leak-prone pipe replacement in accordance with the DIMP, including those replacements that are recovered through the GSEP (Exhs. Berkshire-DMG-1, at 14-15, 16; Berkshire-DMG-2, at 8-9; AG 2-3).

2. Positions of the Parties

a. Attorney General

The Attorney General asserts that to meet the goals of the DIMP, Berkshire should be targeting the most risky parts of its infrastructure first (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). The Attorney General maintains that Berkshire's current prioritization process lacks specific information, which means that the Department is without guidance as to what extent risk ranking is determined by objective versus subjective factors or Company judgment (Attorney General Brief at 32-33). 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 also recommends that the Department require Berkshire to report annually 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).

Moreover, the Attorney General argues that it is unclear whether the Company maintains a system-wide risk management model that ranks risks and prioritizes pipe segments for replacement (Attorney General Brief at 117, citing Tr. 1, at 35; Attorney General Reply Brief at 14). The Attorney General contends that the Company should be evaluating risk relative to each category of pipe (Attorney General Brief at 117-118; Attorney General Reply Brief at 14). The Attorney General asserts that the Department should require the Company to adopt a uniform system-wide scoring so that all top threats can be identified and prioritized for replacement under the GSEP (Attorney General Brief at 118; Attorney General Reply Brief at 14). The Attorney General also argues that Berkshire may have a good implementation plan for the GSEP, but it has not done a reasonably good job of selecting and prioritizing actual projects (Attorney General Reply Brief at 13-14).

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 33-34). The Attorney General asserts that being proactive in scheduling replacements based on municipal projects could be efficient and cost effective, but it could also result in delayed replacement of higher risk pipe even though that delayed replacement may be more urgently needed than the public-works-related replacement (Attorney General Brief at 34). The Attorney

General contends that the Department should require the Company to consider the specific relative risk involved in any given situation before reordering replacement priorities because of municipal scheduling issues (Attorney General Brief at 35).

b. DOER

DOER maintains that the principal intent of the GSEP is to prioritize the removal of the highest risk pipe even though there are cost benefits associated with combining GSEP projects with municipal road construction projects (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 3-4). DOER recommends that Berkshire 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 3-4). 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 prioritized to implement and conform to the Company's DIMP, and that it appropriately captures or reflects the risk assessment procedures and principles in the DIMP (Berkshire Brief at 8, citing Exhs. Berkshire-DMG-1, at 16-17; Berkshire-DMG-2, at 7-8; AG 1-3; Tr. 1, at 40-41). Berkshire explains that, consistent with the DIMP, the Company employs sophisticated models, Company-specific data, and engineering expertise to prioritize projects for replacement (Berkshire Brief at 8, citing Exhs. Berkshire-DMG-1, at 16-18; AG 1-5; AG 1-6; AG 1-7; DPU 2-3; DPU 2-4). The

Company further explains that it not only considers pipe material in assessing risk and applies a system-wide analysis within its DIMP, but it also applies a large number of risk factors (such as equipment damage, application of natural or other forces, and any past impacts) to each individual pipe segment (Berkshire Reply Brief at 3, citing Exh. Berkshire-DMG-3, at 13 & App. C).

Further, 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). Berkshire asserts that there are multitudes of worst-first projects and 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).

Berkshire asserts 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 it can provide the information, but that the

information 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 that it cannot provide a detailed explanation of how it 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 27-28, citing Attorney General Brief at 31, 35). The Company 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).

Finally, the Company contends that the Attorney General's assertion that Berkshire 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). Berkshire asserts that risk is always a consideration in the exercise of prioritizing projects, but that the Company must have the 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 that 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 Berkshire will explain its prioritization decisions, including decisions to move ahead with replacements, as part of a municipal project (Companies Joint Reply Brief at 70).

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. Berkshire-DMG-3, at 9, 10). Based on the following considerations, we find that Berkshire'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 that 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 ("PHMSA") and the Department's Pipeline Engineering and Safety Division (see Exh. Berkshire-DMG-3, at 9 & App. G). See also 49 C.F.R. §§ 191.11, 192.1007(g). There is a system in place for ensuring that the Company's DIMP complies with the 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 on which to focus. Specifically, Berkshire 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, weld, or joint failure; (6) equipment failure; and (7) incorrect operation (Exh. Berkshire-DMG-3, at 13). See also 49 C.F.R. § 192.1007. Pursuant to 49 C.F.R. § 192.1007, the DIMP requires 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.

With respect to the Attorney General's proposal that Berkshire 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 that it is appropriate to require as part of the annual October 31 filing a list of each project and its DIMP risk ranking. 49 C.F.R. § 192.1007(c). Where Berkshire 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 demonstrate 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 to which judgment was a consideration in each case. Moreover, we find that the Company's risk

analysis includes a uniform system-wide scoring of threats to its infrastructure, as demonstrated by the Company's use of its entire distribution system as one geographic region to assess trends in leak repair and to document the frequency and consequences of failure (Exh. Berkshire-DMG-3, App. C). Nonetheless, we recognize that it may be helpful to understand how any replacement project was chosen. Thus, we require Berkshire to provide as a part of its annual October 31 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 to determining the appropriateness of prioritizing municipal projects (DOER Brief at 3-4). We recognize the cost and pipeline safety benefits to coordinating with municipalities, and we encourage Berkshire to continue coordinating replacement projects with municipalities and consistent with the Company's DIMP.

D. Acceleration Issues/Metrics

1. Introduction

Pursuant to the GSEP, Berkshire anticipates that it will replace all 109 miles of leak-prone pipe (cast iron and bare steel) on an accelerated basis over the next 20 years, starting January 1, 2015, and ending December 31, 2034 (Exhs. Berkshire-DMG-1, at 6, 7; Berkshire-DMG-2 at 15). Berkshire states that it intends to retire this pipe at the rate of approximately 5.5 miles each year of the GSEP, depending on a variety of factors and opportunities (Exh. Berkshire-DMG-1, at 6; Tr. 1, at 26).

Berkshire's GSEP includes an operations and maintenance ("O&M") offset, which will track the average cost of leak repairs on leak-prone pipe (Exh. Berkshire-JMB-1, at 9-10). Aside

from the O&M offset,[15] the Company's GSEP includes no metrics or penalties designed to track Berkshire's performance under the GSEP (Tr. 1, at 23-24, 26).

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, 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). The Attorney General contends that Berkshire must maintain the pace in the GSEP for it to qualify as accelerated replacement (Attorney General Brief at 16). The Attorney General recommends that if the Company fails to maintain the pace in the GSEP, then it should be denied cost recovery under the GSEP for the period of time during which it lagged behind that pace (Attorney General Brief at 16).

Moreover, the Attorney General argues that the Company has been replacing its leak-prone mains more quickly than it proposes to do in its GSEP (Attorney General Brief at 116, citing Exh. AG-ARN-1, at 15; Attorney General Reply Brief at 9-10). The Attorney General contends that the Company should not be entitled to decelerate its replacement pace and still enjoy the benefits of the GSEP cost recovery mechanism (Attorney General Brief at 116). The Attorney General also argues that the Company has not properly classified its historical replacement data or produced a reliable analysis to prove that its GSEP reasonably accelerates eligible infrastructure replacement (Attorney General Reply Brief at 11-12, citing Exh. AG 2-4). The Attorney General asserts that the Company should be required to increase its replacement

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

pace if it desires to be in compliance with Section 145 (Attorney General Brief at 116, citing Exh. AG-ARN-1, at 18). The Attorney General further recommends that the Department either reject Berkshire's GSEP or condition its approval on Berkshire's replacing more than an average of 5.5 miles of main per year (Attorney General Brief at 116).

In addition, the Attorney General recommends that the Department condition approval of Berkshire'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 Gas Company's ("Bay State") targeted infrastructure reinvestment factor ("TIRF") mechanism 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)).[16] The Attorney General asserts that Section 145 was based, in part, on the Commonwealth's experience with the TIRF mechanisms, and therefore, 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

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16 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); D.P.U. 13-75, at 21.

