



The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 15-80

April 29, 2016

Petition of Fitchburg Gas and Electric Light Company (Electric Division) d/b/a Unitil pursuant to G.L. c. 164, § 94, and 220 C.M.R. § 5.00 et seq. for approval of a general increase in electric base distribution rates and implementation of a capital cost adjustment mechanism to become effective July 1, 2015.

D.P.U. 15-81

Petition of Fitchburg Gas and Electric Light Company (Gas Division) d/b/a Unitil pursuant to G.L. c. 164, § 94, and 220 C.M.R. § 5.00 et seq. for approval of a general increase in gas base distribution rates to become effective July 1, 2015.

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I. INTRODUCTION

A. Procedural History

On June 16, 2015, Fitchburg Gas and Electric Light Company, d/b/a Unitil (“Unitil” or “Company”) filed separate petitions with the Department of Public Utilities (“Department”) pursuant to G.L. c. 164, § 94, and 220 C.M.R. § 5.00 et seq. for: (1) a general increase in base distribution rates for its electric division of \$3,812,121; and (2) a general increase in base distribution rates for its gas division of \$2,985,032.¹ In addition, Unitil seeks approval of a capital cost adjustment mechanism (“CCAM”) for its electric division. Unitil based its requests for rate increases on a calendar test year of January 1, 2014, through December 31, 2014. Unitil was last granted a base distribution rate increase for its electric division in 2014. Fitchburg Gas and Electric Light Company, D.P.U. 13-90 (2014). Unitil was last granted a base distribution rate increase for its gas division in 2011. Fitchburg Gas and Electric Light Company, D.P.U. 11-01/D.P.U. 11-02 (2011). The Department docketed the petitions as D.P.U. 15-80 (electric division) and D.P.U. 15-81 (gas division).² The Department suspended the effective date of the tariffs in each docket until April 30, 2016, for further investigation.³

¹ In the interest of administrative efficiency, we investigated both dockets simultaneously, held joint public and evidentiary hearings, and issue only one Order in both dockets. However, these cases are not consolidated and remain separate proceedings.

² For ease of reference, these dockets are cited as (electric) and (gas) throughout this Order.

³ Unitil filed for approval of tariffs M.D.P.U. Nos. 284 through 286 for its electric division and M.D.P.U. Nos. 189 through 196 for its gas division.

The Company provides retail electric and gas distribution service to customers in the City of Fitchburg (“Fitchburg”) and the Towns of Ashby, Lunenburg, and Townsend (Exhs. Unitil-MHC-1, at 2 (electric); Unitil-MHC-1, at 2 (gas)). In addition, Unitil provides gas-only distribution service in the City of Gardner and the Town of Westminster (Exhs. Unitil-MHC-1, at 2 (electric); Unitil-MHC-1, at 2 (gas)). Unitil serves approximately 29,000 electric customers and 16,000 gas customers in these cities and towns (Exhs. Unitil-MHC-1, at 2 (electric); Unitil-MHC-1, at 2 (gas)).

Unitil is a wholly owned utility subsidiary of Unitil Corporation (Exhs. Unitil-MHC-1, at 2 (electric); Unitil-MHC-1, at 2 (gas)). Unitil Corporation is a public utility holding company engaged in the retail distribution of electricity and gas through its three utility subsidiaries: (1) Unitil, which provides electric and gas service in Massachusetts; (2) Northern Utilities, Inc. (“Northern Utilities”), which provides gas service in Maine and New Hampshire; and (3) Unitil Energy Systems, Inc. (“Unitil Energy”), which provides electric service in New Hampshire (Exhs. Unitil-MHC-1, at 2 (electric); Unitil-MHC-1, at 2 (gas)). In addition, Unitil Corporation is the parent company of Granite State Gas Transmission, which is an interstate natural gas pipeline company (Exhs. Unitil-MHC-1, at 2 (electric); Unitil-MHC-1, at 2 (gas)). Unitil Corporation also owns the following subsidiaries: (1) Unitil Power Corp.; (2) Unitil Realty Corp.; (3) Unitil Resources, Inc.; and (4) Unitil Service Corp. (“Unitil Service”), which provides engineering, financial, managerial, and regulatory services to Unitil Corporation’s utility subsidiaries (Exhs. Unitil-DLC-1, at 1 (electric); Unitil-DLC-1, at 1 (gas); AG 1-98, Att. (electric); AG 1-98, Att. (gas)).

On June 22, 2015, the Attorney General of the Commonwealth of Massachusetts (“Attorney General”) filed a notice of intervention in each docket pursuant to G.L. c. 12, § 11E. On July 17, 2015, the Department granted the petitions to intervene as full parties in each docket filed by (1) the Massachusetts Department of Energy Resources (“DOER”), and (2) the Low-Income Weatherization and Fuel Assistance Program Network (“Low-Income Network”). On August 5, 2015, the Department granted intervenor status to Fitchburg in D.P.U. 15-80 and D.P.U. 15-81, and to the Town of Lunenburg in D.P.U. 15-80, and granted limited participant status to NSTAR Electric Company in D.P.U. 15-80 and to NSTAR Gas Company (“NSTAR Gas”) in D.P.U. 15-81.

Pursuant to notice duly issued, the Department held public hearings in Fitchburg on August 12, 2015, and September 24, 2015. The Department held eight days of evidentiary hearings from November 2, 2015, to November 17, 2015. In support of its filings, Unitil sponsored the testimony of nine witnesses: (1) Mark H. Collin, senior vice president, chief financial officer, and treasurer of Unitil Corporation and senior vice president of Unitil; (2) David L. Chong, director of finance and treasurer for Unitil Service; (3) George E. Long, Jr., vice president of administration for Unitil Service; (4) Kevin E. Sprague, director of engineering for Unitil Service; (5) Sara M. Sankowich, system arborist of Unitil Service;⁴ (6) Laurence M. Brock, controller of Unitil Corporation and Unitil, and chief accounting officer of Unitil Corporation; (7) Douglas J. Debski, senior regulatory analyst for Unitil Service; (8) Robert B. Hevert, managing partner of Sussex Economic Advisors; and

⁴ Ms. Sankowich provided testimony in D.P.U. 15-80 (electric) only.

(9) Paul M. Normand, principal with Management Applications Consulting, Inc. The Attorney General sponsored the testimony of six witnesses: (1) Rebecca Bachelder, president of Blueflame Consulting, LLC; (2) Philip DiDomenico, consultant at La Capra Associates, Inc.;⁵ (3) David J. Effron, consultant; (4) Allen R. Neale, consultant;⁶ (5) Jacob Pous, principal of Diversified Utility Consultants, Inc.; and (6) J. Randall Woolridge, professor of finance at Pennsylvania State University. In both dockets, Fitchburg sponsored the testimony of five witnesses: (1) Lisa A. Wong, Mayor of Fitchburg; (2) Mary Jo Bohart, director of economic development for Fitchburg; (3) Daniel P. Curley, executive director of Fitchburg Redevelopment Authority; (4) Joel Kaddy, Fitchburg City Councilor; and (5) Marc Dohan, executive director of the Twin Cities Community Development Corporation.

Fitchburg submitted a single initial brief for both dockets on December 17, 2015. The Low-Income Network submitted initial briefs in each docket on December 17, 2015. The Attorney General submitted initial briefs in each docket on December 18, 2015.⁷ DOER submitted an initial brief in only D.P.U. 15-80 on December 18, 2015. Unitil submitted a single initial brief for both dockets on January 12, 2016. The Low-Income Network submitted a single reply brief for both dockets on January 25, 2016. The Attorney General submitted a

⁵ Mr. DiDomenico provided testimony in D.P.U. 15-80 (electric) only.

⁶ Mr. Neale provided testimony in D.P.U. 15-81 (gas) only.

⁷ While the Attorney General filed separate initial briefs, one for the electric division and one for the gas division, these briefs are identical except for certain electric- and gas-specific topics. For clarity, the Department cites only to the electric brief unless a gas-specific citation is needed.

single reply brief for both dockets on January 26, 2016. DOER submitted a reply brief in only D.P.U. 15-80 on January 26, 2016. The Company submitted a single reply brief for both dockets on February 2, 2016. The evidentiary record for D.P.U. 15-80 (electric) consists of approximately 775 exhibits and approximately 50 responses to record requests. The evidentiary record for D.P.U. 15-81 (gas) consists of approximately 700 exhibits and approximately 50 responses to record requests.

B. Procedural Rulings

1. Appeal of Hearing Officer Ruling on Motion to Strike

a. Introduction

On November 9, 2015, Unitil submitted a motion to strike certain portions of rebuttal testimony submitted by the Attorney General relating to the Company's pension adjustment factor ("PAF") ("Unitil's Motion to Strike"). On November 17, 2015, the Attorney General submitted an opposition. On December 11, 2015, the Hearing Officer issued a ruling granting Unitil's Motion to Strike ("Ruling on Unitil's Motion to Strike"). On December 18, 2015, the Attorney General submitted an appeal of the Ruling on Unitil's Motion to Strike ("Appeal").

b. Positions of the Parties

The Attorney General asserts that the Hearing Officer erred by determining that the PAF issue is outside the scope of this proceeding (Appeal at 2, citing Ruling on Unitil's Motion to Strike at 3). The Attorney General also argues that the Hearing Officer failed to make any finding with respect to whether the Company would be prejudiced by the admission of the rebuttal testimony (Appeal at 5).

The Attorney General also maintains that the Hearing Officer treated rebuttal testimony submitted by the Attorney General and by the Company in an inconsistent manner (Appeal at 7). Specifically, she maintains that the Hearing Officer admitted the Company's rebuttal testimony even though it was "not strictly rebuttal," and thus, the Hearing Officer's decision was arbitrary and capricious (Appeal at 7-8, citing Ruling on Unil's Motion to Strike at 4). No other party commented on the Appeal.

c. Analysis and Findings

The Department has held that a Hearing Officer⁸ has the authority to conduct a proceeding in an efficient manner and to make decisions regarding procedural matters that may arise during the course of the proceeding. 220 C.M.R. § 1.06(6)(a); Bay State Gas Company, D.T.E. 05-27, Interlocutory Order at 5-6 (2005); see also Tofias v. Energy Facilities Siting Board, 435 Mass. 340, 349-50 (2001). Where there is no evidence that the Hearing Officer abused his or her discretion in ruling on a pleading, motion, petition, or request, the Hearing Officer's decision must be affirmed. National Grid/KeySpan Merger, D.P.U. 07-30, at 40-41 (2010); D.T.E. 05-27, Interlocutory Order at 6; The Berkshire Gas Company, D.T.E. 01-56, at 6-7 (2002).

In this case, the Attorney General has not presented any evidence that the Hearing Officer abused her discretion in granting Unil's Motion to Strike. Instead, the Attorney General simply asserts that the Hearing Officer abused her discretion and then seeks to reargue

⁸ A Hearing Officer is formally assigned by the Commission to hear, examine, and investigate matters before the Department. G.L. c. 25, § 4.

before the Department the issues raised before and analyzed by the Hearing Officer, albeit with additional arguments on those issues. The courts for purposes of judicial efficiency refuse to consider new arguments on appeal that were previously available to the litigant, except for jurisdictional challenges or extraordinary circumstances where injustice would result. See Boston Neighborhood Taxi Association v. Department of Public Utilities, 410 Mass. 686, 693 (1991); Seagram Distillers Co. v. Alcoholic Beverages Control Commission, 401 Mass. 713, 724 (1988). For the same rationale, the Department has previously declined to consider new arguments on appeal from a Hearing Officer ruling, except under extraordinary circumstances. Western Massachusetts Electric Company, D.P.U. 92-8C-A, Order on Appeal by Massachusetts Municipal Wholesale Electric Company of Hearing Officer Ruling at 7 (June 25, 1993). These extraordinary circumstances are not present here, and thus we decline to consider these new arguments.

The evidence shows that the Hearing Officer considered the arguments made by Unitil and the Attorney General and found it appropriate to grant Unitil's Motion to Strike (Ruling on Unitil's Motion to Strike at 3-4).⁹ Thus, we find that the Hearing Officer did not abuse her discretion in making her Ruling on Unitil's Motion to Strike, and the Attorney General's appeal of the Hearing Officer Ruling on Unitil's Motion to Strike is denied.

⁹ Had Unitil submitted updates to its revenue requirement under the designations given by the Department, i.e., DPU-FGE 8-11 (electric) and DPU-FGE 8-22 (gas), rather than as rebuttal testimony, the Hearing Officer would not have been required to determine whether the evidence was appropriately in the record.

We further note that the Hearing Officer appropriately determined that the proper venue for a determination of the Attorney General's arguments relating to the PAF was in Fitchburg Gas and Electric Light Company, D.P.U. 11-86/11-118-A/12-71/12-117-A/13-150-A (2015), which is an open docket.

2. Attorney General Motion to Strike and to Reopen Record

a. Introduction

On January 26, 2016, the Attorney General submitted a motion to strike extra-record information and to reopen the evidentiary record ("Attorney General Motion to Strike"). The Attorney General moves to strike the portion of the Company's initial brief that cites to what the Attorney General refers to as a non-existent supplemental response to RR-AG-9 (Attorney General Motion to Strike at 2). The Attorney General also moves to strike the Federal Reserve press release, along with the citation to it, that Unitil provided with its initial brief (Attorney General Motion to Strike at 3, citing Company Brief at 6 & Exhibit 1). The Attorney General also seeks to reopen the record to submit rebuttal evidence in the form of an affidavit from one of her witnesses (Attorney General Motion to Strike at 4). On February 2, 2016, Unitil submitted a reply to the Attorney General Motion to Strike ("Company Reply to Motion to Strike").

b. Positions of the Parties

i. Attorney General

The Attorney General asserts that the Department should strike the portion of the Company's initial brief that references a supplemental response to RR-AG-9 (Attorney General Motion to Strike at 2, citing Company Brief at 72). The Attorney General maintains that at the

time of the Company's filing of its initial brief no such document existed in the record (Attorney General Motion to Strike at 2). The Attorney General further asserts that while the Company may file a supplement to RR-AG-9 in the future, such future filings are not evidence and, thus, the Department is prohibited from relying on it (Attorney General Motion to Strike at 2, citing Order Instituting Rulemaking, D.P.U. 07-105, at 2 (2007)). The Attorney General also asserts that if the supplemental response exists, the Company should have provided it to the parties prior to citing to it in the initial brief (Attorney General Motion to Strike at 2).

In addition, the Attorney General argues that the Department should strike Exhibit 1 to the Company's brief, which is a copy of a Federal Reserve press release (Attorney General Motion to Strike at 1, 3). The Attorney General contends that the Department's regulations provide that no person may present additional evidence after having rested nor may any hearing be reopened after having been closed, except upon motion and showing of good cause, and Unitil did not file the required motion or show good cause (Attorney General Motion to Strike at 3-4, citing 220 C.M.R. § 1.11(8)). The Attorney General asserts that even if Unitil had submitted the required motion, the offered information would be ineligible for consideration as evidence because it is not supported by an affidavit (Attorney General Motion to Strike at 4, citing 220 C.M.R. § 1.10(1)).

In addition, the Attorney General moves to reopen the record to submit rebuttal evidence in the form of an affidavit by one of its witnesses (Attorney General Motion to Strike at 4). The Attorney General asserts that such affidavit refutes the extra-record evidence submitted improperly by Unitil (Attorney General Motion to Strike at 5).

ii. Company

Unitil asserts that it properly described the supplement to RR-AG-9 as a document that would be submitted as part of the procedural process in this case (Company Reply to Motion to Strike at 1, citing Company Brief at 72 n.23). The Company maintains that a separate reference in its initial brief inadvertently suggested that the anticipated update had been filed (Company Reply to Motion to Strike at 1, citing Company Brief at 72). The Company asserts that its supplemental response to RR-AG-9 was submitted on February 1, 2016, and, thus, the Attorney General's procedural concerns are moot (Company Reply to Motion to Strike at 1). Unitil contends that it did not include the Federal Reserve Press Release expecting the record to be reopened as it only stated the obvious, i.e., that federal rates will eventually increase (Company Reply to Motion to Strike at 2).

With respect to the Attorney General's motion to reopen the record, the Company asserts that some of the information in the witness's affidavit is already in the record (Company Reply to Motion to Strike at 2, citing Exh. AG-JRW at 18-19). The Company also states that it has no objection to reopening the record to include those portions of the witness's affidavit not already in evidence (Company Reply to Motion to Strike at 2).

c. Analysis and Findings

For the reasons set forth below, we deny the Attorney General's motion to strike and to reopen the evidentiary record. We also strike Exhibit 1, which was provided by the Company with its initial brief as well as the Attorney General's witness affidavit provided with her Motion to Strike.

With respect to RR-AG-9, that record request was issued by the Attorney General during evidentiary hearings on November 10, 2015 (Tr. 5, at 352-353). Specifically, the Attorney General asked Unitil to provide “the monthly amount spent on the storm resiliency program since June 2015 through the end of the year” (Tr. 5, at 352). At that time, the Company stated that it would be unable to provide the documentation until early 2016 (see Tr. 5, at 352-353). The Hearing Officer asked the Company if it would be able to provide the costs by February 6, 2016, i.e., the date that the Company’s reply brief was due (Tr. 5, at 353). The Company stated it would have a large portion of the information available by February 6, 2016, and would provide it at that time (Tr. 5, at 353-354). Thus, we find that the Attorney General should have been aware that the supplemental record request response would be provided with the Company’s reply brief and that the inconsistent statements in Unitil’s initial brief as to whether it “had” been provided or “would” be provided were a simple error (compare Company Brief at 72 & n.23). Further, we find that the Company appropriately submitted the supplement to RR-AG-9 with its reply brief and we accept that supplement. Thus, the Attorney General’s motion to strike is denied on this issue.

In addition, the Attorney General argues that the Department should strike Exhibit 1 to the Company’s initial brief, which is a copy of a Federal Reserve press release (Attorney General Motion to Strike at 1, 3). She also asserts that if we accept the Federal Reserve press release into the record, we should allow the Attorney General’s witness’s affidavit into record (Attorney General Motion to Strike at 5).

It is axiomatic that a party's post-hearing brief may not serve the purpose of presenting facts or other evidence that is not in the record.¹⁰ We are further guided by our regulations which state that no person may present additional evidence after having rested except upon motion and a showing of good cause. 220 C.M.R. § 1.11(8).¹¹ Thus, we find that the Company's effort to have the Department admit extra-record evidence is procedurally defective. That is, Unitil did not submit the required motion to reopen the record pursuant to 220 C.M.R. § 1.11(8). Further, even if we were to consider the Company's request in its brief as a "motion to reopen the record," Unitil has failed to show good cause to reopen the record at this late stage in the proceeding. In addition, while the information may not have been available prior to the record being closed, the Company made no showing that such information regarded a material issue that would have a significant impact on the outcome of the case. Because the Company did not show good cause why the record should be reopened to admit the Federal Reserve press release, the Department will strike from Unitil's brief reference to the press release. For these same reasons, we will not allow the Attorney

¹⁰ As the Department stated in Boston Gas Company, D.P.U. 88-67, at 7 (Phase II) (1989), a party's presentation of extra-record evidence to the fact-finder after the record has closed is an unacceptable tactic that is potentially prejudicial to the rights of other parties even when the evidence is excluded.

¹¹ The Department's "good cause" standard provides that good cause is a relative term and it depends on the circumstances of an individual case. Good cause is determined in the context of any underlying statutory or regulatory requirement and is based on a balancing of the public interest, the interest of the party seeking an exception, and the interests of any other affected party. Nunnally d/b/a L & R Enterprises, D.P.U. 92-34-A at 3 (1993), citing Boston Edison Company, D.P.U. 90-335-A at 4 (1992).

General's witness affidavit into the record. Nor will we rely on any of the stricken information in reaching our decision in the case.

II. REVENUE DECOUPLING MECHANISMS

A. Introduction

In Investigation into Rate Structures that will Promote Efficient Deployment of Demand Resources, D.P.U. 07-50-A at 4-5, 32, 81-82 (2008), the Department directed each electric and gas distribution company to propose a full revenue decoupling mechanism ("RDM") in its future base distribution rate proceedings. The Department stated that the objective of revenue decoupling is the "elimination of financial barriers to the full engagement and participation by the Commonwealth's investor-owned distribution companies in demand-reducing efforts." D.P.U. 07-50-A at 4. The Department concluded that "a full decoupling mechanism best meets our objectives of (1) aligning the financial interests of the companies with policy objectives regarding the efficient deployment of demand resources, and (2) ensuring that the companies are not harmed by decreases in sales associated with any increased use of demand resources." D.P.U. 07-50-A at 31-32.

In directing electric and gas distribution companies to adopt full revenue decoupling, the Department acknowledged that decoupling would remove the opportunity to earn additional revenue from growth in sales between base distribution rate proceedings and further acknowledged that such revenue typically funded, among other things, increased operating and maintenance ("O&M") expenses as well as system reliability and capital investment projects. D.P.U. 07-50-A at 48, 87. Accordingly, the Department stated that it would consider

company-specific proposals that account for the effects of increased capital investments and inflation on target revenue. D.P.U. 07-50-A at 49-50.

1. Company's Electric Revenue Decoupling Proposal

Pursuant to its RDM, Unitil annually reconciles its actual base revenues (consisting of customer and distribution charges) to a target level of revenues through a kilowatt hour ("kWh") charge based on projected sales (Exh. Unitil-DJD-1, at 3 (electric); M.D.P.U. No. 272 (Sch. RDAC), § 5.1 (electric)). The Department established the Company's RDM in its base distribution rate case, D.P.U. 11-01/D.P.U. 11-02, at 113, 126-127, and approved revisions to the mechanism for the Company's electric division in its subsequent base distribution rate case, D.P.U. 13-90, at 260-261.¹² The Company proposes to continue its current RDM with updated target revenues set at the proposed base rate revenue requirement for each customer class (Exh. Unitil-DJD-1, at 3 (electric); proposed M.D.P.U. No. 285 (Sch. RDAC), § 4.0 (electric)). As discussed in Section III.A., below, Unitil also has proposed a CCAM that would allow the Company to recover costs associated with post-test-year capital additions (Exhs. Unitil-MHC-1, at 16-21 (electric); Unitil-DJD-1, at 4 (electric); proposed M.D.P.U. No. 286 (Sch. CCA) (electric)).¹³ Unitil proposes to submit

¹² In D.P.U. 13-90, at 260-261, the Department terminated Unitil's residential assistance adjustment factor ("RAAF") and ordered the Company to recover the revenue shortfall associated with the low-income discount through the RDM. In this Order, we reinstate the RAAF. See Section VII.O., below.

¹³ For each rate class, the Company would update each year the class-specific decoupling revenue adjustment approved in this proceeding with the revenue adjustments for the CCAM to determine the annual target revenues (Exh. Unitil-MHC-1, at 20 (electric); proposed tariff M.D.P.U. No. 285 (Sch. RDAC), §§ 3.0, 4.0 (electric)).

annual filings to reconcile its actual revenues to the target level of revenues and capital cost adjustments pursuant to its revenue decoupling adjustment clause (“RDAC”), with these adjustments to take effect on January 1st of the following calendar year (Exhs. Unitil-DJD-1, at 3 (electric); proposed M.D.P.U. No. 285 (Sch. RDAC), §§ 4.0, 5.0 (electric)).

2. Company’s Gas Revenue Decoupling Proposal

For its gas division, Unitil proposes to update its RDAC tariff to include the proposed distribution revenue allocator and revised target revenue per customer based on the proposed revenue requirement for each customer class group (Exhs. Unitil-DJD-1, at 3 (gas); proposed M.D.P.U. No. 189 (Sch. RDAC), § 1.04(11) (gas)). Consistent with the decoupling method approved in D.P.U. 11-01/D.P.U. 11-02, the Company proposes to group residential heating and non-heating customers separately while combining all commercial and industrial (“C&I”) customer classes in setting target revenues per customer (Exh. Unitil-DJD-1, at 3 (gas); proposed M.D.P.U. No. 189 (Sch. RDAC), § 1.04(5) (gas)). In applying the distribution revenue allocator to the revenue decoupling adjustment, the Company proposes to group all the residential customers (i.e., rate classes R-1, R-2, R-3, and R-4) together and to separate the C&I customers into low (i.e., rate classes G-41, G-51), medium (i.e., rate classes G-42, and G-52), and high (i.e., rate classes G-43, and G-53) usage consistent with the method approved in Cost-Based Reconciling Charges, D.P.U. 12-126A through D.P.U. 12-126I (2013).

B. Positions of the Parties

1. Attorney General

The Attorney General confines her revenue decoupling-related commentary to the Company's proposed gas division customer class groupings (Attorney General Brief at 74-79 (gas); Attorney General Reply Brief at 42-43).¹⁴ The Attorney General argues that the Company's proposed C&I customer classes should not be grouped together as one class for the purpose of applying revenues per customer to calculate the revenue decoupling adjustment (Attorney General Brief at 74 (gas)). Instead, the Attorney General argues that the C&I rate classes should be separated into two groups: (1) low-load factor rate classes (i.e., rate classes G-41, G-42, and G-43), and (2) high-load factor rate classes (i.e., rate classes G-51, G-52, and G-53) (Attorney General Brief at 74 (gas)). The Attorney General further contends that Unitil should modify the RDAC tariff's distribution revenue allocator to reflect these new groupings: (1) residential heating; (2) residential non-heating; (3) low-load factor C&I; and (4) high-load factor C&I (Attorney General Brief at 74 (gas)). The resulting revenue decoupling adjustment would then be allocated to the customer classes according to revenues for those same C&I load factor-based customer groups and then by volumes within the customer class group, which the Attorney General maintains will properly allocate the revenue-per-customer adjustment to the group that caused the adjustment (Attorney General Brief at 74-75 (gas)).

¹⁴ The Attorney General discusses the influence of Unitil's decoupling mechanism on the Company's rate of return in her commentary addressing the electric division CCAM proposal. See Section III.B.1., below.

The Attorney General argues that grouping all C&I customers together disproportionately harms (or benefits) high-load factor customer classes G-51, G-52, and G-53 by inappropriately allocating to them a portion of any shortfalls (or windfalls) created by low-load factor rate classes due to weather, heating-related load management, or energy efficiency programs (Attorney General Brief at 74-75 (gas), citing Exh. AG-RSB-3 (gas)). The Attorney General contends that in the 2014 test year, approximately 80 percent of the low-load factor C&I customer load was temperature sensitive, while only 20 percent of the high-load factor C&I customer load was temperature sensitive (Attorney General Brief at 75 (gas), citing Exh. AG-RSB-3 (gas)). Citing Company-reported base revenue figures illustrating weather variance per class for the 2014 test year, the Attorney General asserts that under the Company's proposed RDAC, small high-load factor C&I customers would pay 21 percent of the small C&I share of the decoupling adjustment despite causing only six percent of the adjustment, and medium high-load factor C&I customers would pay 26 percent of the decoupling adjustment despite causing only 14 percent of the adjustment (Attorney General Brief at 76 (gas), citing RR-DPU-6 (gas)).¹⁵ According to the Attorney General, allocating responsibility for the over- or-under collection of revenue to C&I rate classes of the same size, regardless of load factor, burdens high-load factor C&I customer

¹⁵ The Attorney General uses test-year weather adjustments per class as a proxy for weather variance by representing each individual class adjustment in proportion to its total class size (Attorney General Brief at 76 (gas), citing RR-DPU-6 (gas)). For instance, the G-41 class weather adjustment is (\$118,158), representing 94 percent of total small C&I variance, while the G-51 class weather adjustment is (\$7,434), representing six percent of small C&I variance (RR-DPU-6 (gas)).

classes with decoupling costs that they do not generate and violates the rate design principles of fairness and efficiency (Attorney General Brief at 76-77 (gas)).

The Attorney General contends that the Department rejected a similar C&I disaggregation proposal in NSTAR Gas Company, D.P.U. 14-150 (2015) (Attorney General Brief at 77 (gas)). The Attorney General asserts that the Department's decision in that proceeding was due to fears that customers may switch from high-load factor to low-load factor rate classes to the benefit of NSTAR Gas or that a company might try to "game" its decoupling adjustment and induce customers to migrate to the load factor group with the more excessive revenues per customer (Attorney General Brief at 77 (gas), citing D.P.U. 14-150, at 19-20). The Attorney General argues that the Department should not concern itself with these potential issues in the instant case because customers switching from a high- to low-load factor class will be treated as new customers and, therefore, be removed from the RDAC calculation (Attorney General Brief at 77-78 (gas); Attorney General Reply Brief at 43, citing Tr. 7, at 487). The Attorney General also maintains that Unitil's records show minimal impacts to the decoupling adjustment from movement between rate classes or load factors (Attorney General Brief at 78-79 (gas); Attorney General Reply Brief at 43, citing RR-AG-18 (gas)). Instead, the Attorney General asserts that the Company's data on C&I customer migration between load factor classes over a period of five years demonstrates that the customer exchange between low-load factor and high-load factor classes "equaled out" and

offset any impact on the decoupling adjustment (Attorney General Brief at 78-79 (gas), citing RR-AG-18 (gas)).¹⁶

The Attorney General argues that separating the C&I customer classes into high-load factor and low-load factor groups for purposes of calculating the revenues per customer and determining the decoupling adjustment is good rate design because it is simple, efficient, and fair (Attorney General Brief at 79 (gas); Attorney General Reply Brief at 43). Accordingly, the Attorney General recommends the Department adopt the Attorney General's modification (Attorney General Brief at 79 (gas); Attorney General Reply Brief at 43).