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 Berkshire actually realizes the benefits envisioned by the Legislature (Attorney General Brief at 60). The Attorney General recommends that the Department adopt individual replacement targets for Berkshire, which would be consistent with its established practice concerning the TIRF mechanisms (Attorney General Brief at 58, 64-66, citing D.P.U. 12-25). The Attorney General claims that the Department's adoption of her proposed 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 her proposed performance metric requiring Berkshire 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 Berkshire 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 has already imposed on Bay State through the TIRF (Attorney General Reply Brief at 15-16, citing D.P.U. 12-25, at 54-55). Finally, the Attorney General recommends that if Berkshire 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 Reply Brief at 16).

b. DOER

DOER argues that Section 145 gives the Department the authority to implement and enforce performance standards for the GSEP (DOER Brief at 6). DOER supports performance standards for the GSEP, but states that financial penalties must be appropriate and that 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 Berkshire 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 the Attorney General's 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 provides for the necessary acceleration of work and the completion of all requisite work within the specified 20-year period (Berkshire Brief at 9, citing Exhs. Berkshire-DMG-1, at 6; Berkshire-DMG-2, at 22). The Company maintains that its replacement rate for mains reflects a significant increase over historical rates of replacement, and that the Attorney General is incorrect in suggesting that the Company is not accelerating its replacement rate (Berkshire Brief at 9). More specifically, the Company contends that a rate of 5.5 miles of main per year is well above the Attorney General's calculated normal rate of 3.8 miles per year, an acceleration of nearly 45 percent (Berkshire Reply Brief at 2-3, citing Attorney General Brief at 114, 116).[17] The Company argues that the Attorney General's acceleration argument ignores the acknowledged smoothing effects of employing averages, and instead employs a trend-line analysis (Berkshire Reply Brief at 2). Moreover, Berkshire argues that the Attorney General does not adjust her recommended trend line for the Company's somewhat reduced replacement work in 2014, nor does her analysis explain factors that would have affected replacement rates in 2013 or other recent years, such as weather, emergencies, or

[17] Berkshire acknowledges that its replacement rate for services is relatively flat for the first year of the GSEP, but explains that service replacement rates are necessarily tied to the particular mains being replaced (Berkshire Brief at 9, citing Tr. 1, at 75).

redeployment of planned resources from growth to replacement projects (Berkshire Reply Brief at 2-3 citing Tr. 1, at 10).

In addition, the Company argues that the Attorney General relies on a comparison to a single year, but a more appropriate review at five- or ten-year rates shows that the Company's GSEP reflects a 29 percent acceleration in the first three years over the five-year historical rate (Berkshire Brief at 9-10, citing Tr. 1, at 9). The Company further contends that its proposal to identify specific projects on a three-year rolling basis should also accelerate the pace of replacement because this approach enables the Company to respond to new or modified municipal projects or other changed circumstances (Berkshire Brief at 10). In fact, the Company notes that it has already refined its 2015 project schedule to account for these types of factors (Berkshire Brief at 10, citing RR-DPU-2).

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). Berkshire avers that trends in construction will not be determinable in only one or two years and variations in pace must be allowed (Companies Joint Reply Brief at 17). The Company states that the performance metric proposed by the Attorney General contradicts her "worst first" replacement strategy, as the performance metric will cause Berkshire 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 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 because of factors that are not entirely within Berkshire's control, such as weather (Companies Joint Reply Brief at 43). The Company asserts that the annual GSEP review cycle will provide Berkshire 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).

Moreover, Berkshire 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). The Company avers that, as acknowledged by the Attorney General, the Department imposed a "miles replaced" standard on Bay State only after a specific set of circumstances arose following approval of the TIRF (Companies Joint Reply Brief at 44, citing Attorney General Brief at 65). 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).

Berkshire 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 any leeway for the Department to evaluate why replacements are below 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 Berkshire 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 when replacement pace falls below a pace identified in the first year of a 20-year program (Companies Joint Reply Brief at 46).

The Company proposes that if Berkshire 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 its performance to fall below target, 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, Berkshire 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, Berskhire 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.

b. Acceleration

The Attorney General argues that the Company has been replacing its leak-prone mains more quickly than it proposes to do in its GSEP (Attorney General Brief at 116). The Company disagrees, pointing out that its GSEP annual replacement rate for mains (5.5 miles) reflects a significant increase over its historical replacement rate (3.8 miles) (Berkshire Reply Brief at 2-3). Based on the record, we find that the Company's GSEP implements a continued, accelerated replacement of leak-prone facilities consistent with Section 145. We also note that the Department will have an annual opportunity to review the Company's projected and completed replacements to ensure that the accelerated replacement of leak-prone facilities continues.

Moreover, Berkshire anticipates that, under its GSEP, all leak-prone cast iron and bare steel pipe in its service territory will be replaced on an accelerated basis in 20 years

(Exhs. Berkshire-DMG-1, at 6-7; Berkshire-DMG-2 at 15). Thus, we find that Berkshire's proposed GSEP is in compliance with Section 145(c).

c. Metrics

Both Berkshire 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 Berkshire's initial GSEP. We note that the Department did not establish metrics or performance standards when it approved other gas companies' TIRF proposals. See D.P.U. 12-25; Boston Gas Company/Essex Gas Company/Colonial Gas Company, D.P.U. 10-55, at 119-145 (2010). At this stage of GSEP oversight, the Department sees no need to establish performance standards or metrics for Berkshire. Rather, the Department will evaluate Berkshire's performance under its GSEP as it makes its annual filings.

In the event that Berkshire fails to continue its acceleration consistent with its GSEP, the Department may establish performance standards for Berkshire. 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 Berkshire'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 that the Company completes. 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) 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 109 miles of cast iron and unprotected steel mains (Exhs. Berkshire-DMG-1, at 6-7; Berkshire-DMG-2 at 15). On average, the Company plans to retire approximately 5.5 miles of mains each year, with a goal of nearly six miles in 2015 (Exh. Berkshire-DMG-1, at 6, 18). The Company states that it plans to implement its GSEP using a series of three-year rolling plans beginning with 2015 through 2017, and will then reassess after the 2015 construction season and submit a new three-year rolling plan to address years 2016 through 2018 (Exh. Berkshire-DMG-1, at 7). The Company asserts that during the first three-year rolling plan, it will replace approximately 17 miles of leak-prone main and 782 services (Exhs. Berkshire-DMG-1, at 18; Berkshire-DMG-2, Att. A).

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 noted the Attorney General's support for the Company's three-year rolling approach (Berkshire Brief at 11).

3. Analysis and Findings

Berkshire plans to implement its GSEP through a series of three-year rolling plans, beginning in 2015 (Exh. Berkshire-DMG-1, at 7). The Company's listing of GSEP projects planned for 2015 through 2017 is provided in the Company's GSEP and includes specific projects planned for each of the three years (Exh. Berkshire-DMG-2, Att. A; see also RR-DPU-2 (updates to project list). While the Company has acknowledged that its three-year plan will not perfectly predict which projects will be completed in each year of the GSEP, the Company reasons that the use of three-year rolling plans will allow it to provide the Department with an estimated scope of work that the Company can reasonably expect to complete during that period (Berkshire Brief at 8). Additionally, the Company notes that it plans to update its three-year rolling plan after each construction season to cover the subsequent three-year period (Berkshire Brief at 7).

The Department has reviewed the Company's three-year rolling plan for the years 2015 through 2017. The three-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 three-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 three-year rolling timeline meets the requirements of Section 145(c).

F. Estimated Cost of Each Project

1. Introduction

Berkshire estimates that it will invest approximately $3.2 million in 2015 to replace 5.94 miles of leak-prone main and 212 targeted services (Exhs. Berkshire-DMG-1, at 18, 20; Berkshire-DMG-2, Att. A; BSG-JMB-4, Schs. 1, 2; AG 4-6). The Company estimates an average replacement cost per mile of $536,287 inclusive of service replacements, service tie-overs, meter tie-overs, and retirements (Exh. Berkshire-DMG-2, at 22). The Company bases its preliminary budget estimate on historical average unit costs, and says that it will do a more formal project estimate once the GSEP projects are released to design and engineering (Tr. 1, at 30-31; 60). Berkshire proposes to reconcile the formal project estimate against the actual costs in its future GSEP reconciliation filings (Tr. 1, at 60).

2. Positions of the Parties

a. Attorney General

The Attorney General explains that Section 145 requires the Company's GSEP to 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 Berkshire develops just prior to the construction season (Attorney General Brief at 18, citing Tr. 1, at 29-31). 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 Berkshire 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, Berkshire should use the best estimate of individual project costs (Attorney General Brief at 17). 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 historical average unit cost 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 further alleges that Berkshire develops robust pre-construction cost estimates in the normal course of business, but that the Company did not use these estimates to develop its GSEAF (Attorney General Brief at 21). The Attorney General claims that these estimates are more likely to approach 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 and assist the Department in closely tracking 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 that 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 average unit cost estimates outright; or (2) conditionally approve the GSEP but require Berkshire to use pre-construction estimates for selected individual projects in future GSEP filings, and require the Company to update its 2015 cost estimates with pre-construction estimates (Attorney General Brief at 21). More specifically, the Attorney General recommends that Berkshire 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 Berkshire 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) Berkshire cannot satisfy its obligation to document cost variance by simply explaining that actual costs happen to be different from the estimates (Attorney General Brief at 23).

b. Company

The Company contends that there is no language in Section 45 defining or restricting the "estimated cost of each project," and that there is no requirement suggesting that Berkshire must file a particular level of detail for that estimate (Companies Joint Reply Brief at 19). Berkshire 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 (Berkshire Brief at 9; Companies Joint Reply Brief at 18-20).

Berkshire further 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 avers 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). Berkshire 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).

The Company maintains that, given the timing of a recent contracting process for construction services and the fact that prudent engineering planning should take place closer to

the time that work is to be performed, the Company presented cost estimates based primarily on historical unit costs applied to the specific characteristics of each proposed project (Berkshire Brief at 8-9, citing Exhs. AG 1-2; AG 1-3; Berkshire-DMG-2, at 22). According to Berkshire, these project budget estimates are appropriate and reliable for purposes of the GSEP, particularly given the rate reconciliation and other customer protections within Section 145 (Berkshire Brief at 9).

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, Berkshire claims that developing pre-construction cost estimates for a select 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, Berkshire 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, Berkshire 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 (Berkshire Brief at 9; Companies Joint Reply Brief at 19).

Finally, Berkshire 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[18] on actual GSEP investments in each May 1 prudence filing (Berkshire Brief at 9; Companies Joint Reply Brief at 22).

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). Thus, Berskhire argues that the Department should reject the Attorney General's 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 (Companies Joint Reply Brief at 21-22).

3. Analysis and Findings

Section 145(c) requires that the Company's GSEP include, in part, "the estimated cost of each project." Berkshire estimates that it will invest approximately $3.2 million in 2015 to replace 5.94 miles of leak-prone pipe (Exhs. Berkshire-DMG-1, at 18, 20; Berkshire-DMG-2, Att. A; BSG-JMB-4, Schs. 1, 2). The Company developed its project estimates based on historical average unit costs and conceptual level project sizes (Tr. 1, at 30-31, 60). Berkshire completes detailed project cost estimates at the end of a planned project's pre-construction stage throughout the year (Tr. 1, at 30-31, 60). Berkshire did not provide pre-construction cost estimates for any of its planned 2015 GSEP projects, but proposes to use the historical average

[18] The Company recommends that the Department review the preconstruction estimates and the Company's processes in the course of the GSEP reconciliation proceedings, consistent with the approach employed by the Department for cost review and variance analysis in other gas companies' TIRF proceedings (Companies Joint Reply Brief at 22).

unit cost estimates for a subset of projects planned for construction in 2015, followed by more formal estimates (Exhs. AG 1-2; AG 1-12; Tr. 1, at 30-31, 60).

The Department recognizes that the GSEP project list is not static, and that the 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 (Exh. Companies Joint Reply Brief at 27-28). Accordingly, we recognize that the order of projects listed in Berkshire's October 31 filing may not be the same order in which the Company ultimately completes its projects, that Berkshire may not finalize its GSEP project schedule before the October 31 filing deadline, and therefore, that the Company is unable to provide pre-construction cost estimates as far in advance as the Attorney General requests (see RR-DPU-1). 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 cost estimates are the Company's best estimates for the upcoming construction season (Tr. 1, at 30-31, 60). Also, the increase to rates from the change to the GSEP revenue requirement is capped and subject to a two-part test to ensure that labor overheads and clearing account burden costs recovered through the GSEP are not over-capitalized (see Sections IV.G.1.e). 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.

We note, however, that the Company was unable to provide any pre-construction cost estimates, and generally cannot do so less than two months prior to the beginning of a construction project (Exh. RR-DPU-1; Tr. 1, at 59). Nevertheless, 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 Berkshire to provide for each project the last preconstruction cost estimate developed prior to commencing construction. While the Department does not expect a separate filing for each project, we do expect a preconstruction 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 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.[19]

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

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. Berkshire-JMB-1 at 9). The Company proposes to use the rate of return approved by the Department in the Company's most recent base rate proceeding, D.T.E. 01-56 (2002), 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. Berkshire-JMB-1, at 15; BGC-JMB-2, at 7; BGC-JMB-3, at 7; BGC-JMB-4, Sch. 4).

The Company states that the calculation of its pretax rate of return is based on a debt/preferred stock/equity ratio of 57.78 percent to 0.33 percent to 41.89 percent, respectively (Exhs. Berkshire-JMB-1, at 15; BGC-JMB-4, Sch. 4). The calculation also includes a long-term debt cost rate of 8.56 percent, a preferred stock cost rate of 4.98 percent, a cost of equity rate of 10.5 percent, and a gross-up factor of 59.8 percent[20] (Exhs. Berkshire-JMB-1, at 15; BGC-JMB-4, Sch. 4). The Company states that, based on these calculations, its resulting pretax rate of return is 12.34 percent (Exhs. Berkshire-JMB-1, at 15; BGC-JMB-4, 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

[20] The gross-up factor includes a federal income tax rate of 35 percent and a state income tax rate of eight percent (Exhs. BGC-JMB-4, Sch. 2).

capital for incremental plant additions (Attorney General Brief at 80-81, citing 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 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

Berkshire opposes the Attorney General's view on rate of return for two reasons (Companies Joint Reply Brief at 60). First, Berkshire 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 Berkshire, 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 G.L. c. 164, § 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)). Berkshire 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 Bay State Gas Company, D.P.U. 14-134, 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, Berkshire 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). Berkshire 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, the Company 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 the Company'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 utilities

to finance construction projects,[21] 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.[22] 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 the Company'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 Company must include the effects of the GSEP rate mechanism on its required ROE as part of its direct testimony in its next base

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21 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).

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

rate filing. 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 Berkshire should take into account the revenues it receives in base rates associated with the depreciation expense approved in its most recent base rate case[23] 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 the accumulated reserve for depreciation and the deferred tax reserve 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, if warranted)[24] (Exhs. Berkshire-JMB-1, at 15; BGC-JMB-3, at 8; BGC-JMB-4, Sch. 2, Sch. 3).[25] The Company proposes no adjustment to the GSEP capital

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[23] Utility companies recover depreciation and amortization expense as part of their overall revenue requirement determined in base rate cases. For Berkshire's depreciation and amortization expense currently allowed in base rates, see D.T.E. 01-56, at 88-89. 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. See Bay State Gas Company, D.P.U. 10-52, at 32, n.20 (2012), citing D.P.U. 12-25 (2012).

[24] The Company may additionally make other accumulated deferred income tax adjustments as part of this GSEP capital costs calculation (Exh. BGC-JMB-3, at 5, 8) (see Section IV.I regarding accumulated deferred income taxes.

[25] 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

costs 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).[26] 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 nonrevenue-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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case, whichever is later, to the end of the respective GSEP investment year (Exhs. Berkshire-JMB-1, at 13; BGC-JMB-4, Sch. 2).

[26] 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 Berkshire's cost of service in its most recent base rate case, or (2) requiring Berkshire to adopt the depreciation net-out test described above (Attorney General Brief at 71-71, 77, 101, citing Exh. AG-DJE-1, at 6; D.P.U. 10-55, at 75-76, 142; 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, but 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 Berkshire's GSEP (Attorney General Brief at 71-73, citing D.P.U. 13-75, at 12-62; D.P.U. 10-55, at 66-145; 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). 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 & n.238, citing Exh. AG-DJE-1, at 5). The Attorney General asserts that Berkshire'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 alleges 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).

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 Exh. 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)).

(C) Company

The Company asserts that it has included in the its GSEP 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 (Berkshire Brief at 6, 12). The Company maintains that the revenue requirement calculation associated with eligible GSEP investment[27] 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 (Berkshire Brief at 12-13). 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 (Berkshire Brief at 15, citing Exhs. Berkshire-JMB-1, at 17-18; BGC-JMB-4; BGC-JMB-5; BGC-JMB-6). Moreover, the Company asserts that it has provided

[27] 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. BGC-JMB-2, at 2)

evidence demonstrating that its proposed GSEP revenue requirement and GSEAF are consistent with Section 145, are calculated so as to exclude recovery for costs associated with the GSEP that are included in base rates, and should be approved as submitted (Berkshire Brief at 7, 11, 16).