2. Company

Unitil argues that its proposed RDM for the gas division follows earlier Department precedent set in D.P.U. 11-02 and in D.P.U. 14-150 (Company Brief at 111, citing Exh. AG 12-2). Specifically, the Company asserts that the Department recognized that establishment of class-specific revenue-per-customer benchmarks may be unrepresentative of the cost to serve that class, and that, reaffirming earlier findings, the Department found that migration between rate classes could provide perverse incentives to actually increase throughput to particular classes against the primary purpose of an RDM (Company Brief at 111). Unitil further contends that the Department rejected a similar C&I class aggregation

¹⁶ The Attorney General asserts that from 2010 through 2014, an average of 45 customers moved from low-load factor to high-load factor and 41 customers moved from high-load factor to low-load factor (Attorney General Brief at 78 & n.27 (gas), citing RR-AG-18 (gas)).

proposal by the Attorney General in D.P.U. 14-150, because the Department was not persuaded the aggregation proposal was appropriate (Company Brief at 111).

Finally, the Company argues the Attorney General's suggestion that migration incentives are minimized because customers' merely adding load somehow would result in their being deemed "new" customers excluded from decoupling adjustments is misleading (Company Reply Brief at 26-27, citing Attorney General Reply Brief at 43). The Company contends that, in fact, a new customer classification requires not only that the customer change usage, but also that Unitil make an incremental investment in plant to support that change, belying the Attorney General's argument that new customer classification cancels out customers adding load and migrating between low-load and high-load factors (Company Reply Brief at 27). For these reasons, the Company argues that the Department should accept Unitil's RDM design as proposed (Company Brief at 111; Company Reply Brief at 27).

C. Analysis and Findings

1. Revenue Decoupling Adjustments

The grouping of C&I customers for purposes of an RDM has been approved by the Department in other gas company decoupling proposals. See D.P.U. 14-150, at 20; D.P.U. 11-01/D.P.U. 11-02, at 115; New England Gas Company, D.P.U. 10-114, at 24 (2011); Boston Gas Company/Essex Gas Company/Colonial Gas Company, D.P.U. 10-55, at 41 (2010); Bay State Gas Company, D.P.U. 09-30, at 90-91 (2009). In each of those cases, the Department accepted the company's proposal to group the C&I rate classes into one group and develop one base revenue-per-customer benchmark for that group. D.P.U. 14-150, at 20;

D.P.U. 11-01/D.P.U. 11-02, at 115; D.P.U. 10-114, at 24; D.P.U. 10-55, at 41;

D.P.U. 09-30, at 90-91.

Nonetheless, D.P.U. 14-150 is the exception among the cases cited in that no intervenor proposed alternate C&I groupings for purposes of revenue decoupling in the earlier cases. D.P.U. 11-01/D.P.U. 11-02, at 115; D.P.U. 10-114, at 24; D.P.U. 10-55, at 41; D.P.U. 09-30, at 90-91. The Department approved company-specific decoupling proposals with uncontested C&I groupings prior to D.P.U. 14-150. D.P.U. 11-01/D.P.U. 11-02, at 115; D.P.U. 10-114, at 24; D.P.U. 10-55, at 41; D.P.U. 09-30, at 90-91.¹⁷ The Attorney General first raised the issue of grouping C&I rate classes by load factor for revenue allocation and revenues-per-customer application in D.P.U. 14-150. D.P.U. 14-150, at 11-13.

In reviewing the precedent and additional evidence brought to light by the Attorney General, the Department must weigh new data against its previous decisions. In the instant case, the Attorney General has demonstrated that weather variance impacts on high-load factor classes G-51, G-52, and G-53 in the current rate design configuration result in their shouldering a significant portion of the revenue decoupling shortfall recovery (RR-DPU-6

¹⁷ In D.P.U. 12-126A through D.P.U. 12-126I, Liberty Utilities (New England Natural Gas Company) Corp. (“Liberty”) proposed to create two similar C&I groups distinguished by high-load factor and low-load factor criteria for allocation purposes within the cost-based rate design of a distribution revenue allocator for cost recovery reconciliation. See D.P.U. 12-126, Exh. Gas-1, at 14. The Department accepted Liberty’s proposal of two C&I sectors, including one for low-load factor classes G-41, G-42, and G-43, and a second for high-load factor classes G-51, G-52, and G-53. See D.P.U. 12-126A through D.P.U. 12-126I at 22. This rate approach was further approved in Liberty’s recent base distribution rate settlement. See Liberty Utilities (New England Natural Gas Company) Corp., D.P.U. 15-75, at 11-12 (February 10, 2016).

(gas)). The evidence shows that certain high-load factor C&I classes using notably less gas in the winter pay disproportionately more of the revenue decoupling adjustment than their low-load factor C&I class counterparts, especially among small and medium C&I customers.¹⁸ The resulting subsidization of low-load factor C&I classes by high-load factor classes is inconsistent with the Department's principles of cost causation and fairness in rate design.

Regarding the issue of migration, while the Department's concerns remain valid, the Attorney General's arguments for reversing the inequities in costs and benefits between high-load factor and low-load factor rate classes discussed above offer a considerable counterweight. Moreover, evidence of ongoing migration between Unitil's high-load factor and low-load factor rate classes over a five-year period without a noticeable influence on the Company's revenue decoupling allocation belies the concerns over decoupling impacts discussed here. On the other hand, the Department disagrees with the Attorney General's statement that customers switching from a high- to low-load factor class will be treated as new customers and therefore removed from the RDAC calculation. On this point, we agree with Unitil that criteria for classifying new customers entails more than simply switching load factor classification.

Adding the high-load factor and low-load factor designations to the allocation of costs creates an additional step for the Company in allocating its revenue decoupling adjustments,

¹⁸ Low-load factor classes show a higher variation in natural gas usage related to weather since they use significantly more gas during colder winter months for heating, while the high-load factor classes maintain a more consistent and lower overall annual level of gas consumption (Exhs. AG-RSB-1, at 8-11 (gas); AG-RSB-3 (gas)).

but carries no revenue impact on the Company. Unitil will still collect or reimburse the same total revenue with two separate C&I load groupings included in the allocation factors.

Disaggregating the C&I classes divides the C&I group along the same heating and non-heating load factor lines that already divide the residential classes. Furthermore, the Company already identifies its rate classes by high-load and low-load factors when allocating costs as part of the semi-annual revision to its gas adjustment factor (“GAF”). Fitchburg Gas and Electric Light Company, D.P.U. 15-GAF-P4 (2015). Adding a high-load factor and low-load factor element to the revenue decoupling adjustment will introduce greater consistency between Unitil’s revenue decoupling adjustment factor (“RDAF”) and GAF. Further, other companies have found this approach appropriate to help mitigate bill impacts for the various use factors in the same class. See D.P.U. 12-126, Exh. Gas 1, at 14.

For these reasons, the Department accepts the Attorney General’s recommendation that the Company group C&I customer classes by load factor for the purpose of applying revenues per customer to calculate the revenue decoupling adjustment. The Department directs Unitil to designate its G-51, G-52, and G-53 C&I customer classes as one high-load factor group and its G-41, G-42, and G-43 C&I customer classes as a second low-load factor group for the purpose of application of revenues per customer to calculate the revenue decoupling adjustment.

Following completion of the new groupings for application of revenues per customer, the Department directs the Company to apply them to the distribution revenue allocator resulting in four segments of allocated distribution revenues: (1) R-1 and R-2 residential non-heat classes;

(2) R-3 and R-4 residential heat classes; (3) G-41, G-42, and G-43 C&I customer classes; and (4) G-51, G-52, and G-53 C&I customer classes.

For the electric division, the Company proposes to base its one-percent revenue decoupling adjustment cap on the “total annual change” in the revenue decoupling adjustment (“RDA”) (Exh. Unitil-1, proposed tariff M.D.P.U. No. 285, § 6.0 (electric)). For the gas division, the Company proposes to base its three-percent revenue decoupling adjustment cap on the “change in the peak or off-peak RDA” (Exh. Unitil, proposed tariff M.D.P.U. No. 189, § 1.05 (gas)). Although the language is consistent with revenue decoupling tariffs approved in Unitil’s previous base distribution electric and gas rate cases, i.e., D.P.U. 11-01/D.P.U. 11-02 and D.P.U. 13-90, the basis of the adjustment cap is not consistent with RDA caps of other electric and gas distribution companies that base their caps on a percentage of total company revenues. See D.P.U. 14-150, M.D.P.U. No. 409; Massachusetts Electric Company/Nantucket Electric Company, D.P.U. 09-39 (2010), M.D.P.U. No. 123I; D.P.U. 10-114, M.D.P.U. No. 1025A; Western Massachusetts Electric Company, D.P.U. 10-70 (2011), M.D.P.U. No. 1050E). The Department directs the Company to modify the language of its electric RDAC tariff to reflect an adjustment cap based on one percent of total company revenues from the previous calendar year. The Department directs the Company to also modify the language of its gas RDAC tariff to reflect an adjustment cap based on three percent of total company revenues from the previous calendar year. Finally, Unitil is directed to include language that ensures that the one-percent cap for

the electric division and the three-percent cap for the gas division is applied only to under-recoveries collected from ratepayers.

2. Conclusion

With the changes discussed and ordered above, the Department finds that Unitil's proposed RDMs for its electric and gas divisions are consistent with the policy framework established in D.P.U. 07-50-A and D.P.U. 07-50-B. We find that the proposed RDMs appropriately align the financial interests of the Company with the efficient deployment of demand resources, and will ensure that the Company is not harmed by decreases in sales associated with the increased use of demand resources. Further, we find that operation of the Company's proposed RDM adjustments will result in just and reasonable rates. Accordingly, Unitil's proposed electric and gas RDMs are approved as modified herein.

III. ELECTRIC DIVISION CAPITAL COST ADJUSTMENT MECHANISM

A. Introduction

Pursuant to its RDM, Unitil annually reconciles its actual base revenues (consisting of customer and distribution charges) to a target level of revenues through a kWh charge, based on projected sales (proposed M.D.P.U. No. 285 (Sch. RDAC), § 5.0 (electric)). As noted in Section II.A.1., above, the Department established the Company's electric division RDM in D.P.U. 11-01/D.P.U. 11-02, and approved its continuance in Unitil's last base distribution rate case. D.P.U. 13-90, at 264. Unitil proposes to continue its current RDM (with updated target revenues) and also proposes to add to it a CCAM for its electric division

(Exhs. Unitil-MHC-1, at 16-21 (electric); Unitil-DJD-1, at 3 (electric)). See Section II., above, for a more detailed discussion of the Company's RDM proposal.

Through the CCAM, Unitil proposes to implement a distribution rate adjustment mechanism that: (1) would allow it to collect the revenue requirement associated with the annual change in distribution net plant in service for capital expenditures in service on or after January 1, 2015; and (2) would cap the revenue requirement to be collected annually through the CCAM at two percent of the Company's total revenue (Exhs. Unitil-MHC-1, at 18-19 (electric); DPU-FGE 7-3 (Rev.) (electric); proposed M.D.P.U. No. 286 (Sch. CCA), §§ 1.3, 3.0 (electric)). Unitil proposes to calculate the CCAM revenue requirement to include the return on the annual change in distribution net plant in service at a rate equal to the pre-tax weighted average cost of capital ("WACC"),¹⁹ as approved by the Department in the Company's most recent base distribution rate case, or as revised by a subsequent Department Order, plus the depreciation expense on the change in distribution gross plant in service, plus the property taxes on the annual change in distribution net plant in service (proposed M.D.P.U. No. 286 (Sch. CCA), § 1.2 (electric)).

Under the Company's proposal, Unitil would file documentation with the Department every July 1 in support of the distribution capital expenditures that the Company incurred in the preceding calendar year (Exh. Unitil-MHC-1, at 19 (electric)). In November of each year, or 60 days prior to the effective date of the CCAM rate adjustments, the Company would

¹⁹ On an annual basis, Unitil proposes to calculate the distribution net plant in service as distribution gross plant in service less distribution plant accumulated depreciation (proposed M.D.P.U. No. 286 (Sch. CCA), § 1.2 (electric)).

submit rate class adjustments pursuant to its CCAM proposals for rates effective January 1 of the following year (Exh. Unitil-MHC-1, at 20 (electric)).²⁰

Unitil seeks approval of a CCAM to allow it the opportunity to earn closer to its authorized return and to issue additional long-term debt (Exh. Unitil-MHC-1, at 3-4 (electric)). In support of its proposal, the Company presented a financial model that shows its return on equity (“ROE”) will decline to four percent in 2019 due to increases in depreciation, property tax, and interest expense associated with capital expenditures (Exh. Unitil-MHC-1, at 13 (electric)).²¹ The Company concludes that the projected erosion in its ROE results solely from costs necessary to meet the Company’s service obligations to customers (Exh. Unitil-MHC-1, at 13 (electric)).

Further, the Company is unable to issue additional long-term debt (Exh. Unitil-MHC-1, at 4 (electric)). Unitil’s current note purchase agreements on its outstanding long-term debt require the Company to meet an interest coverage ratio test, which requires Unitil’s earnings available for interest to be equal to or exceed two times the amount of its interest expense (Exhs. Unitil-MHC-1, at 4 (electric); AG 8-22, Atts. 2-6, at 20-22 (electric)). At the end of 2014, the Company’s interest coverage ratio was approximately at the minimum level, before

²⁰ Under the Company’s proposal, it expects to submit its first annual CCAM filing on July 1, 2016, which will include capital expenditure information for calendar year 2015 (Exhs. DPU-FGE 7-2 (electric); DPU-FGE 7-3 (Rev.) (electric)). Unitil proposes to submit rate and annual target revenue adjustments for the CCAM on or before November 2, 2016, for rates effective January 1, 2017 (Exhs. DPU-FGE 7-2 (electric); DPU-FGE 7-3 (Rev.) (electric)).

²¹ This calculation is based on the Company’s assumption that its proposed 10.25 percent ROE is allowed (Exh. Unitil-MHC-1, at 13 (electric)).

the issuance of any new long-term debt (Exh. Unitil-MHC-1, at 4 (electric)). Therefore, Unitil proposes its CCAM to alleviate its earnings deficiency (Exh. Unitil-MHC-1, at 17 (electric)).

B. Positions of the Parties

1. Attorney General

The Attorney General argues that the Department should reject Unitil's basis for needing a CCAM (Attorney General Brief at 6 (electric)). Specifically, the Attorney General disputes the validity of the Company's financial forecast and its claims of earnings deficiencies (Attorney General Brief at 6 (electric)).

The Attorney General asserts that Unitil's financial model contains errors and omissions, and therefore, it is not credible evidence (Attorney General Brief at 6, 10 (electric), citing Exh. Unitil-MHC-1, Schs. MHC-1, MHC-2, MHC-3 (electric); Attorney General Reply Brief at 2). According to the Attorney General, the Company's depreciation expense, plant balances for retirements, bonus depreciation, and capital repairs expense depreciation tax deduction calculations are incorrect, and Unitil failed to include in the financial model revenues from energy efficiency programs, purchased power contracts for wind generation, and the return on PAF regulatory assets (Attorney General Brief at 11 (electric), citing Exh. Unitil-MHC-1, Sch. MHC-1 (electric); Tr. 1, at 29, 31-34; Attorney General Reply Brief at 3). The Attorney General claims that Unitil did not disagree with any of the Attorney General's proposed corrections (Attorney General Reply Brief at 3, citing Company Brief at 21-23). Thus, the Attorney General asserts that the Department should not rely on a "back-of-the-envelope" calculation as a basis for the Company's proposed capital tracker,

which could collect as much as two percent of Unitil's annual revenue (Attorney General Reply Brief at 3, citing Company Brief at 14).

Further, the Attorney General claims that the Company creates a downward bias in the financial forecast by overestimating its current capital expenditure forecast compared to its forecast of capital expenditures in 2013 (Attorney General Brief at 12-13 (electric)). For example, the Attorney General purports that the Company forecasted capital expenditures of \$8,872,927 in 2015 (Attorney General Brief at 12 (electric), citing Exhs. Unitil-MHC-1, Schs. MHC-1, MHC-2 (electric); AG 1-17, Att. at 1, 3 (electric)). The Attorney General calculates that this forecast is approximately one million dollars more than its 2015 forecast presented in its last base distribution rate case, and approximately \$1.4 million more than actual 2014 capital additions (Attorney General Brief at 12 (electric), citing Exhs. Unitil-MHC-1, Schs. MHC-1, MHC-2 (electric); AG 1-17, Att. at 1, 3 (electric); D.P.U. 13-90, Exh. AG 1-18²²).

The Attorney General concludes that the accounting omissions and inflated capital expenditures forecast render the Company's financial model as unreliable evidence in this proceeding (Attorney General Brief at 13 (electric)). The Attorney General claims that the Department has rejected forecasts that are not creditable in the past (Attorney General Brief at 11 (electric), citing Massachusetts Electric Company/Nantucket Electric Company, D.P.U. 10-54, at 107 (2010); Boston Edison Company/Cambridge Electric Light

²² The Department notes that Exh. AG 1-18 from D.P.U. 13-90 is not part of the record in this proceeding.

Company/Commonwealth Electric Company, D.T.E./D.P.U. 06-107-B, at 18-19 (2009)).

Therefore, the Attorney General requests that the Department afford no weight to Unitil's financial model in the instant proceeding (Attorney General Brief at 6 (electric); Attorney General Reply Brief at 3).

Moreover, the Attorney General maintains that, based on her position on the Company's financial forecast above, the Department should also reject the claims of earnings deficiency (Attorney General Brief at 6 (electric); Attorney General Reply Brief at 7). The Attorney General asserts that Unitil's claims of earnings deficiency should be disregarded given the Company's choice in designing its decoupling mechanism, its choice of compensation packages for employees during the claimed period of earnings deficiency, and increasing service company cost allocations (Attorney General Brief at 6 (electric)).

In addition, the Attorney General argues that Unitil proposed its decoupling mechanism to recover a fixed amount of revenue established in base distribution rates (Attorney General Brief at 7 (electric), citing D.P.U. 11-01/D.P.U. 11-02, at 77-79). According to the Attorney General, gas distribution companies in Massachusetts decouple revenues from sales using an average use per customer annual target, which allows gas companies to maintain a higher level of revenues between base distribution rate cases by adding new customers to the system (Attorney General Brief at 7 (electric)). Alternatively, the Attorney General maintains that the decoupling mechanism employed by Unitil's electric division does not provide the Company with additional revenues between base distribution rate cases, and the target revenue is fixed at the base revenue set in each base distribution rate case (Attorney General Brief at 7 (electric),

citing Exh. Unitil-MHC-1, at 8-10 (electric)). The Attorney General alleges that the Company could have implemented the gas division's decoupling method for the electric division to incentivize the addition of new customers and increased revenue retention (Attorney General Brief at 7 (electric)).

Moreover, the Attorney General maintains that when the Department approved the Company's fixed annual target revenue decoupling method without a capital tracker, the Department also recognized that the cost of capital would be adjusted accordingly (Attorney General Reply Brief at 6, citing D.P.U. 11-01/D.P.U. 11-02, at 104-105). She argues that Unitil's rates already include a higher cost of capital, which adjusts the Company's revenue requirement for the increased risk associated with the disallowance of the capital tracker in D.P.U. 11-01/D.P.U. 11-02 (Attorney General Reply Brief at 7). Therefore, the Attorney General argues that the Department should reject Unitil's claims that decoupling caused its earnings deficiency (Attorney General Brief at 7 (electric)).

The Attorney General also argues that the Company granted large increases in employee compensation with the knowledge that Unitil's earnings would be deficient (Attorney General Brief at 7 (electric), citing Exh. Unitil-MHC-1, at 3-6 (electric)). The Attorney General alleges that Unitil Corporation's chairman and chief executive officer, as well as other senior executive officers, received salary increases in 2013 and 2014 (Attorney General Brief at 8-10 (electric), citing Exh. AG 1-2(6) (electric)). For example, the Attorney General claims that the Company granted the following increases in total compensation between 2012 and 2014: (1) the chairman and chief executive officer received a 48 percent increase; (2) the chief

financial officer and treasurer received a 71 percent increase; (3) the chief operating officer received a 51 percent increase; (4) the senior vice president received a 41 percent increase; and (5) the vice president received at 41 percent increase (Attorney General Brief at 10 (electric), citing Exh. AG 1-2(6) (electric); Attorney General Reply Brief at 2). Further, the Attorney General argues that service company employees received salary increases between 4.0 percent and 4.2 percent between 2013 and 2015, which the Attorney General claims is twice the rate of inflation during those years (Attorney General Brief at 10 (electric), citing Exhs. Unutil-DLC-1, WP 4.1 (electric); AG-JRW-14, at 4 (electric); AG 1-41 (electric)).

Further, the Attorney General argues that Unutil's compensation is well above the median compensation for comparable utilities, contrary to the Company's assertion that its compensation is below that of comparable utilities at 87 percent of the market median (Attorney General Reply Brief at 3, citing Company Brief at 10). The Attorney General argues that comparing the Company to the market median compensation in the study is not an apples-to-apples comparison, given the size of the companies included in the study (Attorney General Reply Brief at 4, citing Exh. AG 15-2, Att. 2 (electric)). According to the Attorney General, Unutil's compensation exceeds the market median at the lower 25th percentile (Attorney General Reply Brief at 4, citing Exh. AG 15-2, Att. 2, at 26 (electric)). The Attorney General maintains that the Company's claim that employee compensation is lower than that of comparable companies is incorrect and conflicts with the application of Unutil's own study (Attorney General Reply Brief at 5). Therefore, the Attorney General asserts that

the total compensation and salary increases that Unitil paid to its employees over the last few years negate its claims of earnings deficiency (Attorney General Brief at 10 (electric)).

In addition, the Attorney General contends that the Company's service company costs have grown significantly in the last six years (Attorney General Reply Brief at 5). The Attorney General claims that service company costs allocated to the Company have increased 6.3 percent per year, or more than three times the rate of inflation (Attorney General Reply Brief at 6, citing Exh. AG-JRW-14, at 4). Thus, the Attorney General asserts that the Company's income is materially affected by these increasing costs (Attorney General Reply Brief at 5). Further, the Attorney General argues that increasing service company costs accounted for 20 percent of Unitil's base distribution rate increase in D.P.U. 11-01 and 28 percent of its base distribution rate increase in D.P.U. 13-90 (Attorney General Reply Brief at 6, citing D.P.U. 11-01/D.P.U. 11-02, at 499; D.P.U. 13-90, at 276). Therefore, the Attorney General concludes that the Company's under earning is caused by the service company's failure to run its business efficiently and to control costs (Attorney General Reply Brief at 6, 7).

Based on the foregoing arguments, the Attorney General asserts that the Company did not present new arguments or credible evidence for the Department to reconsider its prior findings (Attorney General Reply Brief at 2, 7). The Attorney General argues that the Department should reject the Company's basis for the CCAM (Attorney General Brief at 6 (electric)). Thus, the Attorney General recommends that the Department deny Unitil's request

for a capital cost recovery mechanism (Attorney General Brief at 13 (electric); Attorney General Reply Brief at 7).

2. DOER

In its initial brief, DOER raised concerns regarding the Company's reasons for seeking a capital tracker (DOER Brief at 3-4 (electric)). DOER requested that Unitil articulate its position for either: (1) the Department's approval of the Company's proposed CCAM; or (2) modifications to the Department's capital tracker standard to thereby accept the Company's CCAM proposal, subject to procedural safeguards (DOER Brief at 4 (electric)).

Based on the Company's articulation on brief, DOER is satisfied with the way that Unitil has addressed the concept of its CCAM in this proceeding (DOER Reply Brief at 2 (electric)). According to DOER, since the Company originally requested a CCAM in 2011, Unitil has sought rate relief twice, in 2013 and 2015 (DOER Reply Brief at 2-3 (electric)). DOER argues that the Company's approach to rate relief is not sustainable (DOER Reply Brief at 3 (electric)). According to DOER, Unitil's proposed CCAM could obviate the Company's need to file for rate relief year after year, while maintaining appropriate safeguards to protect ratepayers (DOER Reply Brief at 3 (electric)). DOER assumes that there should be no reason that Unitil would need to file its next base distribution rate case any sooner than the minimum schedule prescribed by statute (i.e., five years) absent extreme circumstances (DOER Reply Brief at 3 n.1 (electric)). Moreover, DOER argues that the Company should be afforded the opportunity to earn its authorized return and to be in a financial situation where it is able to finance its construction program with long-term debt (DOER Reply Brief at 3 (electric), citing

Company Brief at 10-11). Additionally, DOER acknowledges that the Company's proposed CCAM is similar to the capital cost recovery mechanism in place for Massachusetts Electric Company and Nantucket Electric Company, d/b/a National Grid ("National Grid") (DOER Reply Brief at 3 (electric), citing D.P.U. 09-39, at 78-84). DOER does not argue on the specifics of the CCAM but defers to the judgment of the Department with regard to the various components of the Company's proposed CCAM (DOER Reply Brief at 3-4).

3. Company

The Company asserts that the current ratemaking structure for both its electric and gas divisions is confiscatory and not working (Company Brief at 4, 10, citing Exh. Unitil-MHC-1, at 4 (electric)). Unitil maintains that its electric and gas divisions have chronically under earned and forecasts that it will continue to significantly under earn in 2015 (Company Brief at 4, 10, citing Exh. Unitil-MHC-1, at 3-4 (electric)).²³ Moreover, the Company asserts that it is unable to finance its continuing capital investments required to provide safe and reliable service (Company Brief at 10).

Unitil argues that it is unable to issue additional long-term debt pursuant to requirements in its note purchase agreements (Company Brief at 4, 10). According to the Company, it must satisfy an interest coverage test prior to the issuance of additional long-term

²³ According to Unitil, its electric division's ROE for the years 2012 through 2014 were 2.7 percent, 2.8 percent, and 3.0 percent, respectively, despite authorized ROEs of 9.2 percent in 2011 and 9.7 percent in 2014 (Company Brief at 4). Unitil maintains that its gas division achieved ROEs of 7.3 percent, 7.0 percent, and 5.4 percent during those same years, while it was authorized to earn an ROE of 9.2 percent (Company Brief at 4).

debt, but it is unable to meet the requirements of this test (Company Brief at 5). According to the Company, it is able to continue funding operations in the near term through internally-generated cash flow and supplemental short-term borrowings (Company Brief at 5, 10, citing Exh. Unitil-MHC-1, at 5, 6 (electric)). Unitil asserts, however, that without access to the long-term debt market to refinance its short-term borrowings, it obtained higher cost short-term borrowings and cost of equity financings to meet its capital obligations (Company Brief at 5, citing Exh. Unitil-MHC-1, at 5 (electric)). Unitil maintains that this situation is neither sustainable in the long-term nor beneficial to the Company or its customers (Company Brief at 5, citing Exh. Unitil-MHC-1, at 5 (electric)). Moreover, according to the Company, it is common financing practice to match the duration of an investment and its associated liability such that the income produced from the asset can cover the debt payments used to finance it (Company Brief at 5, citing Exh. Unitil-RBH-1, at 39-40 (electric)).

The Company argues that the ability to attract capital at reasonable terms is in the customer's best interests (Company Brief at 6). Unitil maintains that it is exposed to increased interest rate volatility risk as a result of its situation because short-term debt is based on a margin applied to the variable London Interbank Offered Rate (Company Brief at 5-6). Additionally, the Company asserts that it is unable to access long-term interest rates, which are now at historic lows (Company Brief at 6). Therefore, Unitil claims that the sooner its financial health is restored, the sooner it will be able to access low-rate long-term debt and thus minimize the impact to customers from higher interest rates (Company Brief at 6).

Unitil further elaborates on the reasons for its electric division's low earnings (Company Brief at 7). According to the Company, its rate base is growing, its expenses are increasing, and its revenues are frozen (Company Brief at 7). Unitil claims that under traditional ratemaking, an increase in revenues after the test year would offset, in part, the increasing cost of plant and the inflationary pressure on operating expenses (Company Brief at 7). The Company asserts that the Department has changed one component of traditional ratemaking (i.e., revenue decoupling), while adhering to the traditional test-year-end rate base and known and measurable O&M adjustments to the midpoint of the rate year (Company Brief at 7). Further, Unitil argues that with a ten-month suspension period, rate base increases above the test-year level for a period of approximately 16 months before new rates take effect (Company Brief at 7). Thus, the Company asserts that the current regulatory model does not provide Unitil with an opportunity to: (1) earn its authorized return, in a time of rising costs and increasing capital investments; and (2) invest in new capital projects to provide customers with safe and reliable service (Company Brief at 7-8, citing Exh. Unitil-MHC-1, at 7 (electric)).

Regarding the current regulatory model, the Company asserts that revenue decoupling and energy efficiency should not be the only factors to affect the Company's low earnings for the Department to make changes to its historical test-year approach (Company Brief at 10, citing Exh. Unitil-MHC-1, at 8 (electric)). According to Unitil, it has demonstrated that its sales have increased, and absent spending to reduce sales, they would have increased more (Company Brief at 10, citing Exh. Unitil-MHC-1, at 8-9 (electric)). The Company argues,

however, that whether the “lost revenues” offset increased costs from capital spending above depreciation expense and increased O&M “misses the point” (Company Brief at 10). Instead, Unitil asserts that the Department should focus on all the reasons why the current regulatory model is not working and what changes should be made to the model to allow it, and other electric distribution companies, the opportunity to earn their authorized returns (Company Brief at 10-11). In support of its position, Unitil claims that the Supreme Judicial Court stated that “the choice of method to deal with attrition is the Department’s but failure to deal with it is not a permitted option on the record before us” (Company Brief at 11, citing New England Telephone and Telegraph Company v. Department of Public Utilities, 371 Mass. 67, at 74 (1976)). According to the Company, it is proposing the CCAM to alleviate its earnings attrition and to have the opportunity to earn its authorized return (Company Brief at 14, 23). Unitil claims that its proposal is consistent with the capital cost recovery mechanism authorized for National Grid (Company Brief at 14). Thus, the Company maintains that the Department should allow the CCAM as proposed (Company Brief at 23).²⁴

The Company asserts that the Attorney General raises four arguments in opposition to Unitil’s proposed CCAM: (1) the Company’s financial model is unreliable; (2) Unitil “chose” the method of implementing its decoupling mechanism; (3) Unitil’s senior executives and service company employees receive excess compensation; and (4) increasing service company

²⁴ Additionally, the Company asks the Department to investigate whether multi-year rate plans with incentives better match the earnings of all utilities under its jurisdiction and provide more benefits to customers (Company Brief at 23).

costs (Company Brief at 16, 20). Unitil purports that the Attorney General ignores facts in support of its proposed CCAM (Company Brief at 16).