The Company makes both legal and substantive arguments against the Attorney General's proposals regarding a depreciation offset or net-out requirement.[28] The Company 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 Supreme Judicial 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 or offset requirement; (2) the Legislature was well aware of the Department's ratemaking practices and declined to include a depreciation net-out 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 51-55, 56). The

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

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 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 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; D.P.U. 13-75-C at 10-12).

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. B at 28-29). Moreover, Berkshire 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,[29] 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

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

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.

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); 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 Western Massachusetts Electric Company, D.P.U. 85-270, at 180-183 (1986) (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. Berkshire-JMB-1, at 16; BGC-JMB-4, 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 the Company's next base rate case the feasibility and merits of separating GSEP recovery entirely from rate base (see 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. Berkshire-JMB-1, at 16; BGC--JMB-4, Sch. 2). 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. Berkshire-JMB1, at 16; BGC-JMB-4, Sch. 2).

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 Berkshire'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, citing Exh. AG-DJE-1, at 6). 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, citing Exh. AG-DJE-1, at 6). 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, citing Exh. AG-DJE-1, at 6-7). 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 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).

(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 the 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. AG-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. AG-DJE-1, at 6-7). Berkshire 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 D.P.U. 08-40. 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 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 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, Berkshire 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 (Exh. BGC-JMB-4, Sch. 4). The prior year net plant is calculated as the value of plant in service on December 31 of the prior year (Exh. BGC-JMB-3, at 4). 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. Berkshire-JMB-1, at 16; BGC-JMB-4, Sch. 4). Because the assessed valuations of property typically lag behind property tax bills by a year and a half, property taxes are $0.00 in Year One of Berkshire's GSEP program (2015) because of the Company's lack of GSEP-eligible infrastructure in 2014 (Exh. BGC-JMB-4, Sch 2, line 63, & Sch. 4). The Company did not specify how property taxes would be calculated for Year Two of the Company's GSEP program.

ii. Positions of the Parties

(A) Attorney General

The Attorney General contends that the Company's 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 (Attorney General Brief at 83-84, citing Exh. AG-DJE-1, at 7-8). According to the Attorney General, property tax expenses for a 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 Company's property tax expense for Year Two should be 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 Year 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 purpose 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[30] within the GSEAF formula (Exhs. BGC-JMB-2, at 7; BGC-JMB-3, at 8). Property tax rates are approved during a company's most recent base rate case and reflect the test year property tax expense as a proportion of net plant in service (Exhs. Berkshire-JMB-1, at 16; BGC-JMB-4, Sch. 4). Neither Section 145 nor the Model Tariff contains language specifically referencing property tax abatements.

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

30 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. BGC-JMB-3, at 8).

through the reconciliation process (Attorney General Brief at 94). According to the Attorney General, neither Section 145 nor the 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 the tax rate established in the test year, the Company would not have to return the resulting lower revenue requirement to its 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

The Company objects to the Attorney General's recommendation that the PTMS variable language be adjusted to credit property tax abatements when they are received (Companies Joint

Reply Brief at 68). Berkshire 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, the Company 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). Berkshire 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 property tax abatements is longstanding. 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. D.P.U. 09-39, at 244; 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 D.P.U. 12-86, at 262 n.162.[31] Where municipalities bill personal property taxes on the basis of a single valuation for all of the personal property owned by the taxpayer in

[31] Municipalities categorize property for tax purposes as either: (1) real estate, representing land and structures; or (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.

that community, it is not possible to disaggregate property tax abatements between 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 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 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 on the rate "determined in the Company's most recent general distribution rate proceeding" (Exh. BGC-JMB-3, at 4). 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. BGC-JMB-3, at 8). 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 Company's most recent base rate proceeding. Since this property tax rate is inclusive of property tax abatements, the Department finds it unnecessary for the Company 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-part test (similar to that used in other companies' TIRF mechanisms) (Exh. Berkshire-JMB-1, at 17).[32] First, the Company demonstrates that labor overhead and clearing account burden costs included in the O&M expense of base rates have not been shifted to GSEP project costs (Exhs. BGC-JMB-2, at 8; BGC-JMB-3, at 9). See D.P.U. 13-75, at 58. 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.T.E. 01-56 (2000)), with (b) the labor overhead and clearing account burden costs charged to O&M expense in the GSEP investment year. See D.P.U. 13-75, at 58. In the event that the amount included in base rates 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. See D.P.U. 13-75, at 58. 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, then no adjustment is required to the GSEP project costs to be recovered though the GSEAF. D.P.U. 13-75, at 58-59.

Second, 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

[32] There are four 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; supervision and clerical expenses; storeroom operation expenses; and vehicle operations and maintenance expenses (Exh. AG- 4-1).

given year, including GSEP projects (Exhs. BGC-JMB-2, at 8; BGC-JMB-3, at 9). See D.P.U. 13-75, at 59. 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 (Exhs. BGC-JMB-2, at 8; BGC-JMB-3, at 9). This two-part test is currently utilized in the TIRF mechanisms of Bay State, Boston Gas Company/Colonial Gas Company ("National Grid"), and Liberty Utilities (New England Natural Gas Company) Corp. ("Liberty Utilities") D.P.U. 13-75, at 58-59; D.P.U. 10-55, at 141-142;[33] D.P.U. 10-114, at 72-74.

No party opposed the recovery of labor overhead and clearing account burden costs in the GSEP or the associated two-part test included in the Model Tariff and Berkshire's GSEP adjustment clause ("GSEPAC") tariff.

ii. Analysis and Findings

The two-part test proposed by the Company has been approved by the Department for use in the TIRFs of Bay State, National Grid, and Liberty Utilities. Because of the similarities in the TIRF and GSEP programs, we find that the same two-part test is appropriate for use in the ratemaking for the GSEP program. Therefore, we approve the two-part test. Nonetheless, we note that Section 5.0 of the Model Tariff (and of the Company's GSEPAC tariff) does not specifically delineate the two-part test. Therefore, we require the Company to modify its tariff explaining the calculation that will occur on an annual basis. The specific language is provided

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33 In D.P.U. 10-55, the Department approved a three-part test for National Grid's TIRF. The third part of the test approved in D.P.U. 10-55 relates to depreciation expense. DOER and the Attorney General advocate use of the third part to the two-part test to preclude the unintended recovery of costs already included in base rates (DOER Brief at 8; Attorney General Brief at 72). The third part is addressed in Section IV.G.1.b., above.

in Section IV.K, 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 it proposes to recover through the GSEAF meet the requirements of the two-part test.

g. Operations and Maintenance Offset

i. Introduction

Berkshire proposes to include an O&M offset in its revenue requirement calculations associated with the GSEP (Exhs. Berkshire-JMB-1, at 9, 16; BGC-JMB-2, at 3). The Company states that the O&M offset represents the most recent three-year average of leak repair costs per mile for non-cathodically protected steel mains and cast-iron mains on its system (Exh. Berkshire-JMB-1, at 9-10). The Company's O&M offset is calculated as follows. First, the Company determined a three-year average leak repair cost of $482,760 based on calendar years 2011, 2012, and 2013 (Exhs. Berkshire-JMB-1, at 16-17; BCG-JMB-4, Sch. 5). This amount is then divided by the average number of miles in service (751) for a total average leak repair cost per mile of $643 (Exh. BCG-JMB-4, Sch. 5). Then, Berkshire multiplied the 5.94 estimated miles to be replaced in calendar year 2015 by the average leak repair cost per mile of $643 for a total O&M offset of $3,817, but states that it will apply a half-year approach to the calculation of the O&M offset or $1,908 in Year One (Exhs. Berkshire-JMB-1, at 9,16; BCG-JMB-4, Schs. 2, 5).

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). Nevertheless, the Attorney

General contends that Berkshire has provided insufficient explanation regarding its verification process for the leak-rate data that 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 that it uses to determine the basis for its O&M offset to the leak-rate data that it reports to other entities, specifically the leaks-per-mile data that it reports to the PHMSA (Attorney General Brief at 87; 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 using the data filed with the 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 and cast ironmains, 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). Berkshire argues that it reports leak repairs to the 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).

In addition, Berkshire contends that it closely follows the reporting protocols for the annual PHMSA reports, which are prescriptive (Companies 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 PHMSA reports and the way in which the Company may actually track inventory and replacements through a work-management system (Companies Joint Reply Brief at 65). The Company 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 (Companies 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 repair costs 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); D.P.U. 11-36, at 32; D.P.U. 10-114, at 72; D.P.U. 09-30, at 120, 134. An O&M offset performs the same function in calculating the GSEAF as it does in calculating the TIRF. Therefore, we find that that the Company's proposal to calculate its O&M offset in the same manner as we approved in TIRF proceedings is appropriate. In its filing, the Company proposed an O&M

offset applicable to its 2015 GSEP investments of $643 per mile, based on the average leak repair cost per mile for calendar years 2011, 2012, and 2013 (Exhs. Berkshire-JMB-1, at 9, 16-17; BGC-JMB-4, Schs. 2, 5). Further, the Company has calculated an O&M savings credit used to calculate its 2015 GSEP revenue requirement (Exhs. Berkshire-JMB-1, at 16; BGC-JMB-4, Schs. 2, 5). The Company calculates an O&M savings credit of $1,908, which represents the O&M savings credit for a half-year in 2015 (Exh. BGC-JMB-4, Schs. 2, 5). 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 by the Company with the PHMSA, we find this requirement to be 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 from 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[34] in assessing gas companies' annual TIRF filings.[35]

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[34] 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); D.P.U. 85-270, at 22-23; Boston Edison Company, D.P.U. 906, at 165 (1982). A prudence review of a company's actions is not dependent on whether budget estimates are later proved to be accurate, but rather upon whether the assumptions made were reasonable, given the facts that were known or should have been known at the time. Massachusetts-American Water Company, D.P.U. 95-118, at 39-40 (1996);

See D.P.U. 13-78, at 13; D.P.U. 10-55, 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 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 the Company to the 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 1.5 percent of the gas company's most recent calendar year total firm revenues, including gas revenues attributable to sales and transportation customers."[36] Berkshire 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. Berkshire-JMB-1, at 14). The Company's most recent calendar

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D.P.U. 93-60, at 35; Fitchburg Gas and Electric Light Company, D.P.U. 84-145-A at 26 (1985).

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

36 Sales customers receive gas supply and delivery services from a local gas distribution company ("LDC"). Transportation customers receive only delivery services from an LDC.

year total firm revenues include gas revenues attributable to sales customers and the imputed cost of gas revenues for the Company's transportation customers,[37] (Exhs. Berkshire-JMB-1, at 14).

b. Positions of the Parties

i. Attorney General

The Attorney General explains that Section 145(f) 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). 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, however, that these phrases 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 Berkshire would have incurred if it supplied gas to customers that receive only firm transportation (distribution) service from the Company (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 Berkshire to include the effect of "imputed"

[37] The imputed cost of gas revenues are calculated by multiplying the monthly usage by the gas adjustment factor. See The Berkshire Gas Company, D.P.U. 15-GAF-O2 (filed February 2, 2015).

gas supply costs for transportation customers in the Revenue Cap calculation (Attorney General Brief at 91).

As a result, the Attorney General makes three arguments 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 that the Company collects for distribution transportation service and reports 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 Berkshire may have included the throughput of capacity-exempt transportation customers[38] 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 customers are not included in the Company's planning load, which is used to develop the gas adjustment factor ("GAF"), but that Berkshire 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

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[38] 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 2 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.

to the Department[39] includes data on gas revenues attributable to sales customers and transportation customers[40] (Attorney General Brief at 93). Therefore, the Attorney General recommends that the Department require Berkshire to include in the calculation of the Revenue Cap only the gas revenues attributable to sales customers and transportation customers as reported on the Company's annual return, (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 that 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

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39 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.

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

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 Berkshire experiences infrastructure issues requiring immediate action to assure safe and reliable service, then the Company must retain the duty and responsibility to assure that such investments are made regardless of whether the investment would exceed 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" (Berkshire Brief at 14; Companies Joint Reply Brief at 66). According to the Company, the Attorney General concedes that the use of the words "sales and transportation customers" does not exclude any subgroup of customers (Companies Joint Reply Brief at 67, citing Tr. A at 27). The Company asserts that Section 145 does not differentiate between capacity-eligible transportation customers and capacity-exempt transportation customers (Companies Joint Reply Brief at 66). Moreover, Berkshire 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).

Berkshire 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). Berkshire asserts that there is no difference between a capacity-eligible customer and a capacity-exempt customer in the GAF (Companies Joint Reply Brief at 67). Thus, the Company argues that the Attorney General inaccurately asserts that the Company's GAF 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 Berkshire, 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 the local distribution adjustment factor ("LDAF"), which will include the GSEAF (Companies Joint Reply Brief at 68). Therefore, Berkshire 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).

c. Analysis and Findings

The parties disagree on 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 Board of Education 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 mechanism for National Grid that included a cap on the annual change in revenue requirement set at one percent of each operating company's respective total revenues from firm sales and transportation throughput, with transportation revenues being adjusted by imputing the companies' cost of gas charges. D.P.U. 10-55, at 70, 133. Bay State implemented a similar mechanism, but the cap on Bay State's TIRF revenue requirement differs from that of National Grid's TIRF revenue requirement. Bay State's TIRF caps the change in its revenue requirement at 3.75 percent of its total distribution revenues from firm sales and transportation throughput during the most recent investment year. D.P.U. 13-75, at 30-31.

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 (M.D.P.U. No. 484, § 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 Berkshire any limit on the level of capital investment that it can undertake in a given year. See D.P.U. 10-114, at 66. Berkshire 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, the replacement pace of leak-prone mains on their distribution systems. See D.P.U. 10-114, at 66; D.P.U. 10-55, at 133; D.P.U. 09-30, at 134.

3. Reconciliation Proposal

a. Introduction

Berkshire intends to make two filings each year regarding the GSEP (Exhs. Berkshire-JMB-1, at 13, 18; BGC-JMB-2). The first filing will be made on May 1[41] 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. Berkshire-JMB-1, at 18; Tr. 1, at 71). Projected and actual throughput will be reconciled as part of this process (Exh. Berkshire-JMB-1, at 18; Tr. 1, at 71).

The second filing will be made on October 31 of each plan year (Exh. . Berkshire-JMB-1, at 13). 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 (Exhs. Berkshire-JMB-1, at 13; Tr. 1, at 70). This reconciliation would determine the amount of any over- or under-recovery of amounts ultimately authorized for recovery by the Department based on actual data (Exhs. Berkshire-JMB-1, at 13; BGC-JMB-2). The over- or under-recovery of GSEP costs would either be credited to or recovered from customers (Exhs. Berkshire-JMB-1, at 13; BGC-JMB-2).

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41 No filing will be made on May 1 of the first year of the GSEP, i.e., May 2015 (Exh. Berkshire-JMB-1, at 18).

Berkshire proposes to implement a rate change in the GSEAF once a year, on May 1 (Exh. Berkshire-JMB-1, at 13; BGC-JMB-2Tr. at 70). 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. Nevertheless, 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 (firm gas sales rates adjusted on semi-annual basis).[42]

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 were either credited to or recovered from customers.[43] The Department considers this six-month lag in recovery 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 LDAF at least once a year, on November 1. Therefore, incorporating any over- or under-recovery balance into the

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42 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).

43 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.

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, Berkshire is directed to incorporate in its GSEPAC tariff 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.

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 (Exh. Berkshire-JMB-1, at 13). 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 (Exh. Berkshire-JMB-1, at 13).

Specifically, the Company proposes the following GSEAFs by rate-class sector for effect May 1, 2015, through April 30, 2016 (Exhs. Berkshire-JMB-1, at 6, 13; BMG-JMB-5):

Rate Classes	**GSEAFs ($/therm)**
Residential	$0.0042
Small Commercial And Industrial	$0.0036
Medium Commercial And Industrial	$0.0024
Large Commercial And Industrial	$0.0011
X-Large Commercial And Industrial	$0.0004

To determine its GSEAFs, Berkshire first calculated a revenue requirement of $226,850 based on the Company's pretax rate of return applied to the average annual rate base, plus a half-year of the 2015 depreciation expense 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. Berkshire-JMB-1, at 13, 17; BGC-JMB-2, at 6-8; BGC-JMB-4, Sch. 2). The Company then subtracted a half-year of the estimated 2015 O&M offset as set forth in its proposed GSEP adjustment clause tariff, M.D.P.U. 486, for its five rate-class sectors (Exhs. Berkshire-JMB-1, at 13, 17; BGC-JMB-2, at 6, 8; BGC-JMB-4, Sch. 2).[44]

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. Berkshire-JMB-1, at 13-14; BGC-JMB-4, Sch. 1; see BGC-JMB-2, at 6, 8).[45] 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. Berkshire-JMB-1, at 13-14). Based on 2013 revenues of $91,439,796, the Company calculated its Revenue Cap at $1,371,597, which is well above its proposed GSEP-related revenue requirement of $226,850,

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44 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 (Exh. BGC-JMB-2, at 6-7, 10). 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. BGC-JMB-2, at 6-7, 10).