First, in response to the Attorney General's argument that the Company's financial model is unreliable, Unitil claims that the model was developed with specific assumptions, and it is not meant to be comprehensive (Company Brief at 21, citing Exh. Unitil-MHC-1, at 11-15 (electric)). According to the Company, its financial model is not a "forecast," as the Attorney General argues (Company Reply Brief at 1). The Company asserts that the model illustrates the mathematical principle that Unitil does not have an opportunity to earn its allowed return when rate base increases and revenues are frozen, and contends that this fact is not disputed (Company Brief at 14, 21; Company Reply Brief at 1-2). Unitil claims that the Attorney General's tactic of labeling the Company's financial model as a flawed "forecast" is an attempt to build a "strawman" to obfuscate the point (Company Reply Brief at 2).

Unitil asserts that its model demonstrates that earnings are impacted by costs associated with capital spending, such that the model produces a return of only six percent in 2017 when the model assumes a 10.25 percent ROE and the full amount of its rate request is granted in this proceeding (Company Brief at 13, citing Exh. Unitil-MHC-1, at 13 (electric)). Therefore, the Company concludes that it will continue to under earn unless there is a change in the traditional regulatory model (Company Brief at 14).

The Company claims that the Attorney General's argument regarding depreciation expense is not an error but an assumption for clarity in the model (Company Brief at 21-22, citing Attorney General Brief at 11 (electric)). Further, Unitil claims that retirements are only

three percent to five percent of plant, and reducing plant balances for retirements would have a minimal impact on the financial model (Company Brief at 22, citing Tr. 1 at 31). Moreover, regarding the Attorney General's argument on bonus depreciation and the capital repairs expense depreciation tax reduction, Unitil asserts that it was uncertain of future tax legislation and the absence of these factors was not an error but a modeling assumption (Company Brief at 22). The Company asserts that rate base will continue to increase, causing additional expenses, whether or not it recognizes bonus depreciation and capital repairs expense depreciation tax reduction, and therefore, it would still be impossible for Unitil to earn its allowed return (Company Brief at 22).

Regarding the Attorney General's arguments on revenue from energy efficiency programs and the return on regulatory assets, the Company asserts that these revenues are not base distribution revenue and were properly excluded from the financial model (Company Brief at 22). Unitil maintains that the model does not include costs associated with these programs, and therefore, the revenues are not included (Company Brief at 22-23).

Further, the Company responds to the Attorney General's comparison of Unitil's current capital spending forecast to that of two years ago (Company Brief at 23). Unitil asserts that forecasts change from year to year, and the fact that the current forecast is above what was forecasted two years ago is not unexpected (Company Brief at 23). The Company contends, however, that capital spending will still be in excess of depreciation expense, and Unitil will continue to under earn unless the regulatory model changes (Company Brief at 23).

Second, the Company asserts that the Attorney General's premise that Unitil chose its current RDM design ignores facts (Company Brief at 17). The Company acknowledges that the Attorney General is correct that Unitil's RDM is similar to other electric distribution companies' mechanisms, however, the Company's proposal included a CCAM to complement it (Company Brief at 17, citing D.P.U. 11-01/D.P.U. 11-02, at 77-81). Unitil maintains that in D.P.U. 11-01/D.P.U. 11-02, it requested that, in the alternative to the CCAM, the RDM would exclude revenue from new customers after the test year (Company Brief at 17, citing D.P.U. 11-01/D.P.U. 11-02, at 97). Unitil asserts that in D.P.U. 11-01/D.P.U. 11-02, at 112, the Department rejected both the Company's proposed CCAM and its alternative revenue decoupling proposal, which the Attorney General now argues that the Company should have requested (Company Brief at 17-18). Thus, Unitil argues that the Attorney General's position that "the Company got what it asked for" is not credible (Company Brief at 18).

The Company also argues that the Attorney General's assertion that Unitil's rates "already included a higher cost of capital to recognize and adjust for any greater risk associated with the disallowance of the capital tracker," is wrong and irrelevant (Company Reply Brief at 6, citing Attorney General Reply Brief at 6-7). According to Unitil, the Department factored "in the shifting risk inherent in the approved mechanism as we consider the need for review and reporting requirements as well as the Company's proposal for both the CCAM and its ROE" (Company Reply Brief at 6, citing D.P.U. 11-01/D.P.U. 11-02, at 104-105). Unitil asserts that the Department reduced the Company's ROE when considering revenue decoupling (Company Reply Brief at 6). Further, Unitil argues that the Department

decision in 2011 is irrelevant to the going-forward findings in the instant proceeding because the Company has under earned in the years following that decision (Company Reply Brief at 7, citing Exh. Unitil-MHC-1, at 3-4 (electric)). Therefore, the Company argues that it will continue to under earn without a capital cost recovery mechanism (Company Reply Brief at 7).

Third, Unitil disputes the arguments put forth by the Attorney General that claim senior executive compensation increased significantly in the test year, is unreasonably high, and caused the Company's earnings shortfall (Company Brief at 18). According to the Company, the Attorney General's calculation that senior executive compensation increased by 48 percent over the prior year is primarily attributable to pension benefit valuations and are not reflective of compensation amounts paid to employees during the reported year (Company Brief at 18; Company Reply Brief at 2). Moreover, Unitil contends that pension benefits are volatile, outside of the Company's control, and subject to regulatory oversight and requirements (Company Brief at 19). Unitil maintains that these benefits are recognized on the Company's balance sheet and therefore, do not affect earnings or the requested rate relief (Company Brief at 19; Company Reply Brief at 2). Finally, Unitil asserts that cash compensation for senior management was paid at only 87 percent of the market median and salary increases averaged between three percent and 4.3 percent (Company Brief at 20, citing Exhs. DPU-FGE 1-11 (electric); AG 15-2, Att. 2, at 6 (electric)). Thus, the Company argues that senior executive compensation is below market and not excessive (Company Brief at 20).

The Company also disputes the Attorney General's argument that service company salaries were excessive (Company Brief at 20). Unitil claims that of the four percent and

4.2 percent annual salary increases granted during 2013 through 2015, three percent was attributable to merit increases while 1.2 percent was attributable to promotions and market adjustments (Company Brief at 20). The Company maintains that to provide excellent service to customers, it must offer competitive salaries and incentive compensation to attract and retain highly skilled, experienced, and valuable employees (Company Brief at 20-21). According to Unitil, without a competitive workforce, employee turnover would be high and recruitment and training costs would increase (Company Brief at 21). Thus, the Company argues that the Attorney General's position on employee compensation is without basis and "plain wrong" (Company Reply Brief at 4). Therefore, Unitil concludes that the Department should reject the Attorney General's assertion that the proposed CCAM is not necessary because of the level of senior executive and service company compensation (Company Brief at 20-21).

Fourth, the Company contends that the Attorney General did not analyze or contest any charges to an affiliate or to Unitil (Company Reply Brief at 5). According to the Company, the Attorney General does not evaluate the impacts of the consolidation of services at the service company level, the acquisition of Northern Utilities, and increasing regulatory requirements from new legislation on service company costs (Company Reply Brief at 5). Thus, Unitil contends that the Attorney General's calculations ignore several key points that render her argument moot (Company Reply Brief at 6). Unitil argues that the Attorney General's assertions are an attempt to raise a non-issue to distract the Department from the Company's need for the CCAM (Company Reply Brief at 6).

For all these reasons, Unitil purports that the Attorney General ignores facts in support of the Company's proposed CCAM (Company Brief at 16). The Company maintains that the Department should allow the CCAM as proposed (Company Brief at 23).

C. Analysis and Findings

1. Review of CCAM

In D.P.U. 07-50-A at 48, the Department recognized that full revenue decoupling for electric companies would, all other things being equal, remove the opportunity for companies to retain additional revenues from sales growth between base distribution rate cases -- revenues that companies could have used to pay for increased O&M costs, costs related to system reliability, and capital expansion projects. See D.P.U. 11-01/D.P.U. 11-02, at 73-74, 107; D.P.U. 10-70, at 47. The Department also recognized that changes in a distribution company's costs could arise from inflationary pressures on the prices of the goods and services it uses. D.P.U. 07-50-A at 49; see also D.P.U. 10-70, at 53. Accordingly, the Department stated that, along with revenue decoupling, it would consider company-specific proposals that adjust target revenues to account for capital spending and inflation but that a company would bear the burden of demonstrating the reasonableness of its proposal. D.P.U. 07-50-A at 50; see also D.P.U. 11-01/D.P.U. 11-02, at 107-108; D.P.U. 10-70, at 47.

Here, Unitil requests approval of its CCAM to support its capital expenditures between base distribution rate cases. The merits of Unitil's CCAM proposal must be evaluated in the context of its current circumstances and in light of the framework of its RDM.

The Attorney General argues that the Department should reject Unitil's claim of inadequate earnings (Attorney General Brief at 6 (electric)). Thus, the Attorney General asserts that the Department should deny the Company's request for a capital cost recovery mechanism (Attorney General Brief at 6 (electric)).

Despite the Attorney General's allegations, the Department is not convinced that the Company distorted its earnings deficiency. Regarding the Attorney General's arguments on Unitil's financial forecast, the Department has considered all evidence in this proceeding on whether to allow the Company's proposed CCAM, including the financial model, and accords due weight to the evidence. Moreover, the Department previously approved Unitil's RDM, which has now been reviewed in several Company-specific proceedings and as part of several generic proceedings, and finds here that there is insufficient evidence that the Attorney General's revenue-per-customer approach for Unitil's electric division would provide enough additional revenues to fund its capital projects. The opportunity for increased sales through the addition of new customers is not comparable in the electric and gas industries nor is the obligation to serve (Exh. DPU-FGE 2-7 (electric)). Weld v. Gas and Electric Light Commissioners, 197 Mass. 556, 557 (1908); Boston Gas Company, D.P.U. 89-180, at 13-14 (1990). The Department has previously acknowledged that the addition of new customers is not a key cost driver for an electric distribution system and the provision of electric service, and the need to upgrade and replace its capital infrastructure is a far more significant driver of its costs than the addition of new customers (RR-DPU-16). See D.P.U. 11-01/D.P.U. 11-02, at 104-105; D.P.U. 10-70, at 42-43; D.P.U. 09-39 at 74; D.P.U. 07-50-A at 48-49.

Therefore, the addition of new customers does not provide a significant increase in earnings.

D.P.U. 11-01/D.P.U. 11-02, at 104. Further, while we decline to affirm or deny Unitil's assertion with respect to the reduction of the Company's ROE in 2011 when considering and approving for implementation revenue decoupling, we agree with Unitil's position that the Department's decision in 2011 on the Company's ROE is not relevant to a determination on the Company's proposed CCAM in the instant proceeding. Unitil has clearly demonstrated on the record in these proceedings that it has not achieved earnings equal to the 9.2 percent ROE granted in D.P.U. 13-90, at 236, or the 9.7 percent ROE granted in D.P.U. 11-01/D.P.U. 11-02, at 427 (Exh. Unitil-MHC-1, at 3-4). In addition, the Company's compensation and payroll increases are a management decision that the Department evaluates for reasonableness in Section VII.A., below. Finally, other than the Attorney General's position that service company costs have increased, the Attorney General and other intervenors did not raise any concerns regarding the specific service company charges. The Department is not convinced that Unitil's decisions on employee compensation and service company expenses are the primary attributors to the Company's earnings deficiency and its need for a CCAM. Therefore, the Department does not accept the four arguments put forth by the Attorney General as sufficient justification to deny Unitil's CCAM proposal.

By contrast, DOER supports the Company's proposal to implement a CCAM (DOER Reply Brief at 3-4 (electric)). DOER argues that the Company should be afforded the opportunity to earn its authorized return and to be in a financial situation where it is able to finance its construction program with long-term debt (DOER Reply Brief at 2-3 (electric))

When deciding whether to adopt a new capital cost recovery mechanism, the Department must closely examine whether the mechanism is warranted and is in the best interest of ratepayers. D.P.U. 13-90, at 36; D.P.U. 11-01/D.P.U. 11-02, at 111; D.P.U. 10-70, at 51-52. The Department has allowed capital cost recovery mechanisms in cases where a company has adequately demonstrated its need to recover incremental costs associated with capital expenditure programs between base distribution rate cases. D.P.U. 10-55, at 121-122, 132-133; D.P.U. 09-39, at 79-80, 82; D.P.U. 09-30, at 133-134. Conversely, without compelling evidence of lost growth in sales, the Department has declined to approve a capital cost recovery mechanism as an element of decoupling. See D.P.U. 13-90, at 36; D.P.U. 11-01/D.P.U. 11-02, at 109-111; D.P.U. 10-70, at 47; see also D.P.U. 07-50-A at 50. The Department has found that, where a company failed to demonstrate that there were extraordinary circumstances that prevented it from acquiring the capital necessary to make required investments in its infrastructure, approval of a capital cost recovery mechanism was neither warranted nor in the best interests of ratepayers. D.P.U. 11-01/D.P.U. 11-02, at 111; D.P.U. 10-70, at 50-52.

To determine whether Unitil's CCAM is reasonable, the Department first will consider whether Unitil has experienced the adverse effects it claims (i.e., an inability to fund capital investment with long-term debt and a lack of opportunity to earn the Company's authorized return) and, if it has, whether and to what extent there is a link between its operation under revenue decoupling and these claimed outcomes. See D.P.U. 11-01/D.P.U. 11-02, at 107-108; D.P.U. 10-70, at 51-52; D.P.U. 07-50-A at 50. If the answers to these questions

are in the affirmative, the Department will consider whether the CCAM is reasonably designed to achieve its intended goal and how its implementation will affect ratepayers and the Company's financial well-being. D.P.U. 10-55, at 66, citing D.P.U. 07-50-A at 50.

To assess the Company's inability to fund its capital expenditures, the Department compares Unitil's capital budget against its depreciation expense recovered in rates.

D.P.U. 13-90, at 37; D.P.U. 11-01/D.P.U. 11-02, at 109-110. Beginning May 1, 2016, the Company will recover \$4,982,148 annually through its depreciation expense in base rates,²⁵ as compared to its 2014 capital expenditures of approximately \$6,861,594 (Exhs. DPU-FGE 8-11 (Supp. 3), Att. at 3 (electric); Unitil-KES-1, Sch. KES-1 (electric)). The Company projects that it will increase its capital expenditures to approximately \$9,035,347 in 2019 (Exh. Unitil-KES-1, Sch. KES-1 (electric)).²⁶ Accordingly, Unitil would be unable to fully fund its 2014 level of capital expenditures, much less fully fund its projected increases in capital expenditures, through its base rate depreciation expense. Additionally, revenue decoupling eliminates the Company's potential to collect additional revenue resulting from

²⁵ The Department deducted the allocation to internal transmission and water heaters from the total depreciation expense (Exh. DPU-FGE 8-11 (Supp. 3), Att. at 3 (electric)). Internal transmission represents certain infrastructure facilities that are owned and operated by Unitil within its service territory, but that have been designated by the Federal Energy Regulatory Commission ("FERC") as FERC-jurisdictional plant (Exh. Unitil-DLC-1, at 6-7 (electric)). The costs associated with internal plant are calculated based on a FERC-approved formula rate (Exh. Unitil-DLC-1, at 7 (electric)).

²⁶ The approximate annual capital expenditure projections are \$8.7 million in 2015, \$9 million in 2016, \$8.8 million in 2017, \$8.2 million in 2018, and \$9 million in 2019 (Exh. Unitil-KES-1, Sch. KES-1 (electric)).

growth in sales, which eliminates a source of revenues that may be used to fund capital investments in its distribution system that are intended to ensure safe and reliable service. Since 2009, Unitil's retail distribution revenues have increased from approximately \$15.6 million to \$23 million in 2014 (Exh. DPU-FGE 2-1, Att. at 2 (electric)). From 2012 through 2014, the Company's unit sales increased 2.9 percent, and Unitil's retail distribution revenues increased by approximately 13.8 percent (Exhs. Unitil-MHC-1, at 9 (electric); DPU-FGE 2-1, Att. at 1-2 (electric)). Conversely, under decoupling, Unitil's revenues have been frozen between base distribution rate cases (Exh. Unitil-MHC-1, at 9 (electric)). Therefore, the evidence in this proceeding shows that, absent revenue decoupling, the Company is likely to sustain positive sales growth and, in turn, growth in revenues in the coming years (Exh. DPU-FGE 2-1, Att. (electric)).

Moreover, the Company has an inability to fund capital investment with long-term debt and a lack of a reasonable opportunity to earn its authorized return (Exhs. Unitil-MHC-1, at 3-5 (electric); AG 8-22, Atts. 2-6, at 20-22 (electric); Tr. 7, at 615-617).²⁷ Although the Company's electric division has been before the Department for base distribution rate increases in three of the last six years, (i.e., the current proceeding, D.P.U. 13-90, and D.P.U. 11-01), Unitil has been unable to achieve its authorized return, averaging a return of 3.8 percent,

²⁷ The Company is exposed to increased interest rate volatility risk from additional short-term borrowing (Exh. Unitil-MHC-1, at 5 (electric); Tr. 7, at 615-617). Unitil is unable to acquire long-term debt while interest rates are currently at historic lows, and therefore, will refinance its high balance of short-term debt when interest rates are likely higher, thereby increasing interest expense to ratepayers (Exh. Unitil-MHC-1, at 5-6 (electric); Tr. 7, at 606-607, 615-617).

compared to an authorized amount between 9.2 and 10.25 percent (Exh. AG 8-6 (electric)).

D.P.U. 13-90, at 236; D.P.U. 11-01/D.P.U. 11-02, at 427; Fitchburg Gas and Electric Light Company, D.P.U. 07-71, at 139 (2008). Accordingly, the Department finds that it is appropriate to allow a CCAM to complement the Company's RDM.²⁸

Given the Department's decision to allow the CCAM, we now consider whether the CCAM is reasonably designed to achieve its intended goal and how its implementation will affect ratepayers and Unitil's financial wellbeing. See D.P.U. 10-55, at 66; D.P.U. 07-50-A at 50. Under traditional ratemaking mechanisms, a distribution company recovers neither a return of (through depreciation expenses) nor a return on (through ROE) the capital expenditures it has made since the test year used in its most recent base distribution rate proceeding. D.P.U. 09-39, at 80. A company is allowed to include those capital expenditures in its rate base during its subsequent base distribution rate proceeding, and it begins to recover a return of and on its recent capital expenditures when the base distribution rates approved by the Department in that proceeding take effect. D.P.U. 09-39, at 80. The delay in recovery between when a company incurs capital expenditures and when it recovers a return of and on such expenditures in its base distribution rates is referred to as regulatory lag. D.P.U. 09-39, at 80. In satisfying their obligation to provide safe and reliable service to their ratepayers, companies have the incentive to invest in capital improvements rather than O&M expenses, even if a capital improvement represents a sub-optimal solution as compared to non-capital

²⁸ Therefore, the Department declines to open an investigation into multi-year rate plans (see Company Brief at 23).

production factors. D.P.U. 09-39, at 80. Unlike O&M expenses, capital expenditures provide a return to their shareholders when ultimately included in rate base; this bias toward capital investment is known as the Averch-Johnson effect. D.P.U. 09-39, at 80-81.²⁹ The existence of regulatory lag provides an important counterbalance to the Averch-Johnson effect because companies will not earn a return on additional investments until their next base distribution rate proceeding. D.P.U. 09-39, at 81. As such, regulatory lag provides the incentive for companies to pursue a more balanced strategy between capital expenditures and O&M expenses in their provision of safe and reliable service to their ratepayers. D.P.U. 09-39, at 81.³⁰

The Department concludes that, as proposed, Unitil's CCAM does not strike an appropriate balance between: (1) providing the Company with sufficient funds to invest to ensure the safety and reliability of the electric service it provides to its ratepayers; and (2) protecting its ratepayers against the incentive the Company has to overinvest in capital infrastructure in order to provide earnings to its shareholders. To reach a balance between these opposing incentives, the Department directs Unitil to make several modifications to its proposed CCAM.

The Company repeatedly testified that its proposed CCAM is similar to National Grid's capital expenditure cost recovery ("CapEx") mechanism, but suggests that Unitil's proposed

²⁹ Harvey Averch & Leland L. Johnson, Behavior of the Firm under Regulatory Constraint, 52 Am. Econ. Rev. 1052-1069 (1962).

³⁰ This incentive applies most acutely to the period of time between a company's base distribution rate proceedings.

CCAM is more “streamlined,” “straightforward,” and “efficient” (Exhs. Unitil-MHC-1, at 10 (electric); DPU-FGE 7-2 (electric); Tr. 6 at 547). The Department finds that Unitil’s proposed streamlined, straightforward, and efficient approach results in a higher capital cost recovery amount than would otherwise be obtained through a mechanism operating under the same design as National Grid’s CapEx mechanism (see Exh. DPU-FGE 2-8, Att. 1 (electric); RR-DPU-18 & Atts. 1, 2 (electric)). Therefore, we direct the Company to operate its CCAM in a manner consistent with National Grid’s current CapEx, and as provided in Unitil’s response to RR-DPU-18, Att. 1, with additional revisions, as directed below.

First, the proposed CCAM allows Unitil to adjust distribution rates annually by the allocated CCAM revenue requirement (Exhs. DPU-FGE 7-2, Att. (electric); DPU-FGE 7-3 (Rev.) (electric)). Under this method, the Company proposes to make a corresponding adjustment to the annual target revenue in the current year’s RDM filing to include the revenue requirement associated with capital expenditures in the previous year (Exhs. DPU-FGE 7-2, Att. (electric); DPU-FGE 7-3 (Rev.) (electric)). The Department finds that Unitil’s proposed approach is administratively inefficient and would result in complexities regarding the application of the RDM cap and the CCAM cap (see Exh. DPU-FGE 7-3 (Rev.) at 2 (electric)). Instead, the Department will allow the CCAM to operate independent of the Company’s RDM. Although the Department stated that we would consider proposals to adjust annual target revenue in decoupling, separating the mechanisms produces the same result for the Company. The RDM will annually true-up the over- or under-recovery of base distribution rates while the CCAM will annually true-up the over- or under-recovery of the Company’s

annual capital expenditure, subject to the limitations described below. See

D.P.U. 11-01/D.P.U. 11-02, at 107-108; D.P.U. 10-70, at 47; D.P.U. 07-50-A, at 50.

Second, the Department finds it appropriate to implement a spending cap at the historical three-year average spending of \$5.7 million (Exh. AG 1-1, Att., Sch. KES-1 (electric)).³¹ We conclude that using this three-year average of capital spending as the limit on CCAM cost recovery is appropriate because it is representative of Unitil's current capital investment needs and, as such, strikes the appropriate balance between: (1) providing the Company with sufficient funds to ensure safe and reliable electric service; and (2) protecting ratepayers from over-investment in capital infrastructure. See D.P.U. 09-39, at 82. Thus, we find that it is appropriate to set the limit at \$5.7 million, which is the approximate three-year average of past capital expenditures (Exh. AG 1-1, Att., Sch. KES-1 (electric)).

Third, Unitil proposes an annual rate cap on the CCAM cost recovery at two percent of total revenues. The Department finds that a two-percent cap does not adequately protect ratepayers from excessive annual increases to distribution rates. Therefore, the Department finds it appropriate to limit the change in annual CCAM cost recovery at one percent of total revenues. To the extent that the application of the CCAM cap results in a CCAM cost recovery that is less than that calculated, Unitil shall defer the difference and include in the CCAM reconciliation for recovery in the subsequent year. Carrying charges shall be calculated on the average deferred balance using the customer deposit rate. Additionally, with

³¹ The \$5.7 million historical three-year average of capital expenditure is calculated based on approximately \$3.8 million in 2012, \$6.3 million in 2013, and \$6.9 million in 2014 (Exh. AG 1-1, Att., Sch. KES-1 (electric)).

this modification, Unitil's CCAM is consistent with other capital tracking mechanisms approved for utilities in Massachusetts. See, e.g., Fitchburg Gas and Electric Light Company, D.P.U. 14-130, at 84-86 (2015); D.P.U. 10-55, at 133.

Fourth, the intent of a capital cost recovery mechanism for electric utilities is to provide a company with rate relief in between base distribution rate cases to account for the lost increase in revenues caused by decoupling. See D.P.U. 07-50-A, at 48. In the instant proceeding, Unitil has demonstrated that absent a CCAM it is unable to fund capital investment through long-term debt and does not have the opportunity to earn its authorized return. Therefore, the Department has allowed the Company's CCAM proposal with modifications. Mechanisms like Unitil's CCAM, however, are not intended to provide a company with dollar-for-dollar recovery of capital investments between rate cases.³² Rather they are intended to provide rate relief in between base distribution rate cases to fund capital investments that were available to be funded through sales growth prior to decoupling. Therefore, we direct the Company to exclude property taxes from the calculation of allowable CCAM cost recovery. Although related to the amount of capital investment, property taxes are an O&M expense not included in the calculation of rate base. See Massachusetts-American Water Company, D.P.U. 95-118, at 147-148 (1996). Therefore, we find that the exclusion of property taxes in

³² Therefore, the Department does not apply the specific criteria for new, fully reconciling cost mechanisms in this case (i.e., when determining whether to allow a new fully reconciling mechanism, the costs at issue are: (1) volatile in nature; (2) large in magnitude; (3) neutral to fluctuations in sales; and (4) beyond the company's control). See, e.g., D.P.U. 10-55, at 66 n.43; D.T.E. 05-27, at 183-186; Boston Edison Company/Cambridge Electric Light Company/Commonwealth Electric Company/NSTAR Gas Company, D.T.E. 03-47-A at 25-28, 36-37 (2003).

the calculation of the CCAM cost recovery strikes an appropriate balance of providing Unitil with a source of funds to invest in capital expansion projects between rate cases, while protecting ratepayers from the Company's incentive to over-invest.

The Department directs Unitil to make the aforementioned modifications to the CCAM in its compliance tariff. The Department makes no determination regarding the optimal level of investment the Company should make in its distribution infrastructure in order to provide safe and reliable electric service to its ratepayers. To the extent that Unitil's capital expenditures exceed the amount it is allowed to recover through its CCAM, the Company can seek to include such investment in rate base in its next base distribution rate proceeding.

2. Schedule of Filings and Rate Adjustments

Unitil proposes to present two annual filings: (1) one by July 1, providing initial information regarding its revenue requirement for capital expenditures from the prior year and supporting workpapers calculating the revenue cap; and (2) one by November 2, calculating the distribution rate adjustment factors and adjusted target revenue that would take effect on January 1 of the following year (Exhs. DPU-FGE 7-2 (electric); DPU-FGE 7-3 (Rev.) (electric)). In its July 1 filing, the Company shall provide all documentation supporting its capital expenditures in the previous year. Further, above, we directed Unitil to separate the CCAM from its RDM. Therefore, we direct the Company, in its November 2 filing, to calculate separate CCAM factors that would take effect on January 1 of the following year and make no adjustment to the annual target revenue in its RDM filing. The CCAM and the RDM will be independent cost recovery mechanisms. With these modifications, the Department

finds that the Company's proposed schedule of filings provides sufficient time for the Department and interested persons to review the capital expenditures for which Unitil seeks recovery through its CCAM (i.e., capital expenditures in calendar year 2015 are not recovered through rates until January 1, 2017) (Exh. DPU-FGE 7-2 (Rev.) & Att. 1 (electric)). See D.P.U. 09-39, at 85. Thus, the CCAM factor and the RDM factor will both change annually on January 1. This proposal also minimizes the number of times the Company's ratepayers see changes in their rates. See D.P.U. 09-39, at 85.

3. Conclusion

The Department approved the Company's proposed CCAM with several, significant modifications. Unitil is directed to provide a revised CCAM tariff (i.e., proposed M.D.P.U. No. 286 (Sch. CCA) (electric)) reflecting the modifications directed by the Department in compliance with this Order.

IV. STORM RESILIENCY PROGRAM

A. Introduction

In D.P.U. 13-90, at 19-20, the Department granted Unitil's proposal to implement a storm resiliency program ("SRP") on a pilot basis until its next base distribution rate case. The goal of the SRP is to reduce tree-related incidents, customer interruptions, and impact on municipalities along critical portions of targeted lines caused by major weather events (Exh. Unitil-SMS-1, at 14 (electric)). D.P.U. 13-90, at 15. The Department directed the Company to establish an SRP fund, to be funded by including an annual amount of \$501,445 in base distribution rates. D.P.U. 13-90, at 21. The Department noted that the SRP fund would

be a fully reconciling mechanism and that the costs would be reviewed and reconciled in Unitil's next base distribution rate case. D.P.U. 13-90, at 21. Unitil put the SRP into effect on June 1, 2014 (Exhs. Unitil-DLC-1, at 19 (electric); Unitil-SMS-1, at 20 (electric)).

In the instant proceeding, the Company proposes to continue the SRP for a nine-year period (Exh. Unitil-SMS-1, at 14, 20 (electric); Tr. 5, at 384-385). Because the distribution rates allowed in D.P.U. 13-90 went into effect on June 1, 2014, the 2014 test year includes costs for the SRP of \$295,995 for the seven-month period from June 1, 2014 to December 31, 2014 (Exh. Unitil-DLC-1, at 19 (electric)). Thus, Unitil proposes to increase its test-year costs by \$205,450 to adjust for the total annual expense of \$501,445 approved in D.P.U. 13-90, at 21 (Exh. Unitil-DLC-1, at 19 (electric)).