45 In future years, the Company proposes to compare the change in the revenue requirement from the prior GSEP investment year, plus any previously deferred amount, to the Revenue Cap (Exh. BGC-JMB-2, at 6, 8).

leaving zero above the cap and no deferral for future recovery (Exhs. Berkshire-JMB-1, at 18; BGC-JMB-4, Sch. 1).

Finally, the Company allocated the $226,850 revenue requirement to each rate class using a rate-base allocator as set forth in the GSEP adjustment clause tariff (Exhs. Berkshire-JMB-1, at 14, 18; BGC-JMB-5). 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. Berkshire-JMB-1, at 18; BGC-JMB-5).

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 $0.0042, $0.0036, $0.0024, $0.0011 and $0.0004 per therm for the residential, small C&I, medium C&I, large C&I, and extra-large 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 1 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 costs and benefits of its GSEP (Exhs. Berkshire-DMG-1, at 8-9, 19; Berkshire-DMG-2, at 11, 13-14, 16, 17-18,

& App. A). Berkshire states that it developed a comprehensive and detailed three-year construction plan and, from this construction plan, developed a project scope that quantified the work to be performed (e.g., feet of main to be replaced, number of services to be replaced) (Exh. Berkshire-DMG-1, at 19). The Company estimates that it will invest approximately $9.89 million during the 2015-2017 rolling period, the first three years of its GSEP (Exh. Berkshire-DMG-1, at 20). The Company expects to focus most of its work during this period on retiring approximately 3.19 miles of leak-prone main in the City of Pittsfield and approximately 2.75 miles of leak-prone main in other service areas (Exh. Berkshire-DMG-1, at 19).

Berkshire contends that the GSEP will provide the following benefits: (1) increasing the safety and reliability of the distribution system, (2) reducing gas leaks and greenhouse gas emissions, and (3) creating new jobs as a result of increased construction work (Exhs. Berkshire-DMG-1, at 8-9; Berkshire-DMG-2, at 11, 13-14, 16, 17-18, & App. A; AG 13-1; Tr. 1, at 23-24). The Company maintains that cast iron and unprotected steel facilities experience substantially more leaks than equivalent plastic and cathodically protected steel facilities (Exh. Berkshire-DMG-1, at 13). Berkshire claims that, with its current leak-prone infrastructure, the Company must continue to be particularly vigilant in its patrols, leak surveys, and leak managements programs to ensure public safety (Exh. Berkshire-DMG-1, at 13). The Company further claims that while cast iron and unprotected steel facilities comprise only 18 percent of Berkshire's system mileage, these facilities account for 81 percent of total leaks (Exh. Berkshire-DMG-1, at 13). Berkshire contends that the infrastructure replacement proposed

by the Company's GSEP will reduce the occurrences of gas leakage which will result in a significant benefit to public safety (Exh. Berkshire-DMG-1, at 13-14).

In addition, the Company maintains that the GSEP will provide environmental benefits because it will lead to a reduction in lost and unaccounted-for ("LAUF") gas released into the atmosphere (Exh. Berkshire-DMG-1, at 13-14; AG 13-1). Berkshire claims that it does not measure and track LAUF gas by subcategory, but that any reduction in gas leakage will reduce LAUF gas and therefore lead to a reduction in greenhouse gas emissions resulting from gas leaks (Exh. Berkshire-DMG-1, at 13-14). The Company further claims that there is no precise calculation of the reduction in LAUF gas and greenhouse gas emissions resulting from the replacement of leak-prone pipe mains, although it estimates a reduction of potential annual savings of 25,000 MMBTU, 500 metric tons of methane, and 50 metric tons of carbon dioxide ("CO_2")(Exhs. Berkshire-DMG-1, at 14; Berkshire-DMG-2, App. A; AG 3-8; Tr. 1, at 25-26).

Berkshire Gas also expects that the GSEP will increase the amount of construction work performed on the system, which will in turn stimulate job growth in direct construction jobs and support services (Exh. Berkshire-DMG-1, at 9).

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 investigation (Attorney General Brief at 29). The Attorney General contends that the Company provided only a general description of the benefits that could arise from the GSEP programs, and 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).

The Attorney General states that, although Section 145(c) requires gas companies to provide only "a description of customer costs and benefits under the plan," Section 145(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 versus 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, but further states that this does not justify ignoring the issue (Attorney General Brief at 30). 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 173 (2010)).

The Attorney General therefore recommends that the Department find the Company's GSEP filing incomplete because it lacks a full comparison of costs and benefits (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 from GSEP-related infrastructure replacements 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 benefits related to the GSEP that can be quantified, such as 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 GSEP can also be quantified (DOER Brief at 13). On the other hand, 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).

Thus, 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). With respect to public safety benefits, however, DOER recommends requiring only a detailed description of how the activities under the GSEP have impacted the safety and reliability of the Company's distribution system (DOER Brief at 13-14).

c. Company

Berkshire 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 (Companies 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), and a bill impact analysis, as required by Section 145(d) (Berkshire Brief at 10; Companies Joint Reply Brief at 29). The Company maintains that there is no additional data that is practical for it to provide or that is required by the statute (Companies Joint Reply Brief at 29).

Regarding the Attorney General's recommendation that the Company should provide comparisons of realized public safety and environmental benefits, Berkshire states that it has quantified the environmental benefits associated with leak reductions to the extent that it is

practicable to do so (Berkshire Brief at 10, 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). Nevertheless, the Company argues that it cannot quantify the estimated or "realized" public safety benefits (which would include avoidance of incidents and damages to property as well as the avoidance of injury to persons or the avoidance of possible death) as 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). Berkshire argues that the Attorney General's 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 require the Company 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, Berkshire argues that it 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). Further, 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 gas distribution systems (Companies Joint Reply Brief at 30). Thus, the Company concludes that the legislative intent, as indicated by the statutory language, is for the Company to describe 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).

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." Section 145(c). 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. Berkshire-DMG-1, at 9-14). 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 that the Company provided (see Attorney General Brief at 29). By contrast, in St. 2008, c. 169, § 83 ("Section 83),[46] 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 173, we stated that this directive to assess whether a long-term contract is cost-effective required companies to quantify costs and benefits because of

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

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 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.

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. Berkshire-JMB-6). The Company also considered reductions of LAUF gas through a reduction in natural gas leaks, improvements to public safety, the environmental impact of reduced CO_2 emissions, and job creation (Exh. Berkshire-DMG-1, at 8-14). 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 GSEP (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 also to the public as social benefits. 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 Attorney General's recommendations are unnecessary. 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. Accumulated Deferred Income Taxes

1. Introduction

Income taxes are calculated on net income that results from subtracting expenses from revenues. Depreciation expense is one of those expenses. Depreciation expense is also an operating expense in a utility's costs of service used to calculate its revenue requirement and set its rates.

Deferred income taxes arise when income tax amounts provided for regulatory accounting purposes differ from the income tax amounts currently due and payable. D.P.U. 10-114, at 117; Fitchburg Gas and Electric Light Company, D.T.E. 99-118, at 33 (2001); D.P.U. 87-59, at 27. The primary cause of the tax difference is the straight-line depreciation rates used to calculate depreciation expense for ratemaking versus the accelerated depreciation rates used to calculate depreciation expense for federal and state income tax reporting. Use of accelerated depreciation rates results in higher depreciation expense in the early years of plant life and lower depreciation expense in the later years. The difference in annual depreciation expense over an asset's life between regulatory accounting methods and federal and state income tax methods is called a timing difference. Because of this timing difference, utilities include higher income taxes in the revenue requirement calculation than they actually pay in the early

years of an asset's life. Thus, the utility receives more revenue from customers in rates than it needs to cover its income tax expense in the early years of plant life, and less revenue than it needs in the later years. The difference between income taxes paid by customers in rates and income taxes actually paid by the utility is accumulated in an account termed accumulated deferred income taxes ("ADIT").

The ADIT balance becomes a source of interest-free funds, provided by ratepayers and not investors, that a utility can further invest until the balance is needed to fund the taxes due and payable in later years. Therefore, for ratemaking purposes, ADIT represents an offset to a utility's rate base. D.P.U. 87-59, at 63; AT&T Communications of New England, D.P.U. 83-137, at 31 (1985); D.P.U. 1350, at 42-43; Boston Edison Company, D.P.U. 18200, at 33-34 (1975).

The rate base used in the calculation of the GSEP revenue requirement includes a deduction for the ADIT associated with cumulative eligible GSEP investments as of the end of the respective GSEP investment year (see Exh. Berkshire-JMB-3, at 6-8 (Model Tariff)). At issue is whether Berkshire has properly calculated its ADIT balance by not including a capital repairs expense deduction.[47]

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[47] A capital repairs expense deduction represents a portion of the capital investment made by utilities that is eligible for treatment as an ordinary and necessary business expense, and thus a deduction on the current year's income tax return. Internal Revenue Service ("IRS") Revenue Procedure 2009-39, § 2.08. The IRS issued final technical regulations concerning the application of Revenue Procedure 2009-39, also referred to as "tangible property regulations," on September 13, 2013. IRS Revenue Procedure 2014-16.

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Department should order the companies to demonstrate that they have maximized their tax deductions for each year in which they seek cost recovery through the GSEP recovery mechanism, to ensure that customers are being provided least-cost service (Attorney General Brief at 79, citing D.P.U. 07-50, at 5; Electric Industry Restructuring, D.P.U. 95-30, at 6 (1995); Integrated Resource Planning, D.P.U. 94-162, at 51-52 (1995); Incentive Regulation, D.P.U. 94-158, at 3 (1995)). The Attorney General states that most of the companies have estimated their expected ADIT balance for the year by including a capital repairs expense deduction (Attorney General Brief at 79).

According to the Attorney General, however, Berkshire's calculation of its ADIT balance is inappropriate because Berkshire has failed to reflect the capital repairs expense deduction (Attorney General Brief at 79, 120). The Attorney General claims that the Company is effectively denying ratepayers the benefits of the accelerated tax deductions because the Company's failure to include this tax deduction decreases the Company's ADIT balance with a corresponding increase to the Company's rate base (Attorney General Brief at 120, citing Exh. AG-DJE-1, at 6-7). Further, the Attorney General states that, where almost all of the other companies submitting GSEPs have included the capital repairs expense deduction in their ADIT calculation, there is no sound reason why Berkshire should deny its customers the benefit of this deduction (Attorney General Brief at 120, citing Exh. AG-DJE-1, at 6-7).

The Attorney General further argues that if the Company ultimately elects to implement the capital repairs expense deduction so that it is reflected in the determination of the Company's

taxable income for calendar year 2015, then there is no problem because the ADIT balance used in determining the actual 2015 rate base and reconciling the actual 2015 revenue requirement will reflect the benefit of the capital repairs expense deduction (Attorney General Brief at 120-121). Conversely, the Attorney General argues that if the Company fails to include this deduction as part of its taxable income for calendar year 2015, then the Department should impute a rate base deduction to reflect what the increase to the ADIT would be if the Company took the capital repairs deduction (Attorney General Brief at 121).[48]

b. Company

Berkshire and the other companies argue that the Department should reject the Attorney General's recommendation to demonstrate that they have maximized their tax deductions for each year in which they seek cost recovery through the GSEP recovery mechanism (Companies Joint Reply Brief at 59). The companies contend that there is no ratemaking principle under Department precedent that requires a utility to maximize tax deductions, and doing so may lead to negative ramifications for ratepayers (Companies Joint Reply Brief at 59). The companies assert that this issue is complex and is more suited for review in a base rate proceeding (Companies Joint Reply Brief at 59). Further, the companies argue that the Model Tariff establishes that they will use their actual tax deductions and tax impacts in computing the eligible revenue requirement for recovery through the GSEP recovery mechanism (Companies Joint Reply Brief at 60).

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[48] The Attorney General maintains that the Department should order Berkshire to include a minimum deduction rate of ten percent for all assets eligible for the capital repairs expense deduction, as that represents the minimum rate estimated for any of the companies (Attorney General Brief at 79).

Nevertheless, Berkshire states that it is in the process of reviewing its tax accounting for capital repair costs, and expects to further modify its tax accounting for repairs costs, as it adopts the final tangible property regulations (Berkshire Reply Brief at 4, citing RR-AG-2). See Internal Revenue Service ("IRS") Revenue Procedure 2009-39, § 2.08; IRS Revenue Procedure 2014-16. Further, Berkshire maintains that its revised tax accounting procedures will provide for a cumulative accelerated repairs tax benefit that will be incorporated in the Company's GSEP reconciliation filing due May 1, 2016 (Berkshire Reply Brief at 4, citing RR-AG-2). Thus, Berkshire argues that the Department should find that the Company's GSEP reflects appropriate tax accounting (Berkshire Reply Brief at 4).

3. Analysis and Findings

The Department's goal is to ensure that the utilities subject to its jurisdiction provide safe, reliable, and least-cost service to Massachusetts consumers. D.P.U. 07-50, at 5; see also D.P.U. 95-30, at 4; D.P.U. 94-158, at 3; Mergers and Acquisitions, D.P.U. 93-167-A at 4 (1994). In addition, the Department expects utilities to take full advantage of opportunities to minimize costs to customers, which includes income tax expense. See, e.g., Eastern Edison Company, D.P.U. 243, at 27-29 (1980); Boston Gas Company, D.P.U. 16102, at 33-38 (1970). The Department acknowledges, however, that given the complexity of tax laws, adopting a specific tax deduction may preclude companies from adopting other tax-minimizing strategies, and thus produce unforeseen negative consequences to ratepayers.

In the instant case, there is no evidence of any negative impact on customers as a result of the companies' including this particular tax deduction in ADIT. Most of the other companies include the capital repairs expense deduction in their GSEP filings, and Berkshire represents that

it will include the capital repairs expense deduction in its May 2016 GSEP filing (Exh. Berkshire Reply Brief at 4). See, e.g., NSTAR Gas Company, D.P.U. 14-135, Exh. NSTAR-ECH-RDC-3, at 4; Bay State Gas Company, D.P.U. 14-134, Exh. CMA/JTG-3, at 3; Fitchburg Gas and Electric Light Company, D.P.U. 14-130, Exh. Unitil-DLC-4, Sch. 3. Therefore, based on Berkshire's representations, we expect the Company to include in its May 1, 2016 GSEP reconciliation filing an ADIT balance that incorporates the capital repairs expense deduction as discussed above.

J. Lost and Unaccounted-For Gas

1. Introduction

Pursuant to Section 145, the reduction of LAUF gas is one of the factors used to determine if a gas company's replacement or improvement of leak-prone infrastructure is eligible to be replaced under the GSEP. LAUF gas is defined as the difference between the amount of gas purchased by a gas company and the amount of gas billed to customers, expressed as a percentage of the amount of gas that entered the company's city-gates. See Service Quality Guidelines, D.P.U. 12-120-C, Att. A at 6 (December 22, 2014).[49] LAUF gas is received by a gas company but not accounted for because some of the gas leaks out through the company's distribution system infrastructure. NSTAR Gas Company, D.P.U. 14-63, at vi (2015). The amount of gas lost depends on the age and type of underground pipe and the length of the company's distribution system. D.P.U. 14-63, at vi.

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[49] See also PHMSA Guidance Manual for Operators of Small Natural Gas Systems, Ch.V, at V-1(June 2002 ed.), http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/5%20-%20Guidance%20Manual%20for%20Operators%20of%20Small%20Natural%20Gas%20Systems-2002.pdf.