B. Positions of the Parties

1. Attorney General

The Attorney General asserts that the Department should either eliminate Unitil's SRP expense from the Company's cost of service or reduce the SRP fund annual accrual by 50 percent, or \$250,723 (Attorney General Brief at 31-32 (electric); Attorney General Reply Brief at 13-14). The Attorney General argues that Unitil has consistently and significantly underspent the amount that it has collected in base distribution rates for its SRP (Attorney General Brief at 31 (electric); Attorney General Reply Brief at 13-14). The Attorney General further maintains that the Company has not presented any evidence that the actual SRP spending is within the reasonable range of amounts the Company is recovering in rates (Attorney General Reply Brief at 13). The Attorney General further maintains that based on

the Company's historic level of spending on the SRP, the amount that the Company will have over-collected by the time Until's new rates go into effect is enough to fully fund the SRP for over two years (Attorney General Brief at 31 (electric)).

2. Company

The Company asserts that the SRP is an important complementary program to its enhanced vegetation management initiatives (Company Brief at 71, citing Tr. 5, at 389-391). Specifically, the Company maintains that the SRP is designed to preserve service on critical circuits during intense or major storms so as to continue to provide essential services to the affected community (Company Brief at 71-72, citing Tr. 5, at 389-391). The Company contends that the Attorney General did not challenge the effectiveness or importance of the SRP (Company Brief at 72).

Until argues that the Attorney General's sole complaint is that the Company has somehow underspent on the SRP (Company Brief at 72). According to the Company, the record demonstrates the seasonal nature of SRP expenditures (Company Brief at 72; Company Reply Brief at 16). For example, the Company asserts that relatively lower expenses, such as design, planning, and stakeholder outreach efforts, take place earlier in the calendar year, while actual and more costly field work takes place later in the calendar year (Company Reply Brief at 16). Based on these factors, the Company requests that the Department reaffirm the funding level established for the SRP in D.P.U. 13-90 (Company Brief at 72).

C. Analysis and Findings

In D.P.U. 13-90, at 19, we recognized that the SRP may represent a worthwhile step towards strengthening Unitil's distribution system, thereby mitigating a portion of the physical damage and financial impacts of future storm events, and ultimately benefiting ratepayers. Thus, we determined it was appropriate to grant the SRP on a pilot basis until the Company's next base distribution rate case, unless otherwise ordered by the Department. D.P.U. 13-90, at 20. At that time, while not precluded from doing so, we did not foresee that Unitil would file a base distribution rate case a little more than one year after the SRP was approved. As a result, and in no small part due to the short duration between rate cases, we note that there have not been major weather events impacting the Company's service territory since the implementation of the SRP (Exh. Unitil-SMS-1, at 21-22 (electric); Tr. 5, at 380-381).³³ The combination of these two factors makes it difficult to quantify any change or trend in reliability of Unitil's electric system attributable to the SRP (Exh. Unitil-SMS-1, at 21-22 (electric); Tr. 5, at 380-381).³⁴ Nonetheless, the Department's rationale for granting the SPR in D.P.U. 13-90 remains unchanged. Thus, we find that Unitil should continue execution of the

³³ "Major weather events" are defined as weather events exceeding normal conditions such as massive snow storms, and storms with wind above 50 mph, where the failure of defective trees and limbs predominate and widespread and extended outages occur (Exh. Unitil-SMS-1, at 14, 16 (electric)). D.P.U. 13-90, at 15 n.10.

³⁴ Unitil's affiliate, Unitil Energy, implemented an SRP in its New Hampshire service territory in 2012, and that affiliate has experienced some reliability improvements (Exhs. Unitil-SMS-1, at 19, 24-26 (electric); Unitil-SMS-2 (electric)).

SRP pilot until the Company files its next base distribution rate case for its electric division, unless otherwise ordered by the Department.

The Attorney General asserts that Unitil has consistently underspent the amount that it has collected in base rates and, thus, the SRP costs should be removed from the cost of service, or the SRP funding accrual should be reduced (Attorney General Brief at 33 (electric); Attorney General Reply Brief at 13). In D.P.U. 13-90, the SRP pilot was granted on a fully reconciling basis. Thus, the Attorney General's concerns that the Company will overcollect SRP funds from ratepayers are without merit. Instead, any amounts that the Company maintains in the SRP fund are fully reconciled and not retained by Unitil.

Further, for the period June 1, 2014, through December 31, 2014, Unitil spent \$295,995 on SRP costs (Exhs. Unitil-SMS-1, at 20 & Sch. SMS-3 (electric); AG 2-6, Att. at 1 (electric)). In 2015, Unitil spent \$458,676 on SRP costs (RR-AG-9 (Supp.), Att.). The 2015 costs were only \$42,769 less than the \$501,544 allowed in the SRP fund. Thus, we find that the Attorney General's concerns that actual SRP spending is not within the reasonable range of amounts the Company is recovering in rates for the SRP fund are without merit. In addition, we reject the Attorney General's proposal either to remove the SRP costs or to reduce them by 50 percent, as the Attorney General's amounts are based on the period from June 2014 to June 2015 and the record shows that the total 2015 costs are within the reasonable range of SRP costs expected to be expended on an annual basis (see Exh. AG-DJE-Rebuttal-1, at 10 (electric); RR-AG-9 (Supp.), Att.). Therefore, we allow the Company's proposal to increase

its test-year costs by \$205,450 to adjust for the total annual expense of \$501,445 for the SRP approved in D.P.U. 13-90, at 21.

In D.P.U. 13-90, at 20, we stated that the SRP fund would be reviewed and reconciled in the Company's next base distribution rate proceeding. As noted above, the SRP pilot was implemented for only seven months of the test year. Clearly, at this time it is not feasible to conduct a reconciliation of any costs or conduct any in depth analysis as to the success or deficiencies of the Company's SRP pilot. During the Company's next base distribution rate case for its electric division, the Department will review and reconcile all costs beginning with implementation of the SRP in June 2014. To protect ratepayer interests, Unitil must demonstrate in its next electric base distribution rate case that any expended SRP costs were incremental to costs recovered through base distribution rates, were reasonable, and were prudently incurred. D.P.U. 10-55, at 440-443; D.P.U. 09-39, at 209; Fitchburg Gas and Electric Light Company, D.P.U. 09-31, at 22-24, 26 (2010); D.P.U. 95-118, at 39-42. Unitil should provide sufficient information in its initial filing to meet its burden of proof that its SRP costs meet these standards.

As directed in D.P.U. 13-90, at 21, Unitil also is required to submit annual informational reports that identify the monies expended from the SRP fund by activity, and the actual circuit miles trimmed under the SRP pilot. To determine the future of the SRP fund, the Company must at the time of its next base distribution rate case filing, or at the Department's discretion, provide a description of any benefits, by year, of the SRP program. The description should include, as applicable, benefits of system reliability, such as reductions in

the frequency and duration of outages (e.g., system average interruption duration and system average interruption frequency), as well as benefits related to storm restoration (e.g., fewer crew and material resources required and improved time to restore service). D.P.U. 13-90, at 21-23.

V. RATE BASE

A. Introduction

Unitil reported a pro forma test-year total utility plant in service for its electric division of \$120,663,322 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4 (electric)). The Company reduced its test-year total plant in service by \$49,666,606 in accumulated depreciation, resulting in a net utility plant in service of \$70,996,716 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4 (electric)). Unitil further reduced its net utility plant in service by the following amounts: (1) \$15,286,183 in net deferred income taxes; (2) \$318,662 for customer deposits; (3) \$196,986 for customer advances; and (4) \$3,447 for unclaimed funds (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4 (electric)). Finally, the Company added \$988,997 in materials and supplies and \$1,065,339 in cash working capital (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4 (electric)).³⁵ Based on these

³⁵ For its electric division, Unitil initially proposed a cash working capital allowance of \$1,071,850, and then reduced this amount by \$6,511 (Exhs. Unitil-DLC-1, Sch. RevReq-4-4 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4 (electric)).

adjustments, the Company determined that its total electric division rate base was \$57,245,775 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4 (electric)).³⁶

Unitil reported a pro forma test-year total utility plant in service for its gas division of \$117,615,689 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-4 (gas)). The Company reduced its test-year total plant in service by \$43,482,852 in accumulated depreciation, resulting in a net utility plant in service of \$74,132,837 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-4 (gas)). Unitil further reduced its net utility plant in service by the following amounts: (1) \$18,547,433 in deferred income taxes; (2) \$163,998 for customer deposits; (3) \$21,532 for customer advances; and (4) \$3,098 for unclaimed funds (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-4 (gas)). Finally, the Company added \$782,993 in materials and supplies and \$971,679 in cash working capital (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-4 (gas)). Based on these adjustments, the Company determined that its total gas division rate base was \$57,151,447 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-4 (gas)).³⁷

³⁶ The Department calculates a rate base for the electric division of \$57,245,774, which we attribute to rounding adjustments in the Company's calculations. The Department will use Unitil's calculation as the basis of our review.

³⁷ The Department calculates a rate base for the gas division of \$57,151,448, which we attribute to rounding adjustments in the Company's calculations. The Department will use Unitil's calculation as the basis of our review.

B. Plant Additions

1. Introduction

Unitil identified 208 electric division capital projects that were completed between January 1, 2013, and December 31, 2014 (see, e.g., Exhs. DPU-FGE 2-24 (Rev.), Att. 1 (electric); DPU-FGE 7-7 (Rev.), Att. (electric)).³⁸ For each project, the Company provided the authorization number, a brief project description, the total amount authorized, the total amount expended, and the total amount closed to plant (Exhs. DPU-FGE 2-24 (Rev.), Att. 1 (electric); DPU-FGE 7-7 (Rev.), Att. (electric)).³⁹

Unitil also identified 255 gas division capital projects that were completed between January 1, 2010, and December 31, 2014 (see, e.g., Exhs. DPU-FGE 3-31 (Rev.), Att. (gas); DPU-FGE 7-4 (Rev.), Atts. (gas)).⁴⁰ For each project, the Company provided the authorization number, a brief project description, the total amount authorized, the total amount

³⁸ Unitil's current electric rates include capital projects completed through the test year ending December 31, 2012. See D.P.U. 13-90, at 44.

³⁹ For both the electric division and gas division, when changes in the field result in changes to the scope of a project, Unitil requires a revised authorization for the project (Exhs. Unitil-KES-1, at 18 (electric); Unitil-KES-1, at 16 (gas)). If the total cost of a project exceeds the authorized amount by 15 percent and \$5,000, the Company requires a supplemental authorization that describes the reasons for the cost variance (Exhs. Unitil-KES-1, at 18 (electric); Unitil-KES-1, at 17 (gas); Tr. 5, at 330-331). Both revised authorizations and supplemental authorizations must be submitted for approval in the same manner as the original authorization (Exhs. Unitil-KES-1, at 18 (electric); Unitil-KES-1, at 16, 17 (gas)).

⁴⁰ Unitil's current gas rates include capital projects completed through the test year ending December 31, 2009. See D.P.U. 11-01/D.P.U. 11-02, at 144.

expended, and the total amount closed to plant (Exhs. DPU-FGE 3-31 (Rev.), Att. (gas);

DPU-FGE 7-4 (Rev.), Atts. (gas)).

2. Positions of the Parties

a. Attorney General

i. Introduction

While the Attorney General does not question the prudence or used and usefulness of the Company's plant additions, the Attorney General raises three issues with respect to Unitil's project documentation for future electric division and gas division proceedings (Attorney General Brief at 14, 16, 17-18 (electric)). First, she asserts that the Department should direct the Company, in future rate cases, to provide documentation showing the original budget for each capital project that it seeks to add to rate base (Attorney General Brief at 14 (electric)). Second, she contends that the Department should require the Company to modify its use of supplemental authorizations (Attorney General Brief at 16 (electric)). Third, the Attorney General asks the Department to direct Unitil to provide documentation in appropriate electronic format with its initial filing (Attorney General Brief at 17-18 (electric)). In addition to these three Company-specific recommendations, the Attorney General asks the Department generically to require a technical conference on plant additions to be conducted in all future electric and gas base distribution rate proceedings (Attorney General Brief at 18-19 (electric)).

ii. Project Documentation

First, the Attorney General asserts that it is unclear whether the Company is comparing its "estimated cost summary" or its "budgeted amount" to the actual costs of the project (Attorney General Brief at 14-15 (electric), citing Exh. DPU-FGE 7-2, Att. 2, at 32-33

(electric); Attorney General Brief at 14-15 (gas), citing Exh. DPU-FGE 7-4, Att. 2 (gas)).

The Attorney General argues that comparing the “budgeted amount” to actual costs is insufficient because the Company revises the “budgeted amount” from the original project estimate (Attorney General Brief at 15 (electric)). The Attorney General claims that the Company’s variance reports could understate or overstate the actual variance, depending on how the “budgeted amount” changed from the original estimate (Attorney General Brief at 15 (electric)). Therefore, the Attorney General proposes that the Department direct the Company to use its original budget estimates as the basis for all variance analysis performed for all future projects (Attorney General Brief at 15-16 (electric); Attorney General Reply Brief at 8-9 (electric)).

Second, the Attorney General asserts that the Department should direct the Company to revise its use of “revised authorizations” and “supplemental authorizations” for future base distribution rate proceedings (Attorney General Brief at 16-7 (electric)). Specifically, the Attorney General maintains that the Company’s reliance on “revised authorizations” does not meet the Department’s standard for prudence because these “revised authorizations” may not provide adequate documentation of the reasons for cost overruns (Attorney General Brief at 16 (electric)). For example, the Attorney General alleges that a “revised authorization” does not necessarily contain a detailed description of the reasons for a project cost variance (Attorney General Brief at 16 (electric), citing Exh. Unitil-KES-1, at 18 (electric); Attorney General Brief at 16 (gas), citing Exh. Unitil-KES-1, at 17 (gas)). The Attorney General also claims that the Company creates confusion by using both “supplemental authorizations” and “revised

authorizations” in its capital planning process, and that this practice is inconsistent with recent Department directives (Attorney General Brief at 17 (electric), citing D.P.U. 14-150, at 55, n.36; Attorney General Reply Brief at 8). The Attorney General therefore requests that the Department direct the Company to provide only “supplemental authorizations” (versus “revised authorizations”) in all future base distribution rate cases to support project cost variances for its proposed plant additions (Attorney General Brief at 17 (electric)).

Third, the Attorney General asserts that the Department has directed all electric and gas companies to provide all exhibits compiling their capital projects into a list in Microsoft Excel format, with all formulas and cell references intact, and to provide all capital project documentation in text searchable format (Attorney General Brief at 18 (electric), citing D.P.U. 14-150, at 55, n.36). The Attorney General claims that the Company failed to provide its capital project information in these formats in Unitil’s initial filing and discovery responses (Attorney General Brief at 17-18 (electric), citing Exh. DPU-FGE 7-7 (electric); Attorney General Brief at 17-18 (gas), citing Exh. DPU-FGE 7-7 (gas)). Therefore, the Attorney General requests that the Department direct Unitil to comply with the Department’s recent directives in future proceedings (Attorney General Brief at 18 (electric)).

iii. Request for Technical Conference

Lastly, the Attorney General contends that companies have difficulty explaining their capital budgeting and project execution in presenting their initial base distribution rate case filings (Attorney General Brief at 18 (electric)). On that basis, the Attorney General requests that in future proceedings for all electric and gas companies, as part of a base distribution rate

case's procedural process, the Department hold a technical conference regarding capital expenditures to assist in the capital project review process (Attorney General Brief at 18 (electric), citing Exh. AG-PD-1, at 15 (electric); Attorney General Brief at 18-19 (gas), citing Exh. AG-PD-1, at 15 (gas)). The Attorney General maintains that Unitil agrees that a technical conference may reduce regulatory burden by streamlining the discovery process (Attorney General Brief at 18 (electric), citing Exh. Unitil-KES-Rebuttal at 6 (electric)).

b. Company

i. Introduction

Unitil maintains that it follows significant cost-containment policies and procedures through its multi-tiered capital planning process (Company Brief at 29, citing Tr. 5, at 257-346). Further, the Company argues that it uses a project authorization policy as a formal framework to guide decision-making, evaluation, and approval for all capital project spending (Company Brief at 29). The Company also maintains that it uses engineering analysis to identify the most cost-effective projects and competitively bids them to obtain the best pricing (Company Brief at 29). Moreover, Unitil asserts that project managers monitor projects on a daily basis and review every invoice to ensure the accuracy of the work completed (Company Brief at 29-30, citing Tr. 5, at 305-307).

For its gas division, Unitil maintains that it awards a multi-year, unit-price contract through a competitive bidding process to control costs (Company Brief at 30).⁴¹ According to

⁴¹ The Company states that a unit-price contract is a contract that contains a predetermined price for a defined quantity of work, including labor, materials, and associated services (e.g., equipment rental) (Company Brief at 30).

the Company, this type of contract structure controls costs because costs are known and fixed for the duration of the awarded contract (Company Brief at 30). Unitil claims that unit pricing accomplishes cost control while the competitive solicitation of construction services allows for the lowest available cost (Company Brief at 30). Moreover, the Company contends that it achieves economies of scale and reduced costs through the unit-price contract by combining the construction work for Massachusetts, Maine, and New Hampshire (Company Brief at 30). Finally, the Company asserts that it negotiated a discounted price for prompt payment, further controlling costs (Company Brief at 30, citing Tr. 5, at 269).

Unitil claims that the Attorney General ignores evidence that the Company provides documentation of (1) original budget amounts for each project, (2) revised authorizations, and (3) cost variances (Company Brief at 25, citing Exh. Unitil-KES-Rebuttal-1, at 2-4; Tr. 5, at 257-346). The Company argues that its authorization process provides the required level of management controls and oversight for capital projects (Company Reply Brief at 9).

ii. Project Documentation

The Company asserts that it prepares budget estimates for its projects six to eight months in advance of the commencement of work and uses those budget estimates to develop its annual capital budget (Company Brief at 25). Unitil agrees with the Attorney General that its budget input and review should and does include realistic cost estimates (Company Brief at 26). According to the Company, after approval of the annual capital budget, Unitil reviews the individual budget estimates by project to determine any differences in project scope and costs prior to developing the construction authorization (Company Brief at 25-26). The

Company maintains that it then determines the original budgeted, or authorized, amount and creates a budget item input form, which includes significant information on each project, including project name, budget number, project description, project justification, estimated costs, cost of removal, salvage costs, costs for internal labor hours, internal vehicle time, external contract service dollars, and materials costs (Company Brief at 26, citing Tr. 5, at 260).

The Company asserts that contrary to the Attorney General's objections, its project documentation meets the Department's requirements (Company Brief at 26, citing Attorney General Brief at 16 (electric)). Specifically, Unitil contends the Attorney General's claim that its revised authorization does not meet the Department's standards for supplemental authorizations (Company Brief at 26). Unitil disputes the Attorney General's statement that "even though the revised authorization provides reasons for a change and a detailed cost breakdown, it does not contain a detailed description of the reasons that a project exceeded the authorization amount, as would normally be included in a supplemental authorization" (Company Brief at 26, citing Attorney General Brief at 16 (electric)).

The Company also differentiates its revised authorizations from supplemental authorizations (Company Brief at 27). The Company maintains that a revised authorization is used when changes in the field result in a change in scope of an approved project that is underway (Company Brief at 27, citing Exh. Unitil-KES-1, at 18 (electric)). The Company asserts that the project supervisor submits a revised authorization based on the change in scope before proceeding further with the project (Company Brief at 27). In contrast, Unitil asserts

that a supplemental authorization is used when the project is complete and it exceeded the authorized amount by 15 percent or \$5,000 (Company Brief at 27-28). Unitil maintains that it determines why the project exceeded budget estimates and whether any circumstances were unknown when the Company developed the budget (Company Brief at 27, citing Tr. 5, at 266-267).⁴²

The Company argues that both revised and supplemental authorizations require a detailed description identifying the change in scope and the reasons for the change, as well as a detailed cost breakdown (Company Brief at 28, citing Exh. Unitil-KES-1, at 18 (electric)). The Company also maintains that both the revised and supplemental authorizations require additional approvals of the controller, chief operating officer, and chief financial officer (Company Brief at 28, citing Exh. Unitil-KES-1, at 18 (electric)). Based on these factors, the Company asserts that the requisite information is available for the Department's prudence review (Company Brief at 27).

The Company argues that it adheres to the Department's capital project documentation requirements (Company Brief at 25, n.7). Nonetheless, Unitil states that it will submit its capital project documentation in text searchable format as part of its next base distribution rate case (Company Brief at 25, n.7).

⁴² Unitil likens the Attorney General's recommendations to requiring that its initial budget estimates build in a contingency factor, which the Company maintains was rejected by the Department in D.P.U. 13-90 (Company Reply Brief at 8-9 (electric)).

iii. Request for Technical Conference

In response to the Attorney General's proposal for a technical conference, Unitil states that it is amenable to participating in such a conference during its next base distribution rate proceeding in order to address possible questions regarding capital project documentation (Company Brief at 25 n.7). The Company states that a technical conference, as proposed by the Attorney General, could be used to streamline the litigation process (Company Brief at 25 n.7).

3. Analysis and Findings

a. Standard of Review

For costs to be included in rate base, the expenditures must be prudently incurred and the resulting plant must be used and useful to ratepayers. Western Massachusetts Electric Company, D.P.U. 85-270, at 20 (1986). The prudence test determines whether cost recovery is allowed at all, while the used and useful analysis determines the portion of prudently incurred costs on which the utility is entitled to a return. D.P.U. 85-270, at 25-27.

A prudence review involves a determination of whether the utility's actions, based on all that the utility knew or should have known at that time, were reasonable and prudent in light of the extant circumstances. Such a determination may not properly be made on the basis of hindsight judgments, nor is it appropriate for the Department merely to substitute its own judgment for the judgments made by the management of the utility. Attorney General v. Department of Public Utilities, 390 Mass. 208, 229-230 (1983). A prudence review must be based on how a reasonable company would have responded to the particular circumstances and

whether the company's actions were in fact prudent in light of all 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 (1993); D.P.U. 85-270, at 22-23; Boston Edison Company, D.P.U. 906, at 165 (1982). A review of the prudence of a company's actions is not dependent upon whether budget estimates later proved to be accurate but rather upon whether the assumptions made were reasonable, given the facts that were known or that should have been known at the time. D.P.U. 95-118, at 39-40; D.P.U. 93-60, at 35; Fitchburg Gas and Electric Light Company, D.P.U. 84-145-A at 26 (1985).

The Department has cautioned utility companies that, as they bear the burden of demonstrating the propriety of additions to rate base, failure to provide clear and cohesive reviewable evidence on rate base additions increases the risk to the utility that the Department will disallow these expenditures. D.P.U. 10-55-B at 13-16; D.P.U. 09-30, at 144-145; Boston Gas Company, D.P.U. 96-50 (Phase I) at 21-24 (1996); Massachusetts Electric Company, D.P.U. 95-40, at 7-8 (1995); D.P.U. 93-60, at 25-26; The Berkshire Gas Company, D.P.U. 92-210, at 24 (1993).⁴³ In addition, the Department has stated that:

In reviewing the investments in main extensions that were made without a cost-benefit analysis, the [c]ompany has the burden of demonstrating the prudence of each investment proposed for inclusion in rate base. The Department cannot rely on the unsupported testimony that each project was

⁴³ The burden of proof is the duty imposed on a proponent of a fact whose case requires proof of that fact to persuade the fact finder that the fact exists, or where a demonstration of non-existence is required, to persuade the fact finder of the non-existence of that fact. Boston Gas Company, D.T.E. 03-40, at 52 n.31 (2003), citing D.T.E. 01-56-A at 16; Fitchburg Gas and Electric Light Company, D.T.E. 99-118, at 7 (2001).

beneficial at the time the decision was made. The [c]ompany must provide reviewable documentation for investments it seeks to include in rate base.

D.P.U. 92-210, at 24.

b. Project Documentation

The Attorney General raises three issues with respect to project documentation. First, she asserts that the Department should direct the Company to use its original budget estimates to compare to actual costs for variance analysis for all projects in the future (Attorney General Brief at 15-16 (electric)). The documentation cited by the Attorney General outlines how the Company's budget estimates and authorized budget amounts are developed (see Attorney General Brief at 15 (gas), citing Exh. AG 7-20, Att. at 6 (gas)). Budget estimates are generated to within 20 percent accuracy but are reanalyzed and adjusted as necessary once an authorization is created for the project (Exhs. AG 7-20, Att. at 6 (gas); DPU-FGE 10-23 (electric)). At the time the Company develops its budget estimates, which can be up to a year before the project is complete, there is not enough information available on the material and contract labor costs to develop an accurate cost estimate (Exh. DPU-FGE 10-23 (electric)). Thus, budget estimates are primarily used for annual planning purposes and are high level in nature (see Exh. AG 7-20, Att. at 4-5 (gas)). As it notes in the record, when the Company develops its authorization (i.e., the amount budgeted and authorized), it strives for within ten percent accuracy (Exh. AG 7-20, Att. at 6 (gas)). Until will receive material and contract labor quotes by the time a project's authorization is developed, and refines its cost estimates based on actual cost data (Exh. DPU-FGE 10-23 (electric)). A project must have an approved authorization before the project is complete (Exh. DPU-FGE 10-23 (electric)). Because the

budget estimates are simply estimates, it would be inappropriate to require Unitil to use them for the variance analysis.⁴⁴ Instead, the Company is appropriately using the authorized amounts to develop the variance analysis, amounts that are refined over time as the project gets closer to fruition and are more reflective of the costs to be incurred by the Company in undertaking the approved project (see, e.g., Exh. DPU-FGE 10-19 (Rev.), Att. at 1, col. H (electric)). Therefore, we decline to adopt the Attorney General's suggestion to require Unitil to use its original budget estimates to compare to actual costs for variance analyses for future projects.

Second, the Attorney General asks that the Department direct Unitil to provide supplemental authorizations instead of revised authorizations in all future base distribution rate cases to support project cost variances for its proposed plant additions (Attorney General Brief at 17 (electric)). The Department declines to adopt the Attorney General's suggestion, as the Company has clearly shown that the two different documents have two different purposes, and therefore warrant for recordkeeping purposes the two different names. The record shows that the Company uses revised authorizations when a change in the field results in a change in scope of a project that is underway (see, e.g., Exh. DPU-FGE 7-7, Att. 2, at 23, 36 (electric)). For example, a change in scope might occur when a project originally scheduled to be completed in two or more phases is revised to be completed in only one phase (see, e.g.,

⁴⁴ An estimate is defined as "a value or rating by the mind, without actually measuring, weighing, or the like." Black's Law Dictionary 550 (6th ed. 1990); see also Merriam-Webster, <http://www.merriam-webster.com> (to give or form a general idea about the value, size, or cost of (something)).

Exh. DPU-FGE 7-7, Att. 2, at 32, 36 (electric)). The Department finds this use of revised authorizations to be appropriate.⁴⁵

Finally, the Attorney General proposes that the Department require Unitil, in future proceedings, to provide (1) all exhibits compiling capital projects into a list in Microsoft Excel format with all formulas and cell references intact, and (2) all capital project documentation in text searchable format (Attorney General Brief at 18 (electric), citing D.P.U. 14-150, at 55, n.36). In D.P.U. 14-150, at 52, the Department directed NSTAR Gas to provide all of its capital project documents in “text searchable format.”⁴⁶ We now expand this directive and require all electric and gas companies in future base distribution rate case filings to provide all of their capital project documentation in text searchable format.

c. Request for Technical Conference

On brief, the Attorney General asks that the Department, on a going forward basis, conduct a technical conference in each electric and gas company’s base distribution rate case to review capital projects (Attorney General Brief at 18-19 (electric)). The Company states that it would be amenable to a technical conference in future proceedings (Company Brief at 25 n.7). In any base distribution rate proceeding, the Attorney General and other parties already have the opportunity to request a technical conference. 220 C.M.R. § 1.06(6)(b)(1). While a

⁴⁵ We accept that the change in scope of Authorization Number 014051 was due to a change in the primary conductor (Exh. DPU-FGE 7-7, Att. 2, at 149-150 (electric)).

⁴⁶ The Department’s directive in D.P.U. 14-150 was issued on October 30, 2015, several months after Unitil submitted its initial filing. As such, although we have spoken to this issue in other recent base distribution rate proceedings, Unitil was not deficient in its failure to file materials in text searchable format at the time of its initial filing.

technical conference may be useful in certain cases (e.g., to define the scope of a proceeding, identify issues, or obtain a greater understanding of computer modeling), not all proceedings will require a technical conference.⁴⁷ The Department accords significant flexibility to parties to request a technical conference, and the Department retains authority to determine when a technical conference or other procedural component may be necessary to ensure the development of a record in a manner that preserves due process rights to all parties. Thus, we decline to establish a technical conference for each electric and gas company as a standard part of the procedural schedule in a base distribution rate proceeding, and maintain the parties rights to request such a conference when they determine that facts and circumstances so warrant.

d. Review of Plant Additions

No intervenor has challenged the prudence or used and usefulness of Unitil's electric division or gas division plant additions. Nevertheless, as noted above, the Company bears the burden of demonstrating through clear and convincing evidence that such plant investments were prudently made and are used and useful. D.P.U. 95-40, at 7, citing D.P.U. 93-60, at 26; 376 Mass. 294, 304; 352 Mass. 18, 24.

⁴⁷ It is relevant to note that a technical conference is not conducted on the record, and the information gathered at a technical conference is not part of the record. 220 C.M.R. § 1.10(1) (unsworn statements shall not be considered as evidence on which a decision may be based).