Since 2008, Berkshire has reported LAUF gas levels of zero or close to zero percent (Exhs. AG-ARN-1, at 16; AG 2-1; Tr. 1, at 52; RR-AG-3, at 2, 4, 6, 8, 10, 12, 14, 16, 18, 22). Berkshire, which prides itself on having a very tight distribution system, is also trying to determine why its LAUF gas is such a low percentage (Tr. 1, at 52-53).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Department should investigate why the Company has been reporting LAUF gas levels of zero or close to zero percent since 2008 (Attorney General Brief at 118, citing Exh. AG-ARN-1, at 16, 18). She claims that this low level of LAUF seem unreasonable because factors such as metering differences, filling and purging mains, leaks, and theft should produce some level of LAUF gas (Attorney General Brief at 118, citing Exhs. AG-ARN-1, at 16). Thus, the Attorney General argues that if the Department approves the Company's proposed GSEP, it should condition any approval on the Company's providing in its next GSEP filing the formula and data it uses to calculate LAUF gas since 2008, as well as the results of the Company's investigation into its reported levels of LAUF gas (Attorney General Brief at 118-120).

b. Company

Berkshire states that the planned replacements under its GSEP will necessarily have the potential to reduce LAUF gas because any reduction in leakage will reduce LAUF gas (Berkshire Brief at 7, citing Exhs. Berkshire-DMG-1, at 13-14; AG 3-8; Berkshire Reply Brief at 4). The Company further maintains that it provided detailed estimates of expected net reductions in both operating costs and certain greenhouse gas emissions as a result of the Company's GSEP

(Berkshire Brief at 7, citing Exhs. Berkshire-DMG-1, at 14; AG 13-1; AG 13-2; AG 13-3; Berkshire Reply Brief at 4). Moreover, the Company contends that it has properly reported its LAUF gas in numerous submissions to the Department, including its annual service quality reports, and that its GSEP satisfies the relevant requirement of Section 145 (Berkshire Reply Brief at 4). Finally, the Company maintains that LAUF gas is an accounting convention, and that there are substantial seasonable variations and a wide range of factors (e.g., leakage, measurement, pressure control, metering, data entry, timing of billing cycles) that interplay in determining the level of Berkshire's annual LAUF gas (Berkshire Reply Brief at 3-4).

3. Analysis and Findings

While the Attorney General is concerned with the reported levels of Berkshire's LAUF gas, Berkshire argues that its planned GSEP replacements will necessary have the potential to reduce LAUF gas since any reduction in leakage will reduce the LAUF gas levels (Berkshire Brief at 7; Berkshire Reply Brief at 4). We agree that, to the extent that aging or leaking infrastructure is replaced, the number of natural gas leaks on the distribution system will likely decrease with a corresponding decrease in the level of LAUF gas. But Berkshire has also stated that it is trying to determine why its LAUF gas is such a low percentage (Tr. 1, at 52-53). Therefore, to ensure that Berkshire complies with the measurement requirements of its LAUF gas pursuant to Section 145, we direct Berkshire to include as part of its May 1, 2016 GSEP reconciliation filing a full explanation of Berkshire's LAUF gas levels from 2008 through 2013, including all supporting data and assumptions used by the Company to calculate the LAUF gas levels, as well as the results of the Company's investigation into its reported levels of LAUF gas.

K. Model Tariff

1. Introduction

As part of its GSEP filing, the Company included a Model Tariff developed jointly with the other five gas distribution companies (Exh. BGC-JMB-3). The Model Tariff describes the cost recovery components that the Company will use to recover costs associated with its GSEP. (Exh. Berkshire-JMB-1, at 6). Whereas the other five gas distribution companies intend to incorporate the terms of the Model Tariff into their local distribution adjustment clause tariffs, Berkshire proposes to recover the GSEP investment through a separately filed tariff, which it calls the Gas System Enhancement Program Adjustment Clause ("GSEPAC") tariff (Exh. BGC-JMB-2; Tr. 1, at 65). The GSEPAC tariff will specify the costs to be collected via the GSEAF and incorporated for billing purposes within the Company's LDAF (Exh. Berkshire-JMB-1, at 7; Tr. 1, at 65).

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 typographical errors in the Model Tariff and in the Company's proposed GSEPAC tariff M.D.P.U. No. 486.

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 base 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.[50] Therefore, we direct the Company to modify Section 2.0 "DEFINITIONS" in the 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 base 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 base 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 revise its GSEAF twice each

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[50] 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.

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, to be consistent with the TIRF tariff provision, 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 are less than the amount included in base rates as determined in D.T.E. 01-56. Such reduction shall be the difference between the actual O&M overheads and burdens and the amount included in base rates. 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 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.

Finally, the Department notes the following typographical errors in Section 2.0(4) "Eligible GSEP Investment" and directs the Company to change them as follows.

Account No. 367/367	Mains – Transmission
Account No. 367/376	Mains – Distribution
Account No. 380/380	Services – Distribution
Account No. ~~380~~381/381	Meters – Distribution
Account No. 382/382	Meter Installations – Distribution
Account No. 383/383	House Regulators – Distribution

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. 486 to comport with the above-noted changes.

L. Future Filings

1. Introduction

The Attorney General recommends that the Company should 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's 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 the GSEP. 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. See Section 145(c).[51] As a result of these reviews, the Department may also require modifications to the 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, 40). The Attorney General contends that the foundations of the 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 Berkshire's 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).

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[51] 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).

The Attorney General contends that, because of 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 Department of Transportation ("DOT") reporting (Companies Joint Reply Brief at 31). The Company contends that protocols for the DOT reports are prescriptive and that the Company 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 in 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). The Company maintains that these differences are not indicative of a problem with the Company's internal data or databases, but rather that the data is simply different from 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 that the Company uses to track its inventory and replacements. Nonetheless, we direct Berkshire to provide a detailed explanation for the differences between these two data sets 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). Specifically, the Attorney General states that capital authorization requests 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 (Companies 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 (Companies 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 (Companies 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: The Company 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 (Companies 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 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 these 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 is already 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 D.P.U. 11-36, at 16. 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 (Companies 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 (Exhs. BGC-JMB-6).

(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, Berkshire 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, Berkshire 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 Berkshire 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). Berkshire 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). The Company 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 as to whether any item is necessary as a GSEP filing requirement. Further, 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). To avoid this type of inefficiency, the Attorney General recommends that the Department condition any approval of a GSEP on Berkshire's 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). Finally, the Attorney General recommends that the Company submit that policy with its annual GSEP filing (Attorney General Brief at 46).

ii. Company

First, the Company contends that this recommendation should not be adopted (Companies Joint Reply Brief at 36). Berkshire 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 when the leak is detected as a matter of public safety (Companies Joint Reply Brief at 36-37). Second, the Company argues that the Department has already expressly approved recovery of costs associated with services replaced outside the context of a mains-replacement program (Companies Joint Reply Brief at 37, citing D.P.U. 10-114-B at 7; Bay State Gas Company, D.P.U. 10-52, at 11-14 (2012); D.P.U. 11-36, at 16. Third, the Company 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 Brkshire'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). Nonetheless, 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 Berkshire currently employs represent a combination of new and old technologies (Attorney General Brief at 48). The Attorney General argues that it is essential that the Company continue to investigate and evaluate leak-detection equipment and, when cost-effective, implement that technology 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 Berkshire's leak surveys, the Attorney General recommends that the Company reports on the frequency of leak surveys, the 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

The Company 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 does it set any

requirement for reporting on leak detection or surveying (Companies Joint Reply Brief at 37). Moreover, Berkshire 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 and specific information on its efforts to acquire additional internal and external resources (Attorney General Brief at 49). The Attorney General contends that the Company has not stated with specificity how it plans to 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). Berkshire 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. AG 4-16). 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. AG 7-6). As a result, Berkshire 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 on ramp-up issues would enhance our review of future GSEP filings for all distribution companies. The Attorney General notes that another company in its GSEP filing, Liberty Utilities, specified the number of additional crews and internal staff that would be needed and how those resources would be ramped-up over time (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). Thus we direct Berkshire to provide in its next annual October 31 filing a detailed

description of its required additional staff, both internal, and external, as well as an explanation of how the Company intends to ramp-up those resources over time.[52]

M. 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 Company's 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 or narrowing issues in October 31 GSEP filings.

V. ORDER

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

ORDERED: That the petition of The Berkshire Gas Company for approval of a 2015 gas system enhancement plan, as modified herein, is APPROVED; and it is

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[52] Liberty Utilities' GSEP filing in D.P.U. 14-133 should provide guidance to Berkshire in preparing its own filing.

FURTHER ORDERED: That the gas system enhancement adjustment factors of The Berkshire Gas Company in the amounts of $0.0042 per therm, $0.0036 per therm, $0.0024 per therm, $00.0011 per therm, and $0.0004 per therm for the residential sector, small commercial and industrial sector, medium commercial and industrial sector, large commercial and industrial sector, and extra-large 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. 486 filed by The Berkshire Gas Company on October 31, 2014, to become effective May 1, 2015, is DISALLOWED; and it is

FURTHER ORDERED: That The Berkshire Gas Company shall file a new tariff consistent with the Department directives herein; and it is

FURTHER ORDERED: That The Berkshire Gas Company shall comply with all directives 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.