Between January 1, 2013, and December 31, 2014, the Company closed to its electric division plant: (1) 37 blanket authorized projects representing \$4,355,967 in plant additions;⁴⁸ (2) 143 individually authorized projects with a final cost less than or equal to \$50,000, representing \$924,421 in plant additions; and (3) 28 individually authorized capital projects with a final cost greater than \$50,000, representing \$4,754,300 in plant additions (Exh. DPU-FGE 2-22 (Rev.) (electric)). In total, Unitil closed 208 electric division projects representing \$10,034,688 in plant additions (Exhs. Unitil-KES-1, Sch. KES-2 (Rev.) (electric); DPU-FGE 2-22 (Rev.) (electric)).

Between January 1, 2010, and December 31, 2014, the Company closed to its gas division plant: (1) 66 blanket projects representing \$22,436,946 in plant additions; (2) 161 individually authorized capital projects with a final cost less than or equal to \$50,000, representing \$1,744,133 in plant additions; and (3) 28 individually authorized capital projects with a final cost greater than \$50,000, representing \$18,928,585 in plant additions (Exh. DPU-FGE 3-29 (Rev.) (gas)). In total, Unitil closed 255 gas division projects representing \$43,109,663 in plant additions (Exhs. Unitil-KES-1, Sch. KES-2 (Rev.) (gas); DPU-FGE 3-29 (Rev.) (gas)).

⁴⁸ The Department has recognized that blanket authorizations are a routine part of utility business, used predominately for smaller, lower-cost projects. D.P.U. 09-39, at 93; Fitchburg Gas and Electric Light Company, D.T.E. 02-24/25, at 41-44 (2002); D.P.U. 95-40, at 4. Companies have used blanket work orders to support the inclusion of these smaller, more routine projects in rate base. Bay State Gas Company, D.P.U. 10-52, at 23 (2012); D.P.U. 10-114, at 81 n.67. To require budget authorizations and closing reports for projects of this nature may prove unnecessarily burdensome for companies given the relatively low cost per project involved. D.P.U. 10-52, at 24.

The Department has reviewed the information supporting these completed electric division and gas division capital projects, including all supporting documents such as capital budgets, authorizations, and closing reports (see, e.g., Exhs. DPU-FGE 2-24 (Rev.), Att. (electric); DPU-FGE 7-7 (Rev.), Att. (electric); DPU-FGE 3-31 (Rev.), Att. (gas); DPU-FGE 7-4 (Rev.), Atts. (gas)). Based on our review of these data and supporting documentation, we find that each of these projects is in service and that the Company has satisfactorily explained all cost variances (see, e.g., Exhs. DPU-FGE 2-24 (Rev.), Att. (electric); DPU-FGE 7-7 (Rev.), Atts. (electric); DPU-FGE 10-19 (Rev.), Att. 1 (electric); DPU-FGE 3-31 (Rev.), Att. (gas); DPU-FGE 7-4 (Rev.), Atts. (gas)). Moreover, the Department finds that the Company has explained its method for project cost estimation, provided sufficient and reviewable evidence to demonstrate that it has controlled costs, and demonstrated that the reasons for cost overruns include factors that could not have been reasonably anticipated during the preparation of the construction estimates (see, e.g., Exhs. Unitil-KES-1, at 15-17 (electric); AG 7-4 (electric); DPU-FGE 2-23 (Rev.) (electric); DPU-FGE 2-24 (Rev.), Att. 1 (electric); AG 7-20, Att. at 6 (gas); Tr. 5, at 267-271, 292-295, 305-308; RR-AG-7 (electric); RR-AG-7 (gas)). Therefore, the Department finds that these projects satisfy our prudence and used and useful standards. Accordingly, we will include the cost of the 208 electric division projects and 255 gas division projects in the Company's rate base.

C. Cash Working Capital Allowance

1. Introduction

In their day-to-day operations, utilities require funds to pay for expenses incurred in the course of business, including O&M expenses. These funds are either generated internally by a company or through short-term borrowing. Department policy permits a company to be reimbursed for costs associated with the use of its funds or for the interest expense incurred on borrowing. D.P.U. 96-50 (Phase I) at 26, citing Western Massachusetts Electric Company, D.P.U. 87-260, at 22-23 (1988). This reimbursement is accomplished by adding a cash working capital component to the rate base calculation.

Cash working capital costs have been determined through either the use of a lead-lag study or a conventional 45-day O&M expense allowance. Boston Gas Company, D.T.E. 03-40, at 92 (2003). In the absence of a lead-lag study, the Department has previously relied on a 45-day convention as reasonably representative of O&M working capital requirements. D.T.E. 05-27, at 98; Boston Gas Company, D.P.U. 88-67 (Phase I) at 35 (1988).⁴⁹ The Department has expressed concern that the 45-day convention, first developed in the early part of the 20th century, may no longer provide a reliable measure of a utility's working capital requirements. D.T.E. 03-40, at 92, citing Fitchburg Gas and Electric Light Company, D.T.E. 98-51, at 15 (1998); D.P.U. 96-50 (Phase I) at 27. In recent years,

⁴⁹ When a fully developed and reliable lead-lag study is not available, the Federal Energy Regulatory Commission ("FERC") applies a 45-day convention to determine the cash working capital allowance. Carolina Power and Light Company, 6 FERC ¶ 61,154, at 61,296 (1979). As a result, companies occasionally refer to the 45-day convention as the "FERC convention." D.P.U. 11-01/D.P.U. 11-02, at 150 n.81.

lead-lag studies have resulted in savings for ratepayers by reducing the cash working capital requirement below the 45-day convention. D.P.U. 11-01/D.P.U. 11-02, at 163, citing D.P.U. 10-114, at 108; D.P.U. 10-70, at 78; D.P.U. 10-55, at 204-205; D.P.U. 09-39, at 114; D.P.U. 09-30, at 151-152; New England Gas Company, D.P.U. 08-35, at 38 (2009); D.T.E. 05-27, at 99-100. For these reasons, the Department requires all electric and gas companies serving more than 10,000 customers to conduct a fully developed and reliable O&M lead-lag study. D.P.U. 11-01/D.P.U. 11-02, at 164.

Unitil did not conduct a lead-lag study but, instead, relied on the lead-lag study prepared in D.P.U. 11-01/D.P.U. 11-02, to determine its cash working capital requirements (Exhs. Unitil-DLC-1, at 13-14 (electric); Unitil-DLC-1, at 10-11 (gas)).⁵⁰ In that case, Unitil proposed a net lead-lag factor of 33.30 days for the electric division and 47.96 days for the gas division, which the Department subsequently reduced to 31.41 days and 44.58 days, respectively. D.P.U. 11-01/D.P.U. 11-02, at 153-154, 156-164.⁵¹ Consequently, in this proceeding, Unitil used the Department-determined net lag of 31.41 days for the electric division and 44.58 days for the gas division to calculate its proposed cash working capital allowances (Exhs. Unitil-DLC-1, at 13-14 (electric); Unitil-DLC-1, at 10-11 (gas)).

⁵⁰ The Company did not conduct a lead-lag study in its most recent electric base distribution rate case. D.P.U. 13-90, at 63. The Department determined that Unitil's request to rely on the results of its previous lead-lag study to develop its cash working capital allowance was reasonable because a new lead-lag study would not result in a lower cash working capital allowance. D.P.U. 13-90, at 66.

⁵¹ The electric division net lag factor of 31.41 days was also used in the Company's most recent base distribution rate case for its electric division. D.P.U. 13-90, at 63.

The Company divided the net lag of 31.41 days by 365 days to derive a cash working capital factor of 8.61 percent for the electric division. This factor, multiplied by Unitil's pro forma O&M expense of \$12,373,271, produces a cash working capital allowance of \$1,065,339 for the electric division (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-4-4 (electric)).⁵² Likewise, the Company divided the net lag of 44.58 days by 365 days to derive a cash working capital factor of 12.21 percent for the gas division. Unitil then multiplied this factor by the pro forma O&M expense of \$7,958,058 to produce a cash working capital allowance of \$971,679 for the gas division (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-4-4 (gas)).⁵³

2. Position of the Parties

The Company argues that it did not conduct a lead-lag study in this case because it determined that it would not be cost-effective to do so (Company Brief at 32). Instead, the Company maintains that its proposal to use the collection lag established in its last rate case is reasonable because it produces a lower cash working capital allowance and avoids the cost of a new study (Company Brief at 32).

To determine whether a new lead-lag study would be cost effective, Unitil states that it calculated its collection lag for the test year across both divisions and, based on these collection lags, it estimated that a full lead-lag study would have produced a collection lag of 45.69 days

⁵² The Company proposed a cash working capital allowance of \$1,071,850 in its initial filing for the electric division (Exh. Unitil-DLC-1, Sch. RevReq-4-4 (electric)).

⁵³ The Company proposed a cash working capital allowance of \$1,002,706 in its initial filing for the gas division (Exh. DLC-Unitil-1, Sch. RevReq-4-4 (gas)).

for the electric division and 52.02 days for the gas division (Company Brief at 32). Unitil asserts that both of these estimated collection lags are substantially higher than those established in the Company's most recent lead-lag analysis (35.36 days for the electric division and 48.83 days for the gas division) and those it proposes to use here (Company Brief at 32, citing D.P.U. 11-01/D.P.U. 11-02, at 153). The Company contends that neither the other revenue lag components (e.g., service lag and billing lag) nor the expense lead would have changed materially because of the lack of material factors that would affect the expense lead (Company Brief at 32). Thus, Unitil argues that conducting a new lead-lag study was not cost-effective because it would have yielded a higher net lag factor and higher cash working capital allowance at ratepayer expense (Company Brief at 32). No other party addressed this issue on brief.

3. Analysis and Findings

The purpose of conducting a cash working capital lead-lag study is to determine a company's "cash in-cash out" level of liquidity in order to provide the company an appropriate allowance for the use of its funds. Such funds are either generated internally or through short-term borrowing. See D.P.U. 96-50 (Phase I) at 26. Department policy permits a company to be reimbursed for costs associated with the use of its funds and for the interest expense incurred on borrowing. D.P.U. 96-50 (Phase I) at 26; D.P.U. 87-260, at 22. The Department requires all electric and gas companies serving more than 10,000 customers to conduct a fully developed and reliable O&M lead-lag study for each base distribution rate case. D.P.U. 11-01/D.P.U. 11-02, at 164. In the event a company seeks to rely on the results of a

recent prior lead-lag study, it must be prepared to demonstrate that a new lead-lag study would not result in a lower cash working capital allowance. D.P.U. 13-90, at 66.

In the instant case, Unitil began preparations for a lead-lag study but determined, based on its collection lag calculations and reviews of its monthly accounts receivable balances, that an updated lead-lag study would result in a greater cash working capital requirement for both the electric and gas divisions (Exhs. Unitil-DLC-1, at 13-14 (electric); Unitil-DLC-1, at 10-11 (gas); Unitil-DLC-3 (electric); Unitil-DLC-3 (gas)). Thus, the Company chose to rely on the results of the lead-lag study submitted in D.P.U. 11-01/D.P.U. 11-02, as modified by the Department in that proceeding, to request what it contends is a lower cash working capital allowance than it would otherwise be entitled to based on the estimated results of a new study (Exhs. Unitil-DLC-1, at 13-14 (electric); Unitil-DLC-1, at 10-11 (gas)).

A lead-lag study compares the timing difference between (1) the incurrence of costs by a company and the company's subsequent payment of such costs ("expense lead"), and (2) the receipt of service by customers, and the customer's subsequent payment for these services ("revenue lag"). D.P.U. 11-01/D.P.U. 11-02, at 151. The revenue lag is broken down into three parts: (1) service lag; (2) billing lag; and (3) collection lag. The service lag is the average number of days between the midpoint of the customer's billing month to the meter reading date. The service lag is calculated at 15.21 days and was used for both the electric and gas divisions. See D.P.U. 11-01/D.P.U. 11-02, at 152, 161 n.91. The billing lag is the number of days required to process and send out bills. The billing lag is calculated at 2.49 days and was used for both the electric and gas divisions. The collection lag represents

the time delay between the posting of customer bills to accounts receivable and a company's receipt of payment.⁵⁴ The sum of these three lag components, less the approved expense leads of 21.60 days for the electric division and 21.92 days for the gas division, yielded a net lag of 31.41 days for the electric division and 44.58 days for the gas division.

D.P.U. 11-01/D.P.U. 11-02, at 161.

In the instant case, Unitil began preparations for a lead-lag study but determined that based on its collection lag calculations and reviews of its monthly accounts receivable balances, an updated lead-lag study would produce a collection lag of 45.69 days for the electric division and 52.02 days for the gas division, resulting in a greater cash working capital requirement (Exhs. Unitil-DLC-1, at 13-14 (electric); Unitil-DLC-1, at 10-11 (gas); Unitil-DLC-3 (electric); Unitil-DLC-3 (gas)). Thus, the Company chose to rely on the results of the lead-lag study submitted in D.P.U. 11-01/D.P.U. 11-02, as modified by the Department in that proceeding, to support its proposed cash working capital allowance (Exhs. Unitil-DLC-1, at 13-14 (electric); Unitil-DLC-1, at 10-11 (gas)).

In D.P.U. 11-01/D.P.U. 11-02, at 156-160, the Department identified Unitil's collection lags as the primary driver of its gas lead-lag factor and a significant driver of its electric lead-lag factor. While the Company had undertaken several initiatives intended to

⁵⁴ The Department used a two-year average of the Company's collection lags for 2008 and 2010 to mitigate the inflationary effect of a storm that occurred during December 2008 on Unitil's test year, i.e., 2009, collection lag. D.P.U. 11-01/D.P.U. 11-02, at 157-159. The Department subsequently approved collection lags of 35.36 days and 48.83 days for the Company's electric and gas divisions, respectively. D.P.U. 11-01/D.P.U. 11-02, at 157-159.

reduce its collection lag, the Department also directed Unitil to track its monthly account receivables balance and annual collection lag, and provide this information as part of Unitil's next rate case. D.P.U. 11-01/D.P.U. 11-02, at 160. Since that time, the Company has made several changes to its payment collections procedures. First, the Company has implemented Global Connect, an automated calling system that gives customers personalized advance notice of disconnect (Tr. 6, at 559-560). Second, the Company employs a variety of measures to communicate with hardship protected customers, including monthly newsletters advising customers of assistance programs, outbound phone campaigns to customers who received assistance in previous years but were not enrolled for the current year, and letters and phone calls to customers with delinquencies greater than 60 days old (Exhs. Unitil-LMB-1, at 18-20 & Sch. LMB-4 (electric); Unitil-LMB-1, at 16-17 & Sch. LMB-4 (gas)). These initiatives are considered to be useful in controlling the Company's accounts receivables balance (Exhs. Unitil-LMB-1 & Sch. LMB-4 (electric); Unitil-LMB-1 & Sch. LMB-4 (gas)). The Company has also made several enhancements to its arrearage management program ("AMP"), including allowing re-enrollment in the AMP to customers who were disconnected for nonpayment, defaulted on the program, or successfully completed the program (Exhs. LI 1-2 (electric); LI 1-2 (gas); see Exhs. Unitil-LMB-1, Sch. LMB-4 (electric); Unitil-LMB-1, Sch. LMB-4 (gas)). These efforts have increased both the number of participants in the AMP and the total amount of arrears forgiven since the issuance of D.P.U. 11-01/D.P.U. 11-02 as shown in years 2012-2014 (Exhs. LI 1-1, Att. (electric); LI 1-1, Att. (gas)). Third, Unitil has hired a customer assistance program coordinator (Tr. 6,

at 560). Finally, the Company tracks its monthly accounts receivable balances and yearly collection lags to track its progress in reducing such lags (Exhs. Unitil-DLC-3 (electric); Unitil-DLC-3 (gas)). Between 2008 and 2012, the electric division's adjusted collection lags (i.e., net of protected accounts and sundry revenues) increased from 35.8 days to 44.69 days. D.P.U. 13-90, at 64; D.P.U. 11-01/D.P.U. 11-02, at 157. Since that time, the adjusted collection lags for the electric division increased to 45.71 days in 2013 and then decreased to 45.69 days in 2014 (Exh. Unitil-DLC-3 (electric)). This marginal increase indicates that the Company's efforts in controlling its collection lag have begun to achieve results (Exh. Unitil-DLC-3 (electric)). In contrast, the gas division's adjusted collection lags of 50.48 days in 2013 and 52.02 days in 2014 have changed relatively little since the 50.27 days reported in 2010 (Exh. Unitil-DLC-3 (gas)). See D.P.U. 11-01/D.P.U. 11-02, at 157. This lack of change, however, may be attributable to the combination of the winter moratorium and seasonal nature of electric and gas sales. D.P.U. 11-01/D.P.U. 11-02, at 157 n.86. Based on these considerations, the Department concludes that Unitil has taken reasonable steps to reduce collection lags. The Department has reviewed the evidence and concludes that the Company has demonstrated that updated electric division and gas division collection lags would be significantly greater than the net lags approved in the Company's previous base distribution rate case (Exhs. Unitil-DLC-3 (electric); Unitil-DLC-3 (gas)).

As noted above, the components of a lead-lag study include a service lag, collection lag, revenue lag, and expense lead. The Department finds no material factors that would necessitate the use of a different service lag in these proceedings than that approved in

D.P.U. 11-01/D.P.U. 11-02.⁵⁵ Therefore, the Department accepts the use of a 15.21-day service lag in determining Unitil's cash working capital requirements. Billing lags are subject to more variation because of the presence of weekends and holidays during the billing cycle, as well as vacation schedules and sick leave. D.P.U. 10-114, at 107-108. In this case, the Department finds no material factors that would necessitate the use of a different billing lag than that approved in D.P.U. 11-01/D.P.U. 11-02. Therefore, the Department accepts the use of a 2.49-day billing lag in determining Unitil's cash working capital requirements. Regardless of the approval offered here, however, the Department directs the Company to conduct a full lead-lag study as part of its next electric or gas base distribution rate case because of the time that has elapsed since the Company's previous lead-lag study.

Turning to the expense lead component, this factor is influenced by a company's pattern of payments to vendors, including those to affiliates. D.P.U. 10-114, at 103; Fitchburg Gas and Electric Light Company, D.T.E. 02-24/25, at 45-46 (2002); Cambridge Electric Light Company, D.P.U. 92-250, at 20-21 (1993); Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80, at 23-24 (1991). While expense factors are likely to vary over time, and thus affect the results of a lead-lag study, there is no evidence in this proceeding that the Company's proposed expense leads of 21.60 days for its electric division and 21.92 days for its gas division are not representative of its cash working capital requirements. On this

⁵⁵ For example, because the service lag is based on a company's billing cycle, the service lag component of companies that bill monthly will exhibit little variability among companies or over time. See D.P.U. 13-90, at 66.

basis, the Department accepts Unitil's request to rely on the results of its previous lead-lag study to develop its cash working capital allowance in this proceeding.

Application of the O&M lead lag factor of 31.41 days to the level of O&M and tax expense authorized by this Order produces a cash working capital allowance of \$978,437 for the electric division. Application of the O&M lead lag factor of 44.58 days to the level of O&M and tax expense authorized by this Order produces a cash working capital allowance of \$905,689 for the gas division. The derivation of these cash working capital allowances is provided in Schedule 6 in Section IX.F. (electric) and Section XI.P. (gas) of this Order.

VI. OPERATING REVENUES

A. Electric Division Special Contract

1. Introduction

In the Company's rebuttal testimony, Unitil proposed to adjust its revenue requirement for the electric division by removing revenues of \$240,761 to reflect the loss of a large general delivery service customer ("Rate GD-3") (Exhs. Unitil-DLC-Rebuttal-1, at 2-3 (electric); Unitil-DLC-Rebuttal-3, Sch. RevReq-3-28 (electric)). Unitil states that this customer represents approximately one percent of the Company's total test-year electric distribution revenues (Exh. Unitil-DLC-Rebuttal-1, at 3 (electric)). The Company states that the loss of this customer does not impact the determination of the target revenue used for revenue decoupling, but that adjusting for the loss is necessary to properly allocate costs and design rates for collecting target revenues by rate class (Exh. Unitil-DLC-Rebuttal-1, at 3 (electric)).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Department should reject the Company's adjustment to test-year revenues in response to the loss of a Rate GD-3 customer (Attorney General Reply Brief at 19). The Attorney General argues that the adjustment is improper because Unitil is seeking to remove test-year revenue associated with one customer, while failing to make a corresponding adjustment for any additional revenue associated with customers added since the end of the test year (Attorney General Reply Brief at 19). The Attorney General asserts that the Department's precedent is to disallow adjustments to test-year revenues due to changes in customer numbers barring exigent circumstances (Attorney General Reply Brief at 19, citing D.P.U. 88-67 (Phase I) at 40).

The Attorney General also claims that the Company failed to show that the loss of this customer is outside the normal "ebb and flow" of customers and, as such, the changes may require corresponding adjustments to the cost of service in order to maintain a representation balance between the Company's cost and revenues (Attorney General Reply Brief at 19). Further, the Attorney General claims that the Company's selective adjustment creates a biased and unrepresentative proxy for rate-year revenues (Attorney General Reply Brief at 19-20).

b. Company

The Company argues that the revenue adjustment is known, measurable, and significant and, thus, its inclusion is necessary and appropriate (Company Reply Brief at 10). Unitil asserts that the loss of this single electric division customer constitutes a change of

considerable magnitude for the Company, and thus, the proposed adjustment is outside of the typical ebb and flow to the Company's total distribution operating revenue (Company Reply Brief at 10).

3. Analysis and Findings

The Department does not normally make adjustments for post-test-year changes in revenues attributed to a change in customer numbers unless the change is significant. D.T.E. 02-24/25, at 77, 80-81; Massachusetts-American Water Company, D.P.U. 88-172, at 7-8 (1989); Bay State Gas Company, D.P.U. 1122, at 46-49 (1982). The rationale for this policy is that revenue adjustments of this nature would also require a number of corresponding adjustments to expense, and could disrupt the relation of test-year revenues to test-year expenses. New England Telephone and Telegraph Company, D.P.U. 86-33-G at 322-327 (1989). Nonetheless, the addition or deletion of a customer or a change in a customer's consumption, either during or after the test year, that (1) represents a known and measurable increase or decrease to test-year revenues, and (2) constitutes a significant adjustment outside of the ebb and flow of the customers, may warrant a departure from this standard practice. In cases where such a change in consumption or the number of customers is found to exist, the Department may include (or exclude) a representative level of sales corresponding to a proven change in deriving a utility's revenue requirement. D.T.E. 02-24/25, at 80; Fitchburg Gas and Electric Light Company, D.T.E. 99-118, at 14-20 (2001); D.P.U. 88-172, at 7-9; Western Massachusetts Electric Company, D.P.U. 558, at 70-72 (1981).

First, Unitil must demonstrate that the expected revenue loss due to the departure of the Rate GD-3 customer represents a decrease in test-year revenues that is both known and measurable. The Department finds that the Company has failed to demonstrate that the decrease in test-year revenues is either known or measurable. The Company simply states that it is proposing to remove revenues of \$240,761 to reflect the loss of a Rate GD-3 customer (Exh. Unitil-DLC-Rebuttal-1, at 2 (electric)). The Company failed to provide any documentation (1) identifying the Rate GD-3 customer, (2) indicating when this customer planned to terminate its contract with the Company, and (3) authenticating that the contract was actually terminated and the account was closed. Therefore the Department finds that the expected revenue loss is not “known.”

In addition, the Company failed to provide any documentation quantifying the size of the decrease in revenues that would result in the lost of this Rate GD-3 customer. For example, Unitil did not provide any information on typical usage or historic revenues for this Rate GD-3 customer from which to measure the lost revenues. Therefore, the Department finds that the expected revenue loss is not “measurable.” Accordingly, we find that the Company has failed to demonstrate that the potential loss associated with the Rate GD-3 customer is “known and measurable.” Thus, the Company’s request to remove revenues for the electric division of \$240,761 due to the loss of a Rate GD-3 customer is denied. Nonetheless, we recognize that this change does not affect the Company’s allowed revenue requirement due to an offsetting decoupling adjustment. Thus, no further adjustment to revenues is needed.

B. Gas Division Special Contract

1. Introduction

In the Company's rebuttal testimony, Unitil proposed to adjust its revenue requirement for its gas division by removing revenues of \$303,338 to reflect the loss of a large special contract customer (Exh. Unitil-DLC-Rebuttal-1, at 2 (gas)). Unitil states that this customer represents approximately two percent of the Company's total test-year gas distribution revenues (Exh. Unitil-DLC-Rebuttal-1, at 2 (gas)). The Company states that because special contract revenues are credited in the determination of the target revenue used for revenue decoupling, the loss of this customer would increase the revenue decoupling target revenue (Exh. Unitil-DLC-Rebuttal-1, at 2 (gas)).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Department should reject the Company's adjustment to test-year revenues in response to the loss of a special contract customer (Attorney General Reply Brief at 19). The Attorney General argues that the adjustment is improper because Unitil is seeking to remove test-year revenue associated with one customer, while failing to make a corresponding adjustment for any additional revenue associated with customers added since the end of the test year (Attorney General Reply Brief at 19). The Attorney General asserts that the Department's precedent is to disallow adjustments to test-year revenues due to changes in customer numbers barring exigent circumstances (Attorney General Reply Brief at 19, citing D.P.U. 88-67 (Phase I) at 40).

The Attorney General also claims that the Company failed to show that the loss of this customer is outside the normal “ebb and flow” of customers and, as such, the changes may require corresponding adjustments to the cost of service in order to maintain a representation balance between the Company’s cost and revenues (Attorney General Reply Brief at 19). Further, the Attorney General claims that the Company’s selective adjustment creates a biased and unrepresentative proxy for rate-year revenues (Attorney General Reply Brief at 20).

b. Company

The Company argues that the revenue adjustment is known, measurable, and significant and, thus, its inclusion is necessary and appropriate (Company Reply Brief at 10). The Company contends that the loss of this single gas division customer has been confirmed (Company Reply Brief at 9-10, citing Exh. Unitil-DLC-Rebuttal-1, at 2 (gas)). In addition, Unitil asserts that this customer constitutes a loss of considerable magnitude for the Company, and thus, the proposed adjustment is outside of the typical ebb and flow to the Company’s total distribution operating revenue (Company Reply Brief at 9-10).

3. Analysis and Findings

As noted separately above, the Department does not normally make adjustments for post-test-year changes in revenues attributed to a change in customer numbers unless the change is significant. D.T.E. 02-24/25, at 77, 80-81; D.P.U. 88-172, at 7-8; D.P.U. 1122, at 46-49. The rationale for this policy is that revenue adjustments of this nature would also require a number of corresponding adjustments to expense, and could disrupt the relation of test-year revenues to test-year expenses. D.P.U. 86-33-G at 322-327. Nonetheless, the

addition or deletion of a customer or a change in a customer's consumption, either during or after the test year, that (1) represents a known and measurable increase or decrease to test-year revenues, and (2) constitutes a significant adjustment outside of the ebb and flow of the customers, may warrant a departure from this standard practice. In cases where such a change in consumption or the number of customers is found to exist, the Department may include (or exclude) a representative level of sales corresponding to a proven change in deriving a utility's revenue requirement. D.T.E. 02-24/25, at 80; D.T.E. 99-118, at 14-20; D.P.U. 88-172, at 7-9; D.P.U. 558, at 70-72.

First, Unitil must demonstrate that the expected revenue loss due to the termination of the special contract represents a decrease in test-year revenues that is both known and measurable. The Department finds that the Company has failed to demonstrate that the decrease in test-year revenues is either known or measurable. The Company simply states that it is proposing to remove revenues of \$303,338 to reflect the loss of a large special contract customer (Exh. Unitil-DLC-Rebuttal-1, at 2 (gas)). The Company failed to provide any documentation (1) identifying the large special contract customer, (2) indicating when this customer planned to terminate its contract with the Company, and (3) authenticating that the contract was actually terminated and the account was closed. Therefore, the Department finds that the expected revenue loss is not "known."

In addition, the Company failed to provide any documentation quantifying the size of the decrease in revenues that would result in the lost of this large special contract customer. For example, Unitil did not provide any information on typical usage or historic revenues for

this special contract customer from which to make a measure of the lost revenues. Therefore, the Department finds that the expected revenue loss is not “measurable.” Accordingly, we find that the Company has failed to demonstrate that the potential loss associated with the special contract customer is “known and measurable.” Thus, the Company’s request to remove revenues for the gas division of \$303,338 due to the loss of a special contract customer is denied.

VII. OPERATING AND MAINTENANCE EXPENSES

A. Employee Compensation

1. Payroll

a. Introduction

When determining the reasonableness of a company’s employee compensation expense, the Department reviews the company’s overall employee compensation expense to ensure that its compensation decisions result in a minimization of unit-labor costs. D.P.U. 10-55, at 234; D.P.U. 96-50 (Phase I) at 47; D.P.U. 92-250, at 55. This approach recognizes that the different components of compensation (e.g., wages and benefits) are to some extent substitutes for each other and that different combinations of these components may be used to attract and retain employees. D.P.U. 92-250, at 55. In addition, the Department requires a company to demonstrate that its total unit-labor cost is minimized in a manner supported by its overall business strategies. D.P.U. 92-250, at 55.

A company is required to provide a comparative analysis of its compensation expenses to enable a determination of reasonableness by the Department. D.P.U. 96-50 (Phase I) at 47. The Department evaluates the per-employee compensation levels, both current and proposed,

relative to the companies in the utility's service territory and utilities in the region that compete for similarly skilled employees. D.P.U. 96-50 (Phase I) at 47; D.P.U. 92-250, at 56; Bay State Gas Company, D.P.U. 92-111, at 103 (1992); Massachusetts Electric Company, D.P.U. 92-78, at 25-26 (1992).

Unitil's employee compensation program provides for: (1) base pay; (2) incentive compensation; (3) vacation and holiday pay; (4) medical and dental insurance; (5) life, disability, and travel insurance; (6) matching contributions to a 401(k) savings plan;⁵⁶ (6) pension and other post-retirement benefits; (7) wellness benefits; and (8) educational assistance (Exhs. Unitil-GEL-1, at 2, 4, 11, 15 (electric); Unitil-GEL-1, at 2, 3, 10, 14 (gas); AG 1-2, Att. 6B at 32, 33, 40 (electric); AG 1-2, Att. 6B at 32, 33, 40 (gas); AG 1-35 (electric); AG 1-35 (gas); AG 1-42, Att. 4, at 7, 10 (electric); AG 1-42, Att. 4, at 7, 10 (gas); AG 1-50 (electric); AG 1-50 (gas)).

b. Union Wage Increases

i. Introduction

During the test year, Unitil booked \$897,894 in union payroll O&M expense to its electric division, and \$1,165,397 to its gas division (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas)). The Company proposes to increase union payroll expense by \$66,344 for its electric division and

⁵⁶ A 401(k) savings plan is a tax-qualified, defined-contribution retirement savings plan provided in Subsection 401(k) of the Internal Revenue Code. 26 U.S.C. § 401(k).

\$87,207 for its gas division (see Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas)).⁵⁷

The proposed adjustments to the test-year expense account for a three-percent pay raise that took effect on June 1, 2014, a three-percent pay raise that took effect on June 1, 2015, and a three-percent pay raise anticipated to take effect on June 1, 2016, in accordance with union contracts (Exhs. Unitil-GEL-1, at 9 (electric); Unitil-GEL-1, at 9 (gas); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas); AG 1-42, Att. 3, at 48-53 (electric); AG 1-42, Att. 3, at 48-53 (gas)).

ii. Positions of the Parties

Unitil asserts that the proposed union payroll adjustments comply with the Department's standard of being known and measurable, occurring prior to the midpoint of the first twelve months after the rate increase, and being reasonable in amount (Company Brief at 39-40). The Company notes that no parties have challenged these adjustments, and therefore argues the Department should accept the adjustments for union wages (Company Brief at 40). No other party addressed this issue on brief.

iii. Analysis and Findings

The Department's standard for union payroll adjustments requires that three conditions be met: (1) the proposed increase must take effect before the midpoint of the first twelve months after the date of the rate increase; (2) the proposed increase must be known and

⁵⁷ For the electric division, of the total proposed increase of \$66,344, \$63,139 is assigned to base distribution and 4.831 percent or \$3,205 is assigned to internal transmission (see Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric)).

measurable (i.e., based on signed contracts between the union and the company); and (3) the proposed increase must be reasonable. D.P.U. 11-01/D.P.U. 11-02, at 174; D.P.U. 96-50 (Phase I) at 43; D.P.U. 95-40, at 20; D.P.U. 92-250, at 35.

The Company's proposed union payroll adjustments appropriately include only those increases that have been granted or will be granted before the midpoint of the first twelve months after the Department's Order in this proceeding (i.e., through November 2016) (Exhs. AG 1-42, Att. 3, at 48-53 (electric); AG 1-42, Att. 3, at 48-53 (gas)). Further, because the union payroll increases are based on signed collective bargaining agreements, the Department finds that the proposed increases are known and measurable (Exhs. AG 1-42, Att. 3, at 48-53 (electric); AG 1-42, Att. 3, at 48-53 (gas)). Finally, the Company provided a wage survey of New England distribution utilities, demonstrating that the wages paid to union employees are reasonable (Exhs. Unitil-GEL-1, at 9 (electric); Unitil-GEL-1, at 9 (gas); DPU-FGE 1-19 (electric); DPU-FGE 1-19 (gas)). Accordingly, we allow the Company's union payroll expense adjustments for its electric and gas divisions.

c. Non-Union Wage Increases

i. Introduction

During the test year, Unitil booked \$2,602,257 in non-union payroll O&M expense to its electric division, consisting of \$294,579 in direct wages and salaries and incentive compensation, and \$2,307,678 in allocated payroll from Unitil Service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric)).⁵⁸ During the test year, Unitil booked \$1,854,383

⁵⁸

Minor discrepancies in the amounts presented in this section are attributed to rounding.

in non-union payroll O&M expense to its gas division, consisting of \$376,573 in direct wages and salaries and incentive compensation, and \$1,477,810 in allocated payroll from Unitil Service (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas)).

The Company initially proposed an increase to non-union payroll expense of \$219,507 for the electric division and \$154,345 for the gas division, based on: (1) a non-union wage increase of 3.6 percent effective January 1, 2015; (2) a non-union wage increase of 3.6 percent effective January 1, 2016; (3) a Unitil Service non-union wage increase of 4.2 percent effective January 1, 2015; and (4) a Unitil Service non-union wage increase of 4.2 percent effective January 1, 2016 (see Exhs. Unitil-DLC-1, Sch. RevReq-3-6 (electric); Unitil-DLC-1, Sch. RevReq-3-7 (gas)). Based on revisions made during the proceeding, the Company now proposes to increase non-union payroll expense by \$220,423 for the electric division and \$155,515 for the gas division, reflecting an update to the 2016 non-union wage increase from 3.6 percent to 3.9 percent (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas)).⁵⁹ The non-union wage increases were determined based on salary surveys and a compensation study performed on behalf of the Unitil Corporation companies (Exhs. Unitil-GEL-1, at 6 (electric); Unitil-GEL-1, at 6 (gas); DPU-FGE 1-19 (electric); DPU-FGE 1-19 (gas); AG 15-1 (electric); AG 14-1 (gas); AG 15-2 (electric); AG 14-2 (gas)).

⁵⁹ For the electric division, of the total proposed increase of \$220,423, \$209,774 is assigned to base distribution and 4.831 percent or \$10,648 is assigned to internal transmission (see Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric)).

ii. Positions of the Parties

Unitil contends that the proposed non-union payroll adjustments include only those increases that have been granted by management prior to the Department's Order, and therefore do not include any post-Order wage increases (Company Brief at 41). Moreover, the Company avers that the proposed increases are based on salary budget surveys, as well as a compensation study, which indicated that the Company's pay structure was very close to the market median for most job grades and positions (Company Brief at 41). As such, Unitil contends that the non-union payroll adjustments are reasonable and should be accepted (Company Brief at 41). No other party addressed this issue on brief.

iii. Analysis and Findings

The Department's standard for post-test-year non-union wage increases requires a company to demonstrate that: (1) the non-union salary increases are scheduled to become effective no later than six months after the date of the Department's Order; (2) if the increase has not occurred, that there is an express commitment by management to grant the increase; (3) there is a historical correlation between union and non-union raises; and (4) the non-union increase is reasonable. Fitchburg Gas and Electric Light Company, D.P.U. 85-266-A/271-A at 107 (1986); D.P.U. 96-50 (Phase I) at 42; D.P.U. 95-40, at 21; Fitchburg Gas and Electric Light Company, D.P.U. 1270/1414, at 14 (1983).

Here, the Company is not proposing to include any post-Order wage increases. Unitil's proposed non-union payroll adjustments include only those increases that the Company has granted through the date of this Order (Exhs. DPU-FGE 8-11 (Supp. 3), Att.,

Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas)). Further, we find that the Company has demonstrated a sufficient historical correlation between the union and non-union raises (Exhs. AG 1-41, Att. (electric); AG 1-41, Att. (gas)). Specifically, between 2006 and 2015, annual union wage increases were between three and four percent and non-union increases were between two and 4.2 percent (Exhs. AG 1-41, Att. (electric); AG 1-41, Att. (gas)). Accordingly, the Department finds that the Company has shown a sufficient correlation exists between union and non-union wage increases. See D.P.U. 07-71, at 76; Fitchburg Gas and Electric Light Company, D.P.U. 87-59-A at 18 (1988).

Finally, with respect to the reasonableness of the non-union wage increase, the Company compensates employees at the median of the marketplace for base pay and total cash compensation (Exhs. Unitil-GEL-1, at 7 (electric); Unitil-GEL-1, at 6 (gas)). Unitil Service performed a compensation study on behalf of Unitil and its affiliates in 2014 with the assistance of a consultant and concluded that the Company's pay structure was close to the market median for most job grades and positions (Exhs. Unitil-GEL-1, at 7-8 (electric); Unitil-GEL-1, at 7-8 (gas); AG 15-2, Att. 1 (electric); AG 14-2, Att. 1 (gas)). The Department finds that the market compensation data presented by Unitil are sufficient to confirm the reasonableness of the Company's non-union salary levels. See D.P.U. 10-55, at 245; D.P.U. 05-27, at 109; D.T.E. 02-24/25, at 94.

Based on the above, we find that Unitil has demonstrated that: (1) the Company already has granted the non-union salary increases; (2) there is a historical correlation between

union and non-union payroll increases; and (3) the increases are reasonable. Accordingly, we allow the Company's non-union payroll expense adjustments for its electric and gas divisions.

d. Executive Compensation

i. Introduction

There are 19 executives who hold positions at one or more of the following entities: Unitil Corporation, Unitil Service, and the Company (Exhs. AG 15-2, Att. 2 (electric); AG 14-2, Att. 2 (gas)). Compensation for these 19 executives is allocated from Unitil Service to the Company, as well as other affiliates, using a three-factor allocator derived from ratios of data for revenue, customers, and utility plant assets (Exhs. AG 1-28, Att. 1, at 31 (electric); AG 1-28, Att. 1, at 31 (gas)). The amount billed to Unitil is further allocated among the Company's operating divisions using a labor allocator, with 47.78 percent and 52.22 percent apportioned to the electric division and gas division, respectively (Exhs. AG 1-28, Att. 1, at 356 (electric); AG 1-28, Att. 1, at 356 (gas)).

During the test year, Unitil Service performed a compensation study on behalf of Unitil and Unitil Service's other affiliates with the assistance of a consultant specializing in employment compensation (Exhs. Unitil-GEL-1, at 7 (electric); Unitil-GEL-1, at 7 (gas)). The compensation study separately reviewed non-union staff compensation, executive compensation, and benefits valuation (Exhs. AG 15-2 & Att. 2 (electric); AG 14-2 & Att. 2 (gas)).

ii. Positions of the Parties(A) Attorney General

The Attorney General argues that the Department should reduce the Company's cost of service to deduct any compensation increases that Unitil has provided to its executive employees since the Company's last base distribution rate case (Attorney General Brief at 26 (electric)). The Attorney General asserts that Unitil gave its top five executives increases in compensation between 40 and 70 percent since the Company's last base distribution rate case, D.P.U. 13-90, and argues that these increases are neither just nor reasonable as they are not justified by inflation or changes in the labor market (Attorney General Brief at 26-27 (electric)). Moreover, the Attorney General contends that executive compensation has increased far more than compensation for the Company's other employees, whose wage increases have been approximately three percent annually (Attorney General Brief at 27-28 (electric)).

The Attorney General also takes issue with Unitil's compensation study, claiming that the Company inappropriately compares itself to utility companies that are larger than itself both in market capitalization and revenue levels (Attorney General Reply Brief at 4). The Attorney General argues that by the Company's comparing itself to the median compensation of utilities that are much larger than Unitil, the Company will over compensate its executives (Attorney General Reply Brief at 4). The Attorney General contends that a more reasonable approach would be to compare the Company's executive compensation to the 25th percentile of utilities in the study, rather than the market median (Attorney General Reply Brief at 4).

The Attorney General proposes disallowances of \$276,439 for the electric division and \$198,461 for the gas division, calculated as each division's portion of the increase in executive compensation net of capitalization since the Company's last base distribution rate case (Attorney General Brief at 28 n.8 (electric)).

(B) Company

In response to the Attorney General's claim that executive compensation has increased 40 to 70 percent since the last base distribution rate case, the Company contends that the numbers the Attorney General used to support her position come from Unitil Corporation's Proxy statement, which includes pension benefit valuation figures as part of total compensation (Company Brief at 18-19; Company Reply Brief at 2). The Company asserts that pension benefit valuation figures are volatile, largely outside the control of the Company's management, and are accounted for on the balance sheet as changes in pension liabilities and deferred income taxes, rather than actual compensation (Company Brief at 19). Unitil contends that, in the Attorney General's reply brief, she did not respond to the Company's rebuttal of this claim, but instead raised previously unaddressed concerns about the compensation study (Company Reply Brief at 2, citing Attorney General Reply Brief at 3-4).

The Company maintains that total cash compensation for executives was only 87 percent of the market median, and that base salary increases for executives between 2013 and 2015 averaged between three and 4.3 percent, consistent with annual salary increases for other Unitil Service employees (Company Brief at 20). Additionally, the Company asserts that the Attorney General has ignored the fact that other changes in executive compensation have

been normalized over a period of time (Company Brief at 19). The Company points to incentive compensation, and asserts that the amount included in the test-year cost of service has been normalized to reflect a target payout, which amounts to downward adjustments of \$183,159 for the electric division and \$117,914 for the gas division (Company Brief at 19-20, citing Exhs. DPU-FGE 8-11 (Supp. 2), Att., Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 2), Att., Sch. RevReq-3-7 (gas)).

Regarding the Attorney General's assertion that the compensation study inappropriately compares Unitil to companies much larger in size, the Company asserts the Attorney General's contention is based on a misunderstanding of the study (Company Reply Brief at 3). The Company contends that the portion of the compensation study detailing the method used explicitly states that the study utilized two sets of data: (1) published compensation surveys for comparatively sized organizations where the data were size-adjusted based on Unitil's current revenues; and (2) 2014 proxy statements of a selected group of 16 publicly traded public utilities (Company Reply Brief at 3, citing Exh. AG 15-2, Att. 2).⁶⁰ The Company contends that when looking at the size-adjusted survey data, Unitil Corporation's chief executive officer is compensated at 87 percent of the 50th percentile, and when looking at the proxy data, Unitil Corporation's chief executive officer is compensated below the 25th percentile (Company Reply

⁶⁰ A proxy statement is a statement required to be filed with the Securities and Exchange Commission in advance of the Company's annual meeting where it solicits shareholder votes. 17 C.F.R. § 240.14a-101. Among other things, a proxy statement (Form DEF 14A) furnishes information on the compensation of a company's directors and executive officers.

Brief at 3-4). The Company concludes that the Attorney General's argument regarding executive compensation is without basis and is incorrect (Company Reply Brief at 4).

iii. Analysis and Findings

The compensation study conducted by Unitil Service and its consultant utilized:

(1) published compensation surveys focused on comparably sized organizations in the utility sector where the data were size-adjusted based on Unitil's current revenues; and (2) 2014 proxy statements of 16 comparably sized public organizations in the utility sector (Exhs. AG 15-2, Att. 2, at 4-5 (electric); AG 14-2, Att. 2, at 4-5 (gas)). For the purpose of our comparative analysis here, the Department will consider both sets of data.

The Attorney General argues that the Company's executives, especially the chief executive officer and chief financial officer, are over compensated (Attorney General Brief at 26-28 (electric); Attorney General Reply Brief at 3-4). The Attorney General makes two distinct claims, namely that: (1) since the Company's last base distribution rate case, i.e., D.P.U. 13-90, the top five executives received pay increases between 40 percent and 70 percent; and (2) the compensation study used by the Company inflates the management compensation requirements by comparing Unitil to companies that are larger in size (Attorney General Brief at 26-28 (electric); Attorney General Reply Brief at 3-4).

Regarding the Attorney General's first argument, the Company correctly notes that the compensation increases of 40 percent to 70 percent are driven primarily by changes in the valuation of each executive's pension and deferred compensation (see Exhs. AG 1-2, at 2 (electric); AG 1-2, at 2 (gas)). Looking only at changes in actual salary, the top five

executives received an average increase of four percent, similar to the Company's non-union and Unitil Service wage increases, deemed reasonable in Sections VII.A.1.b.iii. and VII.A.1.c.iii, above (Exhs. AG 1-2, at 2 (electric); AG 1-2, at 2 (gas)).

The Department will now address the issue of the compensation study. Looking first at the size-adjusted data, the chief executive officer's total target direct compensation is 87 percent of the market median, while the chief financial officer's total target direct compensation is 75 percent of the market median, and 92 percent of the 25th percentile (Exhs. AG 15-2, Att. 2, at 26 (electric); AG 14-2, Att. 2, at 26 (gas)). Looking at the proxy data of companies of a similar size to Unitil, the chief executive officer's compensation is 82 percent of the 25th percentile and the chief financial officer's compensation is 85 percent of the 25th percentile (Exhs. AG 15-2, Att. 2, at 26 (electric); AG 14-2, Att. 2, at 26 (gas)).⁶¹ While the compensation of the chief executive officer and chief financial officer are in line with the Company's policy of compensating employees at the median of the marketplace, to evaluate the reasonableness of Unitil's executive compensation, it is necessary to review a broader range of the Company's executives. D.P.U. 11-01/D.P.U. 11-02, at 184. The compensation study provides data on the Company's top 19 executives and compares their compensation with those of comparable organizations (Exhs. AG 15-2, Att. 2 (electric); AG 14-2, Att. 2 (gas)). Looking at total direct compensation, Unitil's executives as a group

⁶¹ The Company submitted Exhibits AG 15-2, Att. 2 (electric) and AG 14-2, Att. 2 (gas) pursuant to a motion for confidential treatment that was granted; nonetheless, Unitil disclosed the cited portions of the confidential materials on brief thereby negating the granted confidentiality for those references.

are compensated at 80 percent of the market median, and only slightly above (i.e., 103 percent) the 25th percentile (Exhs. AG 15-2, Att. 2, at 26 (electric); AG 14-2, Att. 2, at 26 (gas)). The overall compensation levels paid to Unitil executives does not support a finding of excessive executive compensation. Further, as detailed below, the Department has made a number of adjustments to the Company's allowed incentive compensation, which brings the Company's overall executive compensation to a level below those indicated in the compensation study. For these reasons, the Department finds that Unitil's overall executive compensation is reasonable.

2. Incentive Compensation

a. Introduction

The Company offers two incentive compensation programs. The first, the Unitil Corporation Incentive Plan ("Incentive Plan"), is open to all employees of Unitil except: (1) those named by the board of directors to participate in the Unitil Corporation Management Incentive Plan ("Management Plan"); and (2) union members, unless participation is allowed under the terms of a collective bargaining agreement (Exhs. AG 1-2, Att. 6B at 33-36 (electric); AG 1-2, Att. 6B at 33-36 (gas); AG 1-35 (electric); AG 1-35 (gas); DPU-FGE 1-13, Att. 1, at 1 (electric); DPU-FGE 1-13, Att. 1, at 1 (gas)). The second program is the Management Plan, for which key management employees as selected by Unitil Corporation's board of directors are eligible to participate (Exhs. AG 1-2, Att. 6B at 33-36 (electric); AG 1-2, Att. 6B at 33-36 (gas); AG 1-35 (electric); AG 1-35 (gas); DPU-FGE 1-13, Att. 1, at 1 (electric); DPU-FGE 1-13, Att. 1, at 1 (gas)).

Under the Incentive Plan, employees of Unitil Corporation and its subsidiaries, including the Company, are eligible for an annual target incentive award equal to a predetermined percentage of their individual base salaries, net of any adjustments associated with their 401(k) plans (Exhs. DPU-FGE 1-13, Att. 1 (electric); DPU-FGE 1-13, Att. 1, (gas)). Prior to, or soon after the start of each calendar year, a compensation committee establishes performance objectives and weights for the upcoming year based on recommendations made by Unitil Corporation's chief executive officer (Exhs. DPU-FGE 1-13, Att. 1, at 1-2 (electric); DPU-FGE 1-13, Att. 1, at 1-2 (gas)).

Under the Management Plan, the members are eligible for an annual target incentive award equal to a predetermined percentage of their individual base salaries (Exh. AG 1-2, Att. 6B at 33 (electric)). A compensation committee establishes the individual targets (Exh. AG 1-2, Att. 6B at 33 (electric)). In 2014, the performance goals for both the Incentive Plan and Management Plan were: (1) gas safety (i.e., response rate to odor calls); (2) electric reliability based on the system average interruption duration index; (3) customer satisfaction; (4) operations and maintenance cost per customer; and (5) earnings per share (Exhs. AG 2-11 (electric); DPU-FGE 1-14 (electric); DPU-FGE 1-14 (gas)).

These performance objectives are evaluated based upon three levels of achievement upon which different payout levels are established: (1) a threshold level for which 50 percent of the target payout is made; (2) a target level for which 100 percent payout is made; and (3) a maximum level for which 150 percent of the target incentive payment is made (Exhs. AG 1-2, Att. 6B at 37 (electric); AG 1-2, Att. 6B at 37 (gas); DPU-FGE 1-13, Att. 1, at 2 (electric);

DPU-FGE 1-13, Att. 1, at 2 (gas)). During the test year, for both the Incentive Plan and the Management Plan, the Company paid out 148 percent of target (Exhs. Unitil-DLC-1, at 20 (electric); Unitil-DLC-1, at 15-16 (gas); DPU-FGE 1-13 (electric); DPU-FGE 1-13 (gas); DPU-FGE 1-15 (electric); DPU-FGE 1-15 (gas)). The test-year cost of service, however, was adjusted to reduce incentive compensation to a target level of payout under the assumption that a competitive incentive plan will pay out a target level on average over the long term (Exhs. Unitil-DLC-1, at 20 (electric); Unitil-DLC-1, at 15-16 (gas); Unitil-GEL-1, at 17 (electric); Unitil-GEL-1, at 16 (gas); DPU-FGE 1-13 (electric); DPU-FGE 1-13 (gas); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-7 (gas)).

The Company proposes to include in cost of service a total of \$223,706 in incentive compensation (\$9,944 in direct company expense and \$213,762 in allocations from Unitil Service) for the electric division and \$144,047 in incentive compensation (\$7,139 in direct company expense and \$136,908 in allocations from Unitil Service) for the gas division (Exhs. DPU-FGE 2-2, Att. (electric); DPU-FGE 2-5 (Rev.), Att. (gas); DPU-FGE 8-11 (Supp. 3), Att., WP 7.8 (electric); DPU-FGE 8-22 (Supp. 3), Att., WP 7.8 (gas)).

In the Company's last base distribution rate case, the Department directed the Company to implement Unitil-specific performance measures as part of its existing incentive plan for Unitil direct employees, as system-wide performance metrics could allow direct employees to receive an incentive award despite substandard performance in their own service territory.

D.P.U. 13-90, at 84-85. In the instant proceeding, the Company testified that implementation

of such measures would not be cost-effective and would damage Unitil's "one-company" culture (Exhs. Unitil-GEL-1, at 15-16 (electric); Unitil-GEL-1, at 14-15 (gas)).

b. Positions of the Parties

i. Attorney General

The Attorney General contends that the Department should adjust the Company's cost of service to remove the portion of incentive compensation tied to the attainment of financial goals (i.e., the portion tied to the earnings-per-share metric) (Attorney General Brief at 21-23 (electric); Attorney General Reply Brief at 11). The Attorney General avers that incentive compensation based on the attainment of financial goals should not be recoverable from ratepayers, as these incentives do not provide a benefit to ratepayers, but instead rewards Company management for charging customers high rates (Attorney General Brief at 23 (electric)). The Attorney General asserts that the Department rejected the Company's prior requests to include this type of incentive compensation in cost of service in the Company's previous two base distribution rate cases, D.P.U. 11-01/D.P.U. 11-02 and D.P.U. 13-90 (Attorney General Brief at 21-22 (electric)). The Attorney General argues that there is no basis for the Department to depart from its well-established precedent regarding incentive compensation (Attorney General Brief at 24 (electric); Attorney General Reply Brief at 12).

Further, the Attorney General asserts that the Company acknowledges on brief that the Department does not allow earnings per share as a performance metric, but allows it to be included as a performance threshold (Attorney General Reply Brief at 11). The Attorney General avers that the Company attempts to confuse the issue by arguing that Unitil's treatment

of earnings per share does act as a threshold component, but the Attorney General maintains that the Company uses earnings per share as a discrete performance goal in calculating incentive compensation (Attorney General Reply Brief at 12).

Based on these factors, the Attorney General argues that the Department should disallow the portion of incentive compensation related to earnings-per-share goals, which the Attorney General contends results in a reduction to cost of service of \$117,095 for the electric division and \$76,359 for the gas division (Attorney General Brief at 24 (electric); Attorney General Brief at 24 (gas)).

ii. Company

The Company claims that all incentive compensation metrics benefit ratepayers directly (Company Brief at 45). The Company acknowledges that the Department only allows earnings per share when it acts as a performance threshold rather than a performance goal, and maintains that Until's earnings-per-share metric does act as a threshold (Company Brief at 45). Until maintains that while the Company does not use its financial metrics as an on and off switch for incentive compensation, the plan modulates the plan payout by measuring different "threshold" levels for financial performance (Company Brief at 45-46). The Company argues that if the earnings-per-share target were an "all or nothing" threshold, then the incentive would be focused first and last on financial metrics over all other measures (Company Brief at 46).

Until also claims that both of its incentive plans directly benefit ratepayers through a balanced weighting approach that ensures operational measures and financial measures are both

given important standing (Company Brief at 46). The Company acknowledges that the Department previously has denied Unitil's requests to include a portion of incentive compensation expense related to financial metrics in its cost of service, but requests that the Department take a "fresh and open look" at Unitil's incentive plans to see that they directly benefit ratepayers (Company Brief at 46-47).

The Company contends that the incentive compensation expense included in its proposed cost of service is reasonable in amount, noting that it is requesting only a target level despite having test-year payouts above target (Company Brief at 47). The Company also maintains that the incentive plans are reasonably designed to encourage good employee performance and asserts that the plans are achieving the desired high level of job performance (Company Brief at 47-48). Unitil references its 2014 compensation study, which determined that the requested target level of incentive compensation does not bring the Company to its preferred market position, to argue that the customers are effectively receiving excellent performance for below-market costs (Company Brief at 49, citing Exh. AG 15-2, Att 1, at 9).

Regarding the issue of separate incentive plan metrics for Unitil direct employees, the Company maintains that the 18 Unitil employees will continue to be eligible for incentive compensation based on the combined performance of all Unitil Corporation-related companies (Company Brief at 49). Unitil contends that switching to company-specific metrics would result in additional administrative costs of \$100,000 annually (Company Brief at 50). The Company also argues that the incentive plan needs to be consistent across Unitil affiliates

because Until Service provides centralized services to all of the affiliates (Company Brief at 50).

c. Analysis and Findings

The Department has traditionally allowed incentive compensation expenses to be included in a utility's cost of service if: (1) the expenses are reasonable in amount; and (2) the incentive plans are reasonably designed to encourage good employee performance.

D.P.U. 07-71, at 82-83; Massachusetts Electric Company, D.P.U. 89-194/195, at 34 (1990).

For an incentive plan to be reasonable in design, it must both encourage good employee performance and result in benefits to ratepayers. D.P.U. 93-60, at 99.

The Department must first determine whether Until's Incentive Plan and Management Plan are reasonable in design. During the test year, a portion of the Company's Incentive Plan and Management Plan expense was tied to meeting an earnings-per-share metric (Exhs. AG 2-11 (electric); DPU-FGE 1-14 (electric); DPU-FGE 1-14 (gas)). The Attorney General argues that the Department should deny recovery of incentive compensation related to this financial metric because the Company has failed to show that the achievement of these financial goals results in direct ratepayer benefits, and because the Department previously has denied recovery of such costs in Until's most recent base distribution rate cases (Attorney General Brief at 21-24 (electric)).

The Department has articulated its expectations on the use of financial targets in incentive compensation plans and the burden required to justify the recovery of such costs in rates. D.P.U. 13-90, at 82-83; D.P.U. 11-01/D.P.U. 11-02, at 192-193; D.P.U. 10-70,

at 105-106; D.P.U. 10-55, at 253-254. Specifically, where companies seek to include financial goals as a component of incentive compensation design, the Department expects to see the attainment of such goals as a threshold component, with job performance standards designed to encourage good employee performance (e.g., safety, reliability, customer satisfaction goals) used as the basis for determining individual incentive compensation awards. See D.P.U. 13-90, at 82-83; D.P.U. 11-01/D.P.U. 11-02, at 192-193; D.P.U. 10-70, at 105-106; D.P.U. 10-55, at 253-254. Companies that nonetheless wish to maintain financial metrics as a component of the formula used to determine individual incentive compensation must be prepared to demonstrate direct ratepayer benefit from the attainment of these goals or risk disallowance of the related incentive compensation costs. D.P.U. 13-90, at 83; D.P.U. 11-01/D.P.U. 11-02, at 193; D.P.U. 10-70, at 106; D.P.U. 10-55, at 253-254.

Unitil's earnings-per-share metric does not operate as a threshold component but rather represents a direct component in its overall incentive compensation design (Exhs. AG 2-11 (electric); DPU-FGE 1-14 (electric); DPU-FGE 1-14 (gas)). While Unitil attempts to redefine the definition of the term "threshold" to argue that its earnings-per-share metric operates as a threshold, this is simply not the case. In addition, the earnings-per-share metric represents 40 percent of the incentive compensation payment calculation (Exhs. AG 2-11 (electric); DPU-FGE 7-21 (electric); DPU-FGE 7-17 (gas)). It is evident that the attainment of an earnings-per-share target has, by definition, a primary and direct shareholder benefit (i.e., this metric tends to align the interests of management and shareholders in company financial performance). Any benefit to ratepayers from the achievement of an earnings-per-share target

is at best indirect, and the Department has previously found the benefit to be tenuous. See D.P.U. 13-90, at 83-84; D.P.U. 11-01/D.P.U. 11-02, at 193. Therefore, consistent with Department precedent and the treatment of incentive compensation in the Company's previous two rate cases, the Department finds that Unitil has failed to demonstrate that the earnings-per-share components of its Incentive Plan and Management Plan are reasonably designed to encourage good employee performance and result in direct ratepayer benefits. Accordingly, the Department will exclude that portion (i.e., 40 percent) of the Company's incentive compensation expense attributable to earnings per share.

With respect to the issue of whether the Company's incentive compensation expense is reasonable, the results of the compensation study indicate that Unitil's incentive compensation target levels are aligned with, or slightly below, the market median (Exhs. AG 15-2, Att. 1, at 12 (electric); AG 14-2, Att. 1, at 12 (gas)). Therefore, the Department finds that the costs associated with the Incentive Plan and Management Plan are reasonable.

With respect to the 18 direct Unitil employees, the Department has previously found that system-wide performance metrics could allow these employees to receive an incentive award despite substandard performance in their own service territory. D.P.U. 13-90, at 85; D.P.U. 11-01/D.P.U. 11-02, at 194-195. In the instant case, the Company has not provided any information that is new or materially different from what was provided in Unitil's last base distribution rate case, i.e., D.P.U. 13-90, with respect to this issue (Tr. 6, at 475). In the absence of any new information, the Department finds, as we did in D.P.U. 13-90, at 85, that the Company has failed to persuade the Department that performance measures that combine

data from Unitil Corporation's Maine, Massachusetts, and New Hampshire operating subsidiaries are reasonably designed to directly benefit the Company's Massachusetts ratepayers. Moreover, while the Company contends on brief that implementing Unitil-specific metrics would result in annual administrative costs of \$100,000, this amount is not supported by the evidentiary record (see Company Brief at 50). The information provided by the Company during the proceeding indicates that administering a Unitil-specific plan for the 18 direct Unitil employees would incur a one-time cost of approximately \$23,000, and annual costs of \$17,800, which is only \$5,600 more than the current cost of \$12,200 to maintain the incentive plans (Exhs. DPU-FGE 1-22, Att. (electric); DPU-FGE 1-22, Att. (gas)). Thus, the Department is not persuaded that the expense to implement Unitil-specific metrics is prohibitive. Accordingly, should the Company seek to recover costs for the incentive compensation expense associated with its 18 direct Unitil employees in future proceedings, the Company is required to implement Unitil-specific performance metrics for the 18 direct Unitil employees as part of its existing incentive compensation plans.⁶²

Based on the above analysis, the Department has excluded from the Company's proposed cost of service the portion of incentive compensation tied to financial metrics (i.e., 40 percent), resulting in a disallowance of \$117,095 for the electric division and \$76,359 for the gas division (see Exhs. DPU-FGE 7-21, Att. (electric); DPU-FGE 7-17, Att. (gas)). For

⁶² The Company may, of course, continue to operate the incentive plans using its current approach. Nonetheless, given that the Department has twice rejected this approach, Unitil is directed to exclude the costs in future base distribution rate case filings. See D.P.U. 13-90, at 86-87; D.P.U. 11-01/D.P.U. 11-02, at 203-204.

the electric division amount of \$117,095, 4.831 percent or \$5,657 is assigned to internal transmission and \$111,438 is assigned to base distribution (see Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-6 (electric)).

3. 401(k) Plan

a. Introduction

During the test year, Unitil booked \$179,042 in 401(k) plan expense to its electric division, of which \$33,257 represents direct Company 401(k) expense and \$145,784 represents costs allocated from Unitil Service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-8 (electric)).⁶³ During the test year, Unitil booked \$141,009 in 401(k) plan expense to its gas division, of which \$36,348 represents direct Company costs and \$104,661 represents costs allocated from Unitil Service (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-9 (gas)). In its initial filing, the Company proposed to increase its test-year 401(k) expense by \$31,574 and \$27,491 for the electric and gas divisions, respectively, to reflect the effect of wage increases that took effect during 2015, as well as anticipated 2016 wage increases (Exhs. Unitil-GEL-1, at 2 (electric); Unitil-GEL-1, at 2 (gas); Unitil-DLC-1, Sch. RevReq-3-8 (electric); Unitil-DLC-1, Sch. RevReq-3-9 (gas)).⁶⁴ Unitil updated its proposed increase to 401(k) expense to reflect the effects of updating the 2016 non-union payroll increase from 3.6 percent to 3.9 percent, resulting in proposed increases of \$31,605 and \$27,526 for the

⁶³ Minor discrepancies in the amounts presented in this section are attributed to rounding.

⁶⁴ Of the electric division's amount, 4.831 percent or \$1,525 is assigned to internal transmission and \$30,048 is assigned to base distribution (Exh. Unitil-DLC-1, Sch. RevReq-3-8 (electric)).

electric and gas divisions, respectively (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-8 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-9 (gas)).⁶⁵

b. Positions of the Parties

The Company claims that its proposed adjustments for 401(k) expense are both known and measurable (Company Brief at 44). To determine its direct 401(k) costs, the Company contends it first annualized actual 401(k) costs for the month of March 2015 (Company Brief at 44). Next, the Company added actual 401(k) costs related to incentive compensation to its annualized cost (Company Brief at 44). The Company maintains that this sum was then increased to reflect the effect of the anticipated 2016 wage increase (Company Brief at 44). The Company avers that the 401(k) costs associated with Unitil Service are calculated in the same manner and are allocated to Unitil based on each division's appropriate allocation factors (Company Brief at 44). Finally, the Company asserts that the proposed adjustments should be accepted as they have not been challenged by any party (Company Brief at 44-45). No other party addressed this issue on brief.

c. Analysis and Findings

The Department has found that employee contributions to utility-sponsored savings plans are voluntary and, thus, subject to fluctuation. D.P.U. 13-90, at 96; D.P.U. 89-114/90-331/91-80 (Phase One) at 66-67; Commonwealth Electric Company, D.P.U. 88-135/151, at 68 (1989). In the absence of a demonstration that the post-test-year

⁶⁵ Of the proposed increase for the electric division, \$1,527 is assigned to internal transmission and \$30,078 is assigned to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-8 (electric)).

participation levels are more representative of future participation than the total employee contributions made during the test year, the Department declines to permit any adjustment above the expense booked during the test year. D.P.U. 13-90, at 96-97; D.P.U. 92-250, at 48; D.P.U. 89-114/90-331/91-80 (Phase One) at 66-67; D.P.U. 88-135/151, at 68.

Unitil's 401(k) plan, under the standard feature, provides for a Company match of up to three percent of an employee's contribution; for an employee enrolled in the enhanced feature, the Company matches up to six percent of the employee's contributions, and the Company makes a contribution equal to four percent of an employee's base salary (Exhs. DPU-FGE 1-28 (electric); DPU-FGE 1-28 (gas)). Because the Company's contribution rate is a function of total payroll as well as participant contributions, the Department finds that the Company's calculation of 401(k) expense based on total payroll, and adjusted for known and measurable wage increases, produces a more representative 401(k) expense than reliance on the actual test-year amount. D.P.U. 13-90, at 97.

As discussed in Section VII.A.2.c., above, the Department has removed the costs associated with the portion of the Company's incentive compensation based on financial metrics. Consistent with this disallowance and the operation of the Company's 401(k) plan, a corresponding disallowance must be made to the Company's 401(k) expense. The portion of 401(k) expense associated with the financial metrics component of the Company's incentive compensation is \$82 for the electric division and \$59 for the gas division (RR-DPU-15, Att. at 1). Applying the 77 percent capitalization rate associated with Unitil's incentive compensation produces a net amount of \$19 and \$13 for the electric and gas divisions,

respectively (see RR-DPU-15, Att. at 1). Applying the 2015 wage increase of 3.6 percent and the 2016 wage increase of 3.9 percent produces disallowances of \$20 for the electric division and \$14 for the gas division.

Turning to Unitil Service, the portion of 401(k) expense associated with the financial metrics component of incentive compensation is \$14,341 (RR-DPU-15, Att. at 2). Because Unitil Service allocates 28.69 percent of 401(k) costs to the Company, the apportionment to Unitil is \$4,114 (RR-DPU-15, Att. at 2). This amount is further allocated based on the ratio of each division's total payroll, i.e., 60.62 percent for electric and 39.38 percent for gas, resulting in \$2,494 being allocated to the electric division and \$1,620 being allocated to the gas division (see RR-DPU-15, Att. at 2). Applying a capitalization rate of 27.58 percent to each division's allocated cost produces a net amount of \$1,806 and \$1,173 for the electric and gas divisions, respectively (see RR-DPU-15, Att. at 2). Next, the Department must apply the 2015 Unitil Service wage increase of 4.2 percent and the 2016 Unitil Service wage increase of 4.2 percent to arrive at disallowances of \$1,960 for the electric division and \$1,273 for the gas division. Accordingly, the Department reduces the Company's proposed cost of service by \$1,980⁶⁶ for the electric division and \$1,287⁶⁷ for the gas division. Of the electric division's \$1,980 disallowance, 4.831 percent, or \$95 is assigned to internal transmission, and \$1,885 is assigned to base distribution (see Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-8 (electric)).

⁶⁶ $\$20 + \$1,960 = \$1,980$

⁶⁷ $\$14 + \$1,273 = \$1,287$

4. Restricted Stock Expense

a. Introduction

In addition to the Company's two incentive programs, Until offers certain executives a restricted stock options plan ("Stock Plan") (Exhs. AG 1-2, Att. 6B at 34-36, 45 (electric); AG 1-2, Att. 6B at 34-36, 45 (gas)). Under the Stock Plan, target awards are established that generally vary based upon the job grade level of each participant's position in the Company in accordance with survey data derived from a peer group of comparable utility companies (Exhs. AG 1-2, Att. 6B at 34, 45 (electric); AG 1-2, Att. 6B at 34, 45 (gas)). The performance standards and metrics for the Company's Stock Plan rely on the same performance standards and metrics used for the Incentive Plan (Exhs. AG 1-2, Att. 6B at 34-36 (electric); AG 1-2, Att. 6B at 34-36 (gas)).

During the test year, the Company was allocated \$281,939 in payments under the Stock Plan from Until Service net of capitalized amounts, of which \$164,116 was allocated to the electric division, and \$117,822 was allocated to the gas division (Exh. AG 12-1 (electric); Tr. 6, at 476).

b. Positions of the Parties

i. Attorney General

The Attorney General contends that Until's restricted stock expense in 2014 reflects large increases for two employees that were over and above the 2013 expense level, and that the stock awards for these two employees represent outliers that should be normalized (Attorney General Brief at 24-25 (electric)). The Attorney General avers that one employee received stock awards in 2014 that were 165 percent greater than the 2013 expense, while the

second employee received stock awards in 2014 that were 316 percent greater (Attorney General Brief at 25 (electric); Attorney General Reply Brief at 18).

The Attorney General also characterizes the Company's restricted stock expense as non-recurring based on the fact that the increase for the second employee is due to that employee becoming eligible for retirement during the test year (Attorney General at 25 (electric)).⁶⁸ The Attorney General contends that because an employee becomes eligible for retirement only once, the cost associated with the retiring employee should be eliminated from the Company's cost of service (Attorney General Brief at 26 (electric)).

The Attorney General maintains that to eliminate the effect of the extraordinary and non-recurring increases to the Company's restricted stock expense, the Department should disallow \$75,698 in costs for the electric division and \$54,435 in costs for the gas division (Attorney General Brief at 26 (electric) citing Tr. 6, at 466-467; Attorney General Reply Brief at 18).

ii. Company

Unitil asserts that its restricted stock expense was treated properly within its cost of service analysis (Company Brief at 76). The Company contends that the Attorney General erroneously characterizes its restricted stock expense as "non-recurring," and Unitil contends that the expense properly reflects a structural change for one employee based on the results of

⁶⁸ The Attorney General asserts that when an employee is eligible for retirement, all unvested shares become treated as if they are vested for tax and accounting purposes, and 100 percent of the previously unrecognized restricted stock expense is recognized in the period the employee becomes eligible (Attorney General Brief at 25-26 (electric)).

its compensation analysis, as well as the retirement of a second employee (Company Brief at 76-77). Moreover, Unitil maintains that the Attorney General's claim that the increase in test-year costs is above those of prior years is unsupported (Company Brief at 77; Company Reply Brief at 22). The Company maintains that the underlying factors determining the restricted stock expense were wholly expected and likely to recur in the future (Company Brief at 77).⁶⁹ The Company states that the restricted stock expense is fully within the expected ebb and flow of costs and should be allowed in cost of service (Company Brief at 77; Company Reply Brief at 22).

c. Analysis and Findings

The Attorney General argues that the Company's level of restricted stock expense is both extraordinary and based on non-recurring circumstances (Attorney General Brief at 24-26). Unitil claims that its treatment of restricted stock expense is appropriate, and that the level is neither extraordinary nor non-recurring (Company Brief at 76-77). Turning first to the claim that the expense level is extraordinary, the Attorney General's assertion rests solely on the increase in stock expense attributed to two employees. To determine whether a level of expense is representative, it is necessary to look at the expense as a whole, rather than a portion applicable to one or two employees. In the Company's last rate case, utilizing a test year of 2012, the Company was allocated \$409,473 in payments under the Stock Plan from

⁶⁹ Unitil asserts that the Company periodically adjusts compensation for executives, and that these executives are expected to age, and eventually retire (Company Brief at 77; Company Reply Brief at 22).

Unitil Service.⁷⁰ D.P.U. 13-90, at 78. In the instant proceeding, utilizing a 2014 test year, the Company was allocated \$389,310 in payments under the Stock Plan from Unitil Service, of which \$107,372 was capitalized, resulting in a net allocation of \$281,939 (Exhs. AG 12-1 (electric); Tr. 6, at 476). As the costs allocated from Unitil Service to the Company are less than the costs allocated in Unitil's previous base rate proceeding and allowed by the Department, a finding of extraordinary costs cannot be supported.

Regarding the Attorney General's claim that the Company's restricted stock plan is non-recurring, the Department finds this contention to be without merit. It is reasonable to expect that Unitil's executives can, and will, become eligible for retirement, and when such an event occurs, the Company's restricted stock expense will reflect the vesting of that individual's stock award.

During the test year, the Company's Stock Plan paid awards at 150 percent of the target level (RR-DPU-17). As previously noted, the performance standards and metrics for the Company's Stock Plan rely on the same performance standards and metrics used for the Incentive Plan (Exhs. AG 1-2, Att. 6B at 34-36 (electric); AG 1-2, Att. 6B at 34-36 (gas)). In Section VII.A.2.c., above, the Company has adjusted its proposed cost of service to include only a target level of incentive compensation. As the Stock Plan is a component of Unitil's incentive compensation and calculated using the same performance standards, the Department finds it appropriate to treat the restricted stock expense in a similar manner and reflect only the target amount in the Company's cost of service. Such treatment results in a reduction of

⁷⁰ This amount is not net of capitalized costs. See D.P.U. 13-90, at 78.

\$36,694 for the electric division and a reduction of \$26,343 for the gas division, net of capitalization (RR-DPU-17, Att.).

Consistent with our findings above regarding financial performance metrics for the Company's incentive compensation, the Department also excludes that portion of the Company's Stock Plan expense attributable to the earnings-per-share metric. Based on Unitil Service's target level of restricted stock expense, the amount attributable to the earnings-per-share metric is \$421,424 (RR-DPU-15, Att.). Of this amount, 28.69 percent, or \$120,906, is allocated to the Company (RR-DPU-15, Att.). Applying the Company's capitalization rate of 27.58 percent produces a net amount of \$87,560 (see RR-DPU-15, Att.).⁷¹ Utilizing the electric division allocator of 58.21 percent and the gas division allocator of 41.79 percent yields disallowances of \$50,969 for the electric division and \$36,591 for the gas division (see RR-DPU-15, Att.).⁷² Based on the foregoing analysis, the Department will reduce the Company's cost of service by \$87,663 for the electric division,⁷³ and by \$62,934 for the gas division.⁷⁴ Of the electric division's amount of \$87,663, 4.831 percent or \$4,235 is assigned to internal transmission and \$83,428 is assigned to base distribution.

⁷¹ $\$120,906 - (120,906 * 27.58\%) = \$87,560$

⁷² The Company's restricted stock expense is allocated between electric and gas using a revenue allocator rather than one based on payroll ratios or the labor allocator (RR-DPU-15, Att.).

⁷³ $\$36,694 + \$50,969 = \$87,663$

⁷⁴ $\$26,343 + \$36,591 = \$62,934$

5. Severance Expense

a. Introduction

During the test year, Unitil booked \$123,326 in severance expense for the Company's electric division and \$66,267 in severance expense for the Company's gas division (Exhs. AG 1-34, Att. 2, at 18 (electric); AG 1-34, Att. 2, at 5 (gas)). These amounts represent payments the Company made to union employees who left the Company pursuant to an agreement between Unitil and the Utility Workers Union of America (Exhs. AG 3-1 (electric); AG 3-1 (gas)).

b. Positions of the Parties

i. Attorney General

The Attorney General argues that Department should normalize Unitil's test-year severance expense, as it is not an annually recurring expense (Attorney General Brief at 28 (electric); Attorney General Reply Brief at 14). The Attorney General maintains that the Company has acknowledged that severance payments only occur periodically, and points to varying levels of severance expense between 2012 and 2015 (Attorney General Brief at 28-29 (electric), citing Exhs. AG 3-1 (electric); AG-DJE-1 at 8 (electric)). The Attorney General claims that the Company's electric division incurred no severance expense in 2012, \$11,197 in 2013, \$123,326 in 2014, and a negligible amount in 2015 (Attorney General Brief at 28-29 (electric), citing Tr. 5, at 397; RR-AG-11 (electric)). For the gas division, the Attorney General states the Company incurred no severance expense in 2012, \$11,107 in 2013,

\$76,359⁷⁵ in 2014, and a negligible amount in 2015 (Attorney General Brief at 28-29 (gas), citing Exh. AG 1-34, Att. 2, at 5 (gas); Tr. 5, at 396-397; RR-AG-11 (gas)).

Therefore, the Attorney General insists that the test-year level of severance expense should not be included in Unitil's cost of service, but rather the average of the Company's severance expense for the years 2012 through 2014 should be included in the cost of service (Attorney General Brief at 29 (electric); Attorney General Brief at 29 (gas); Attorney General Reply Brief at 14). The Attorney General calculates the average expense to be \$44,841 for the electric division and \$29,155 for the gas division, proposing reductions of \$78,485 and \$47,204 for the electric and gas divisions, respectively (Attorney General Brief at 29 (electric); Attorney General Brief at 29 (gas)).

ii. Company

Unitil contends that severance expense was properly reflected in the Company's cost of service (Company Brief at 73; Company Reply Brief at 18). Further, the Company states that severance payments occur periodically, and therefore the expense should be treated as within the natural ebb and flow of ratemaking (Company Brief at 73; Company Reply Brief at 18). The Company insists that the Attorney General's recommendation to normalize the expense is based solely on the perceived fact that severance costs were not incurred during the two years prior to the test year, as these costs were not stated and accounted for separately until 2014 (Company Brief at 73, citing Tr. 5, at 396; Company Reply Brief at 17-18). The Company

⁷⁵ The 2014 test-year expense of \$76,359 the Attorney General discusses on brief is incorrect. While the source of the incorrect amount referenced by the Attorney General is unclear, the correct amount is \$66,267 (Exh. AG 1-34, Att. 2, at 5 (gas)).

asserts that although the amounts were small, Unitil incurred severance expense in 2015 as well (Company Brief at 73). Unitil argues that severance costs are a regular requirement of the Company's operations, and that the Department should accept the Company's test-year level of expense (Company Brief at 73; Company Reply Brief at 18).

c. Analysis and Findings

The Department typically includes a test-year level of expenses in cost of service and will adjust this level for known and measurable changes to the test-year amount.

D.P.U. 87-260, at 75; D.P.U. 1270/1414, at 33. Test-year expenses that recur on an annual basis are eligible for full inclusion in a company's cost of service unless the record supports a finding that the level of the expense in the test year is abnormal. D.P.U. 1270/1414, at 33.

The Department has traditionally broken down utility expenses into four categories: (1) annually recurring expenses; (2) periodically recurring expenses; (3) nonrecurring expenses that are extraordinary in amount or nature; and (4) nonrecurring expenses that are not extraordinary in amount or nature. Manufactured Gas Plants, D.P.U. 89-161, at 51 (1990); D.P.U. 1270/1414, at 32-33. The Department typically allows annually recurring expenses and normalized values of periodically recurring expenses to be included in a company's cost of service. D.P.U. 10-114, at 160, 196; D.P.U. 89-161, at 51; Plymouth Water Company, D.T.E./D.P.U. 06-53, at 16-17 (2007); D.P.U. 1270/1414, at 33. The Department also allows recovery of extraordinary nonrecurring expenses through amortization and collection from ratepayers over an appropriate period of time. D.P.U. 89-161, at 51.

Unitil's electric division incurred no severance expense in 2012, \$11,197 in 2013, \$123,326 in 2014, and \$498 through October 31, 2015 (Exh. AG 1-34, Att. 2, at 18 (electric); Tr. 5, at 397; RR-AG-11 (electric)). Unitil's gas division incurred no severance expense in 2012, \$11,107 in 2013, \$66,267 in 2014, and \$517 through October 31, 2015 (Exh. AG 1-34, Att. 2, at 5 (gas); Tr. 5, at 397; RR-AG-11 (gas)). On the basis of the record, we find that the test-year severance expense is a periodically recurring expense, and that the test-year expense for each division is not a representative amount (Exhs. AG 1-34, Att. 2, at 18 (electric); AG 1-34, Att. 2, at 5 (gas); AG 3-1 (electric); AG 3-1 (gas); Tr. 5, at 396-397; RR-AG-11 (electric); RR-AG-11 (gas)). Moreover, the Company has confirmed that severance expense is a periodically recurring expense, rather than an annually recurring expense (Exhs. AG 3-1 (electric); AG 3-1 (gas); Tr. 5, at 396). Therefore, the Department will normalize the Company's test-year severance expense to reflect a representative test year level in rates, calculated as the average of the most recent three-year expense amounts (2012 through 2014). See also Tables I, 2, below.

The normalized level of severance expense for the electric division is \$44,841,⁷⁶ and the normalized level of severance expense for the gas division is \$25,791.⁷⁷ Comparing these amounts to the test-year expenses of \$123,326 for the electric division and \$66,267 for the gas division yields reductions to the Company's cost of service of \$78,485 and \$40,476 for the electric and gas divisions, respectively. Of \$78,485 for the electric division, 4.831 percent or

⁷⁶ $(\$0 + \$11,197 + \$123,326) / 3 = \$44,841$

⁷⁷ $(\$0 + \$11,107 + \$66,267) / 3 = \$25,791$

\$3,792 is assigned to internal transmission and \$74,693 is assigned to base distribution (See Exh. DPU-FGE 8-11 (Supp. 3) Att., Sch. RevReq-3-7 (electric)).⁷⁸

6. Medical and Dental Insurance Expense

a. Introduction

During the test year, the Company booked \$441,928 in medical and dental insurance expenses to its electric division, comprising \$125,346 in Unitil direct costs and \$316,583 allocated from Unitil Service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-7 (electric)).⁷⁹ The Company proposes to decrease medical and dental insurance expense for its electric division by \$6,230 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-7 (electric)).⁸⁰ Of the proposed decrease, \$301 is allocated to internal transmission and the remaining \$5,929 is allocated to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-7 (electric)).

During the test year, the Company booked \$364,298 in medical and dental insurance expenses to its gas division, comprising \$137,018 in Unitil direct costs and \$227,280 allocated from Unitil Service (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-8 (gas)). The

⁷⁸ The Company's initial filing did not include a separate adjustment for severance expense, and, therefore, the record does not identify the portion of test-year severance expense being assigned to internal transmission. Consistent with the treatment of other electric division expenses related to labor and wages, the Department uses a factor of 4.831 percent to allocate a portion of the severance expense disallowance to internal transmission (see e.g., Section VII.A.2.c., above).

⁷⁹ Minor discrepancies in the amounts presented in this section are attributed to rounding.

⁸⁰ The proposed decrease consists of an increase of \$11,958 in direct expenses to the Company and a decrease of \$18,188 in allocated expenses from Unitil Service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-7 (electric)).

Company proposes to decrease medical and dental insurance expense for its gas division by \$13 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-8 (gas)).⁸¹

The Company self insures its employee benefits for medical, dental, and vision coverage, such that the first \$200,000 in medical claims is covered through self insurance, while claims over \$200,000 per family are covered by re-insurance (Exhs. AG 1-63 (electric); AG 1-63 (gas)). In addition, if total medical claims for the year exceed 125 percent of expected claims, then all claims above 125 percent of expected claims are also paid by the re-insurer (Exhs. AG 1-63 (electric); AG 1-63 (gas)).

To determine its pro forma medical and dental insurance expense, the Company first developed an employee participant count for each insurance plan by type of coverage, excluding those employees who choose to opt out of medical plans (Exhs. Unitil-GEL-1, at 13 (electric); Unitil-GEL-1, at 12 (gas)). The Company applied 2015 working rates to employee participant counts to derive estimated 2015 plan costs (Exhs. Unitil-GEL-1, at 12-13 (electric); Unitil-GEL-1, at 12 (gas)). These costs were then reduced by employee contributions and increased by the Company's health spending account contributions, as well as payments to those employees who opt out of coverage (Exhs. Unitil-GEL-1, at 13 (electric); Unitil-GEL-1, at 12 (gas)). These costs were then increased by 2016 working rates to arrive at the pro forma medical and dental insurance expenses, which were allocated to the electric and gas divisions accordingly (Exhs. Unitil-GEL-1, at 13 (electric); Unitil-GEL-1, at 12-13 (gas)).

⁸¹ The proposed decrease consists of an increase of \$13,045 in direct expenses to the Company and a decrease of \$13,058 in allocated expenses from Unitil Service (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-8 (gas)).

b. Positions of the Parties

i. Attorney General

The Attorney General argues that the Department should deny the Company's request to utilize working rates to derive pro forma medical and dental insurance costs (Attorney General Brief at 29 (electric); Attorney General Reply Brief at 10). The Attorney General asserts that working rates are projections of expected costs, and that the Department previously rejected the use of working rates to establish pro forma medical and dental insurance costs in the Company's most recent base distribution rate case, i.e., D.P.U. 13-90 (Attorney General Brief at 29-30 (electric), citing D.P.U. 13-90, at 94; Attorney General Reply Brief at 10). The Attorney General contends that the Company's actual medical and dental insurance costs for the first eight months of 2015 were 33.39 percent less than the Company's 2014 test-year costs (Attorney General Brief at 30 (electric)). The Attorney General also contends that the Company has not presented evidence that would suggest the latest known medical and dental insurance costs are unrepresentative of future costs (Attorney General Reply Brief at 11). The Attorney General calculates a proposed reduction by reducing the Company's direct test-year costs by 33.39 percent, and subtracting this reduced test-year amount from each division's direct pro forma expense (Attorney General Brief at 30 (electric)). The Attorney General's calculations result in proposed reductions of \$60,360 and \$65,953 for the electric and gas divisions, respectively (Attorney General Brief at 30 (electric); Attorney General Brief at 30 (gas)).

ii. Company

Unitil asserts that it made known and measurable adjustments for medical and dental insurance expenses that occurred in 2015 and 2016 and that are anticipated through the midpoint of the rate year (Company Brief at 42). The Company claims that the largest factor contributing to the pro forma adjustments are forecast claims based on working rates, which are a reflection of expected claims based on medical trends and historical claims experience (Company Brief at 42). The Company contends that it appropriately relies on the expert actuarial analysis of its insurance company to determine the expected level of claims to be made pursuant to its self-insurance program, and that this method has been used consistently in prior base distribution rate cases (Company Brief at 42-43). The Company also argues that it has demonstrated that its medical and dental insurance costs are reasonable in amount, and that Unitil has acted appropriately to contain costs (Company Brief at 43). Unitil disagrees with the Attorney General's suggested reduction to medical and dental insurance expense, claiming her calculation is both misleading and erroneous, and that her approach to cost of service is selective (Company Brief at 43-44; Company Reply Brief at 13). Additionally, the Company claims the Attorney General disregards the Department's recent precedent of using a representative level of medical and dental insurance expense based on a three-year average of recent experience (Company Brief at 43-44). Accordingly, the Company asserts that the Department should approve Unitil's proposed medical and dental insurance adjustments (Company Brief at 44; Company Reply Brief at 14).

c. Analysis and Findings

To be included in rates, medical and dental insurance expenses must be reasonable. D.P.U. 92-78, at 29-30; Nantucket Electric Company, D.P.U. 91-106/91-138, at 53 (1991). Further, companies must demonstrate that they have acted to contain their health care costs in a reasonable, effective manner. D.T.E. 01-56, at 60; D.P.U. 96-50 (Phase I) at 46; D.P.U. 92-78, at 29; D.P.U. 91-106/91-138, at 53. Finally, any post-test-year adjustments to health care expense must be known and measurable. D.T.E. 01-56, at 60; D.P.U. 96-50 (Phase I) at 46; North Attleboro Gas Company, D.P.U. 86-86, at 8 (1986).

As an initial matter, the Department finds that Unitil's test-year medical and dental insurance expenses are reasonable and that the Company has taken reasonable and effective measures to contain its health care costs (see, e.g., Exhs. Unitil-GEL-1, at 11-12 (electric); Unitil-GEL-1, at 10-11 (gas); AG 1-50 (electric); AG 1-50 (gas); AG 1-52 (electric); AG 1-52 (gas); DPU-FGE 1-2 (electric); DPU-FGE 1-2 (gas); DPU-FGE 1-3 (electric); DPU-FGE 1-3 (gas); DPU-FGE 1-4 (electric); DPU-FGE 1-4 (gas); DPU-FGE 1-24 (electric); DPU-FGE 1-24 (gas)). For example, Unitil has introduced a consumer-directed health plan as the single health plan offering for new union and non-union employees, with an estimated annual savings of over \$24,000 (Exhs. Unitil-GEL-1, at 11-12 (electric); Unitil-GEL-1, at 10-11 (gas); AG 1-52 (electric); AG 1-52 (gas); DPU-FGE 1-3 & Att. (electric); DPU-FGE 1-3 & Att. (gas)). The Company also added a ten-percent coinsurance feature to the consumer-directed health plan and increased the stop-loss limit on claims from \$125,000 to \$200,000, resulting in an average decrease of 8.5 percent in rates and an average decrease of

47.3 percent in stop-loss insurance costs (Exhs. Unitil-GEL-1, at 12 (electric); Unitil-GEL-1, at 11 (gas); AG 1-52 (electric); AG 1-52 (gas); DPU-FGE 1-2 & Att. (electric); DPU-FGE 1-2 & Att. (gas)). Additionally, Unitil has replaced its preferred provider plan for existing union employees in favor of more limited and less expensive plans (Exhs. Unitil-GEL-1, at 12 (electric); Unitil-GEL-1, at 11 (gas); AG 1-52 (electric); AG 1-52 (gas)).

With regard to Unitil's proposed post-test-year adjustments to medical and dental insurance costs, the Company maintains that the working rates provided by its insurance carriers are actuarially determined, and therefore should be accepted as a known and measurable change in medical and dental insurance expense (Company Brief at 42-43). In the Company's most recent base distribution rate case, D.P.U. 13-90, the Department found the use of working rates to determine pro forma medical and dental insurance expense to be inappropriate, and instead calculated a representative level of expense based on the most recent three years of medical and dental costs. D.P.U. 13-90, at 94-96. Because the Company self insures for medical and dental insurance expense, claims and cost levels can vary from month to month, as well as year to year, rendering it difficult for any one year, including the test year, to be representative of costs going forward (Exhs. DPU-FGE 5-18 (electric); DPU-FGE 5-14 (gas)). The record demonstrates that Unitil's medical and dental insurance expense has experienced considerable fluctuations from 2010 to 2014, and costs incurred during the first eight months of 2015 were lower than those incurred during the corresponding period in 2014 (Exhs. AG 12-5, Att. (electric); DPU-FGE 9-5 (Rev.), Att. 1 (electric); DPU-FGE 9-5 (Rev.), Att. 1 (gas)). Accordingly, the Department will calculate the

Company's pro forma medical and dental insurance expense based on the most recent three years of costs, consistent with its findings in D.P.U. 13-90.

Unitil's electric division incurred medical and dental insurance expense amounts net of capitalization of \$103,470 in 2012, \$77,072 in 2013, and \$125,346 in 2014

(Exh. DPU-FGE 9-5 (Rev.), Att. 1 (electric)). The average of these three amounts equals \$101,963.⁸² During the same three years, Unitil Service allocated to the Company's electric division \$272,121, \$211,193, and \$316,583 in medical and dental insurance costs

(Exh. DPU-FGE 9-5, Att. 2 (electric)). The average of these three amounts equals \$266,632.⁸³ Combining the electric division's direct three-year average with the three-year average of costs allocated from Unitil Service results in a pro forma expense of \$368,595.

Comparing the electric division's test-year expense of \$441,928 to the pro forma expense of \$368,595 results in an adjustment of negative \$73,333. Of this amount 4.831 percent, or \$3,543, is assigned to internal transmission and \$69,790 is assigned to base distribution service. Comparing the \$69,790 to the Company's proposed adjustment of negative \$5,930 produces a net adjustment of \$63,861. Accordingly, the Department reduces the Company's proposed electric division cost of service by \$63,861.

Unitil's gas division incurred medical and dental insurance expense amounts net of capitalization of \$105,687 in 2012, \$76,458 in 2013, and \$137,017 in 2014

(Exh. DPU-FGE 9-5 (Rev.), Att. 1 (gas)). The average of these three amounts equals

⁸² $(\$103,470 + \$77,072 + \$125,346) / 3 = \$101,963.$

⁸³ $(\$272,121 + \$211,193 + \$316,583) / 3 = \$266,632.$

\$106,387.⁸⁴ During the same three years, Until Service allocated to the Company's gas division \$192,328, \$156,483, and \$227,280 in medical and dental insurance costs (Exh. DPU-FGE 9-5, Att. 2 (gas)). The average of these three amounts equals \$192,030.⁸⁵ Combining the gas division's direct three-year average with the three-year average of costs allocated from Until Service results in a pro forma expense of \$298,417. Comparing the gas division's test-year expense of \$364,298 to the pro forma expense of \$298,417 results in an adjustment of negative \$65,881. Compared to Until's proposed adjustment of negative \$13, it produces a net adjustment of negative \$65,868. Accordingly, the Department reduces the Company's proposed gas division cost of service by \$65,868.

B. Account 887 – Maintenance of Mains – Gas Division

1. Introduction

During the test year, the Company booked \$561,078 in Account 887 (Maintenance of Mains) (see Exh. AG 1-34, Att. 2, at 9 (gas)). The corresponding expense in 2013 was \$286,873 (see Exh. AG 1-34, Att. 2, at 9 (gas)). The Company provided the expenses incurred for Account 887, including corrosion costs, for the past five years, i.e., \$251,877 in 2010; \$208,124 in 2011; \$215,752 in 2012; \$286,873 in 2013; and \$561,078 in 2014 (Exhs. AG 1-34, Att. 2, at 9 (gas); AG 4-6 (gas)).

⁸⁴ $(\$105,687 + \$76,458 + \$137,017) / 3 = \$106,387.$

⁸⁵ $(\$192,328 + \$156,483 + \$227,280) / 3 = \$192,030.$

2. Positions of the Parties

a. Attorney General

The Attorney General claims that the Account 887 expenses incurred in 2014 were 126 percent higher than the average for the four previous years as a result of the abnormally severe winter (Attorney General Brief at 33 (gas)). The Attorney General asserts that these expenses should be normalized to be more representative of the expense that can reasonably be expected to be incurred prospectively (Attorney General Brief at 33-34 (gas)). According to the Attorney General, the Account 887 expense incurred in 2014, excluding costs related to corrosion, was \$250,291 greater than the expense incurred in 2013, and she proposes to amortize the difference of expenses incurred for Account 887 between the years 2014 and 2013 over four years (Attorney General Brief at 34 (gas)).⁸⁶ The Attorney General argues that amortizing this excess over four years results in an annual amortization expense of \$62,573, which is \$187,718 less than the actual excess expense incurred in 2014 (Attorney General Brief at 34 (gas)). Therefore, the Attorney General proposes that the Company's revenue requirement be reduced by \$187,718 for Account 887 (Attorney General Brief at 34 (gas)).

b. Company

Unitil asserts that the Attorney General does not recognize that the Company's internal crews perform the majority of leak repair work and that the internal crews reflect a fixed cost for the Company (Company Reply Brief at 21). The Company claims that while Account 887 expense increased, capital cost and other maintenance work decreased during the same time

⁸⁶ It is unclear why the Attorney General excludes corrosion-related costs in her calculation as it is a component of Account 887.

period since the work is performed by internal crews that were diverted from one project to the other (Company Reply Brief at 21). In terms of cost of service, Unitil claims that an increase in expense is offset by a decrease in rate base and other maintenance expenses (Company Reply Brief at 21). The Company, therefore, asserts that no adjustment is warranted (Company Reply Brief at 21).

3. Analysis and Findings

Companies may include in their cost of service a representative level of recurring non-extraordinary expenses as long as these expenses are reasonable. D.T.E. 98-51, at 39. The Department will employ normalization adjustments in instances where the test-year level is not considered to be representative. See D.P.U. 10-114, at 167; D.P.U. 10-55, at 272.

In D.P.U. 11-01/D.P.U. 11-02, at 349, the Department found that the test-year amount booked to Account 887 was reasonable and representative. In the instant proceeding, the test-year level of Account 887 expense was abnormally high (i.e., 126 percent higher than the average of the four previous years) (Exhs. AG 1-34, Att. 2, at 9 (gas); AG 4-6 (gas)). The increase was due primarily to colder than average weather, which resulted in an increase in leak repair maintenance (Exhs. AG 2-18 (gas); AG 4-5 (gas)). The Company argued that while Account 887 expense increased, capital cost and other maintenance work decreased during the same time period since its internal crews were diverted from one project to the other (Company Reply Brief at 21). Nonetheless, Unitil has not provided any evidence of corresponding decreases to other maintenance accounts that resulted from the increase in

Account 887 expense (see generally Exh. AG 1-34, Atts. 1, 2 (gas)). Based on the above, the Department finds that the test-year amount booked to Account 887 is not representative.

The Attorney General has proposed to amortize the difference of expenses incurred for Account 887 (excluding costs related to corrosion) between the years 2014 and 2013 over four years (Attorney General Brief at 34 (gas)).⁸⁷ This calculation is inconsistent with Department precedent. See D.P.U. 10-114, at 167; D.P.U. 10-55, at 272. Department precedent is to normalize a recurring expense, not amortize the difference between the test-year amount and an amount from a previous year. See D.P.U. 10-114, at 167; D.P.U. 10-55, at 272. Therefore, the Department finds that normalization, not amortization, is the proper treatment for the Company's proposed Account 887 expense.

The proper method to normalize a recurring expense is to average the expense over an appropriate period, and then compare it to the test-year level to determine the adjustment. D.T.E. 05-27, at 163; D.T.E. 03-40, at 163; D.T.E. 02-24/25, at 197; D.T.E. 98-51, at 62; D.P.U. 95-40, at 58. Normalization is not intended to ensure dollar-for-dollar recovery of a particular expense; rather, it is intended to include a representative level of expense in base distribution rates. D.T.E. 05-27, at 163; D.T.E. 03-40, at 163-164; D.T.E. 02-24/25, at 191; D.P.U. 96-50 (Phase I) at 77. The Department has determined the appropriate level of

⁸⁷ In her brief, the Attorney General appears to use the terms normalize and amortize interchangeably. As shown, these terms are not interchangeable. Here, normalization is the method of adjusting the expense level for abnormal levels over a reasonable period. Normalization is used to establish a representative amount of expense for a company's cost of service. Amortization involves recovery of an amount over a fixed period by equal annual amounts.

recovery of a recurring expense by taking the average of the company's expenses over an appropriate period, rounded to the nearest whole number. Milford Water Company, D.P.U. 92-101, at 48-50 (1992). See also D.P.U. 92-78, at 9; Boston Edison Company, D.P.U. 1720, at 89 (1984).

Based on the evidence, the Department finds that the appropriate normalization period for leak repair expense is five years. The Company provided the Account 887 expenses, including corrosion-related costs, for the past five years of \$251,877 in 2010; \$208,124 in 2011; \$215,752 in 2012; \$286,873 in 2013; and \$561,078 in 2014 (Exhs. AG 1-34, Att. 2, at 9 (gas); AG 4-6 (gas)). The average Account 887 expense over this five-year period is \$304,741. Thus, the Department concludes that the correct level of Account 887 expense to include in the company's cost of service is \$304,741. Therefore, the Department will reduce the Company's cost of service by \$256,337 (\$561,078 -\$304,741).

C. Vegetation Management Program

1. Introduction

The Company has a comprehensive vegetation management program that was implemented in 2012 (Exh. Unitil-KES-1, at 7 (electric)). The program is intended to prevent trees from interfering with electric lines during normal weather conditions and minor storm events (Exh. Unitil-SMS-1, at 2 (electric)). The vegetation management program has three main components, each of which is devised to minimize the effects of trees and other vegetation on the reliability of the Company's distribution system during normal operating conditions: (1) cycle pruning; (2) hazard tree mitigation; and (3) forestry reliability assessment

(Exh. Unutil-SMS-1, at 3). See D.P.U. 13-90, at 110-111. The Company plans to complete the pruning of 20 percent of the circuit miles, or an average of 82.4 miles of the total of 412 circuit miles, under the vegetation management program in each year of the next five years (Exh. AG 16-10 (electric)).⁸⁸

Unitil booked \$1,407,645 in test-year costs related to its vegetation management program (Exh. Unutil-SMS-1, at 7 & Sch. SMS-1 (electric)).⁸⁹ The Company proposes to increase its test-year amount by \$288,579 for costs associated with work performed in 2014 but booked in 2015 (Exhs. Unutil-DLC-1, at 28; DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-16 (electric); AG 2-17 (electric)).

In addition, Unitil proposes to increase its sub-transmission test-year vegetation management costs of \$123,372 by \$89,000 to fund the sub-transmission right-of-way maintenance component of vegetation management (Exhs. Unutil-SMS-1, at 7 & Sch. SMS-2 (electric); DPU-FGE 6-33 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-26 (electric)). The Company derived the \$89,000 amount by estimating the costs to perform the sub-transmission right-of-way maintenance for the next five years based on the results of the

⁸⁸ The Company noted that the actual amount may vary from year-to-year depending on vegetation density and circuit lengths in the particular sections being trimmed (Exh. AG 16-10 (electric)).

⁸⁹ The Company's vegetation management expense comprises several cost categories including: (1) maintenance circuit pruning (i.e., tree trimming); (2) hazard tree mitigation; (3) forestry reliability assessment; (4) police flagger details; (5) sub-transmission vegetation control; and (6) and forestry contract services (Exh. Unutil-SMS-1, Sch. SMS-1 (electric)).

2015 request for proposal process (Exh. Unutil-SMS-1, at 8 (electric)). None of the parties commented on this issue on brief.

2. Analysis and Findings

The Company's test-year vegetation management costs of \$1,407,645 are supported by the evidence and, thus, are known and measurable (Exhs. Unutil-SMS-1, at 7 & Sch. SMS-1 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-16 (electric); AG 15-9, Att. (electric)). With respect to Unutil's proposed increase to test-year costs, the Department has stated that when actual expenses are known, the Department will adjust booked test-year expenses to match the actual expense incurred. D.P.U. 10-70, at 184; Colonial Gas Company, D.P.U. 84-94, at 22-23 (1984). The Department finds that the Company has demonstrated that the costs related to the proposed adjustment were for vegetation management work performed during the test year, 2014, but booked in 2015 (Exhs. Unutil-DLC-1, at 28 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-16 (electric); AG 2-17 (electric)). Thus, we accept the Company's proposed increase of \$288,579 to its test-year costs.

With respect to the proposed increase of \$89,000 for sub-transmission work, it is well-established that base distribution rate filings are based on an historic test year, adjusted for known and measurable changes. See D.P.U. 10-70, at 232; Eastern Edison Company, D.P.U. 1580, at 13-17, 19 (1984); Massachusetts Electric Company, D.P.U. 136, at 3-5 (1980); Massachusetts Electric Company, D.P.U. 18204, at 4-5 (1975); New England Telephone and Telegraph Company, D.P.U. 18210, at 2-3 (1975); see also Massachusetts Electric Company v. Department of Public Utilities, 383 Mass. 675, 680 (1981). The

selection of the test year is largely a matter of a distribution company's choice, subject to Department review and approval. See D.P.U. 07-50-A at 51; D.P.U. 1720, Interlocutory Order at 7-11 (January 17, 1984). The Department does not typically allow proposed adjustments based on projections or estimates of increased expenses. D.T.E. 98-51, at 62; D.P.U. 92-210, at 83; Dedham Water Company, D.P.U. 849, at 32-34 (1982). Here, the Company based its proposed increase for sub-transmission work on estimates derived from the costs to perform the work in the next five years based on a 2015 request for proposal process (Exh. Unitil-SMS-1, at 8 (electric)). While the Company's proposal is based on an estimate derived from a request for proposals process, the costs incurred will vary by year as they are dependent on the quantity of sub-transmission acreage that undergoes vegetation management (Exh. DPU-FGE 9-9 (electric); Tr. 5, at 355-356). Thus, the estimated costs are not known and measurable and allowing such costs would be inconsistent with Department precedent. D.T.E. 98-51, at 62; D.P.U. 92-210, at 83; D.P.U. 849, at 32-34. Therefore, we reject Unitil's proposal to increase its sub-transmission costs by \$89,000. Accordingly, we will decrease the Company's proposed adjustment to its cost of service for sub-transmission vegetation management control of \$89,000.

D. Billings to Verizon for Vegetation Management of Jointly Owned Poles

1. Introduction

Unitil and Verizon New England, Inc. ("Verizon") jointly own utility poles, and the two companies share vegetation maintenance and storm-related costs related to these poles in the Company's service territory (Exhs. Unitil-SMS-1, at 6 (electric); DPU-FGE 6-31, Att.

(electric)). On November 1, 1996, the Company and Verizon executed intercompany operating procedure (“IOP”) No. 17, which is a provision within the joint operating agreement (“JOA”) between the two companies (Exh. DPU-FGE 6-31, Att. (electric)). The JOA and IOP No. 17 govern the shared responsibility for tree-trimming and maintenance costs between Unitil and Verizon (Exhs. Unitil-SMS-1, at 6 (electric); DPU-FGE 6-31, Att. (electric)). IOP No. 17 established a method of allocating costs associated with the construction and maintenance of jointly owned poles (Exh. DPU-FGE 6-31, Att. (electric)). Specifically, IOP No. 17 states that each company will handle heavy storm work during hurricanes, wet snow, tornadoes, and ice storms immediately without prior review by the other party (Exh. DPU-FGE 6-31, Att. at 48 (electric)). Moreover, in IOP No. 17, Unitil and Verizon agreed to reciprocal acceptance of the costs of each other’s tree contractors for heavy storms on an equal 50/50 percent basis (Exh. DPU-FGE 6-31, Att. at 48 (electric)).

Unitil seeks to include in its cost of service \$247,240 in test-year costs for vegetation management costs that it asserts are owed to the Company by Verizon but that Verizon has failed to pay (Exhs. Unitil-SMS-1, at 6-7 (electric); AG 2-20 (electric)). Unitil states that despite its efforts to collect the amounts owed under the JOA, Verizon has not remitted payment to the Company for any of the amounts owed since 2011 (Exhs. Unitil-SMS-1, at 6-7 (electric); AG 1-82, Att. (electric)). As a result of the ongoing vegetation management cost-sharing dispute, Unitil filed a civil complaint against Verizon in August 2013, seeking the unpaid amounts, which Unitil states exceed \$1.5 million (Exhs. Unitil-SMS-1, at 6-7 (electric); AG 1-82 (electric); AG 15-11, Att. 1, at 5 (electric)). See D.P.U. 13-90, at 138-140.

2. Positions of the Parties

a. Attorney General

The Attorney General acknowledges that under the JOA, certain storm-related vegetation management costs would be reimbursable by Verizon, thus reducing both the amount of net storm-related costs used to calculate funding levels, as well as some of the dollars the Company seeks to recover from customers (Attorney General Brief at 35 (electric)). Nonetheless, the Attorney General argues that it is consistent with recent Department precedent that no Verizon vegetation management costs for jointly owned poles may be recovered from ratepayers until the outcome of the Company's pending lawsuit against Verizon is known (Attorney General Brief at 35-36 (electric), citing D.P.U. 13-90, at 140; Attorney General Reply Brief at 16). The Attorney General seeks to remove \$247,240 from the Company's cost of service proposal and the Attorney General maintains that Unitil should be authorized to continue to defer these costs, pending resolution of the legal action against Verizon (Attorney General Brief at 36 (electric), citing Exh. AG-DJE-1, at 15 (electric)).

b. Company

Unitil asserts that it has been pursuing the recovery of certain vegetation management charges from Verizon due to the Company pursuant to agreements relating to the joint ownership of poles (Company Brief at 75). The Company states it has pursued its claims aggressively and, despite its efforts, the underlying litigation continues (Company Brief at 75). The Company proposed a refinement to its rate treatment of costs due from Verizon in order to avoid a large deferral (Company Brief at 75). Specifically, Unitil proposes to treat

Verizon-related vegetation management billings as an offset to overall vegetation management expense on a cash basis (Company Brief at 75, citing Exh. Unitil-DLC-Rebuttal-1, at 9 (electric)). The Company proposes that such billings would continue to be deferred until any payment was received, at which time a credit would be booked to offset vegetation management expense (Company Brief at 75). Unitil maintains that the approach proposed by the Attorney General is unfair and penal, particularly in light of the fact that the Company is aggressively pursuing its claim against Verizon, given the length of time that this dispute has continued, and because no carrying charges accrue to the deferred balance (Company Brief at 75, citing Attorney General Brief at 36).

3. Analysis and Findings

Before Unitil may seek recovery of vegetation management storm-related costs from ratepayers, it must demonstrate that it has taken prudent steps to seek recovery of those costs from Verizon, including, if necessary, pursuing legal action to recover those costs in court. See D.P.U. 13-90, at 140; NSTAR Electric Company, D.P.U. 13-52, at 48 (2013); Massachusetts Electric Company/Nantucket Electric Company, D.P.U. 11-56, at 28-29 (2013). If the Company is unsuccessful in its efforts to collect vegetation management costs from Verizon through the legal process, it may seek recovery of those costs by filing an appropriate petition with the Department. D.P.U. 13-90, at 140; D.P.U. 13-52, at 48; D.P.U. 11-56, at 29-31.

In the instant case, we find that Unitil has taken prudent steps to seek recovery of storm-related vegetation management costs from Verizon, including recovery through legal

action (Exhs. Unitil-SMS-1, at 6-7 (electric); AG 1-82 (electric); AG 15-11 & Atts. (electric)). Nonetheless, the Company is currently in the midst of the legal action and, thus, an evaluation of the merits of Unitil's claims against Verizon by the Department is premature. Given these considerations, the Company's inclusion in its cost of service of \$247,240 in costs attributable to Verizon is improper. Accordingly, based on these considerations, the Department disallows recovery in this proceeding of \$247,240 in test-year vegetation management costs that Unitil seeks from Verizon.

We recognize that the Company is in the process of taking reasonable and prudent steps to bill Verizon for its share of storm-related vegetation management costs.⁹⁰ If Unitil continues its legal pursuit against Verizon for collection of these costs and if Verizon were adjudicated as not being responsible for all or any portion of the costs, Unitil then may submit a filing with the Department seeking recovery of those unreimbursed costs. See D.P.U. 13-90, at 140; D.P.U. 13-52, at 48; D.P.U. 11-56, at 29-31.

⁹⁰ The Department has witnessed a recurring pattern of nonpayment by Verizon to electric utilities operating in Massachusetts. See, e.g., D.P.U. 13-52, at 45-48; D.P.U. 11-56, at 27-29. The Department remains mindful of the efforts engaged in by the utilities to resolve these nonpayment issues on their end, and remains concerned regarding the effect that such nonpayment by Verizon may have on electric ratepayers. Therefore, the Department intends to explore further action, outside the limited context of these base distribution rate proceedings and storm proceedings, to protect these ratepayers and receive the compensation owed to the electric companies by Verizon in a far more timely, and less unnecessarily litigious and protracted manner.

E. Payroll-Related Taxes

1. Introduction

Unitil initially proposed to increase its cost of service by \$15,433 for the electric division and by \$13,143 for the gas division to recognize the additional payroll taxes associated with its pro forma wage and salary expense (Exhs. Unitil-DLC-1, Sch. RevReq-3-25 (electric); Unitil-DLC-1, Sch. RevReq-3-20 (gas)). After updating payroll expense based on actual 2016 wage increases, the Company proposed updated payroll tax expenses of \$15,492 for the electric division and \$13,221 for the gas division (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-25 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-21 (gas)). Of the electric division's amount, \$748 is assigned to internal transmission and \$14,744 is assigned to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-25 (electric)). No parties commented on this issue.

2. Analysis and Findings

The Department has examined Unitil's supporting workpapers and finds that the Company has appropriately applied the correct tax rates for Social Security and Medicare (Exhs. Unitil-GEL-1, at 10 (electric); Unitil-GEL-1, at 9-10 (gas); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-25 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-21 (gas)). Based on the adjustment to the Company's restricted stock expense discussed in Section VII.A.4.c., above, to allow only a target level in cost of service, a corresponding adjustment must be made to payroll tax expense. Utilizing the Medicare tax rate of 1.45 percent, the Company has calculated the effect on payroll taxes from adjusting the

restricted stock expense to the target amount (RR-DPU-17, Att.). The reduction to the proposed cost of service is \$532 for the electric division and \$382 for the gas division (RR-DPU-17, Att.).

In addition, because the Department has removed costs associated with the Company's portion of incentive compensation and restricted stock expense that are tied to financial metrics, a corresponding adjustment must be made to payroll tax expense. Applying the Medicare tax rate of 1.45 percent to the electric division's disallowed costs of \$168,064 (before assignment to internal transmission) produces an adjustment of \$2,437 (see RR-DPU-15, Att.; RR-DPU-17, Att.).⁹¹ Applying the Medicare tax rate to the gas division's disallowed costs of \$112,950 produces an adjustment of \$1,638 (see RR-DPU-15, Att.; RR-DPU-17, Att.).⁹²

Accordingly, based on the adjustments above, the Department will reduce the electric division's payroll tax by \$2,969. Of this amount, \$143, or 4.831 percent, is assigned to internal transmission and \$2,826 is assigned to base distribution. The Department will also reduce the gas division's payroll tax by \$2,020.

⁹¹ \$117,095 in disallowed incentive compensation costs plus \$50,969 in disallowed restricted stock expense related to financial metrics. See Sections VII.A.2.c. and VII.A.4.c., above.

⁹² \$76,359 in disallowed incentive compensation costs plus \$36,591 in disallowed restricted stock expense related to financial metrics. See Sections VII.A.2.c. and VII.A.4.c., above.

F. Property and Liability Insurance

1. Introduction

Unitil's property and liability insurance program includes both premium-based and self-insured coverage (Exhs. Unitil-DLC-1, at 21, 27-28 (electric); Unitil-DLC-1, at 17, 21 (gas)). The Company's premium-based insurance includes coverage for all risk, crime, kidnapping and extortion, transit, workers' compensation, excess liability, automobile, directors and officers liability, and fiduciary liability (Exh. Unitil-DLC-1, WP 6.1 (electric)). During the test year, the Company booked \$175,280 in premium-based property and liability insurance expense to its electric division (Exh. Unitil-DLC-1, Sch. RevReq-3-9 (electric)).⁹³ Unitil's final electric division adjustment reflects a proposed increase of \$43,847 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-9 (electric)).⁹⁴ The Company also booked \$134,890 in premium-based property and liability insurance expense to its gas division (Exh. Unitil-DLC-1, Sch. RevReq-3-9 (gas)).⁹⁵ Unitil's final gas division adjustment reflects a proposed increase of \$29,479 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-10 (gas)). To derive its proposed increases for premium-based property and liability insurance, the Company escalated its test-year expense by a percentage representing the annual growth rate of

⁹³ The test-year costs include \$161,855 in direct costs and \$13,424 allocated from Unitil Service (Exh. Unitil-DLC-1, Sch. RevReq-3-9 (electric)).

⁹⁴ Of this amount, \$2,118 is assigned to internal transmission and the remaining \$41,729 is assigned to base distribution service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-9 (electric)).

⁹⁵ The test-year costs include \$125,253 in direct costs and \$9,637 allocated from Unitil Service (Exh. Unitil-DLC-1, Sch. RevReq-3-9 (gas)).

all premiums from 2012 to 2014 (Exhs. Unitil-DLC-1, WP 6.3 (electric); Unitil-DLC-1, WP 6-3 (gas); DPU-FGE 6-14 (electric); DPU-FGE 6-15 (gas)). The Company stated that it would update its proposed property and liability insurance adjustment after receiving premium invoices for 2016 (Tr. 1, at 50-51).

The Company relies on self insurance for the following types of property and liability risks: (1) general liability up to \$500,000 per claim; (2) directors and officers liability up to \$500,000 per claim; and (3) employee medical, dental, and vision insurance benefits up to \$200,000 in claims for each family unit (Exhs. AG 1-63, at 1 (electric); AG 1-63, at 1 (gas)). During the test year, Unitil's electric division incurred \$21,000 in net cash disbursements for general liability claims (Exhs. Unitil-DLC-1, Sch. RevReq-3-15 (electric); AG 1-34, Att. 2, at 19 (electric)). The Company generated a five-year average of net cash disbursement for general liability claims from 2010 through 2014 to compute an average annual self-insurance expense of \$23,778 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-15 (electric)). This amount, less the test-year expense of \$21,000, yields the proposed adjustment of \$2,778 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-15 (electric)).⁹⁶ Similarly, Unitil computed a five-year average of gas division net cash disbursements of \$61,675 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-14 (gas)). This amount, less the test-year expense of \$15,000, yields the proposed adjustment of \$46,675 (Exhs. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-14 (gas)); AG 1-34, Att. 2, at 6 (gas)).

⁹⁶ Of this amount, \$134 was assigned to internal transmission and \$2,644 was assigned to base distribution service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-15 (electric)).

2. Positions of the Parties

Unitil argues that its property and liability insurance expenses are reasonable and appropriate (Company Brief at 50-51, citing Exhs. DPU-FGE 8-11 (Supp. 2), Att., Sch. RevReq-3-9 (electric); DPU-FGE 8-22 (Supp. 2), Att., Sch. RevReq-3-10 (gas)). With respect to its self-insurance accrual, the Company argues that it appropriately calculated its self-insurance expense in accordance with Department precedent by applying a five-year average expense (Company Brief at 51, citing D.P.U. 13-90, at 104; D.P.U. 09-30, at 219). No other party addressed this issue on brief.

3. Analysis and Findings

Rates are designed to allow for recovery of a representative level of a company's revenues and expenses based on a historic test year adjusted for known and measurable changes. D.T.E. 02-24/25, at 161; D.P.U. 92-250, at 106. To be included in rates, property and liability insurance expenses must be reasonable. See D.T.E. 02-24/25, at 161-162. Further, companies must demonstrate that they have acted to contain their property and liability insurance costs in a reasonable and effective manner. D.P.U. 10-55, at 276; D.P.U. 08-35, at 119-120; D.T.E. 05-27, at 133-134; D.T.E. 03-40, at 184-185. Finally, any post-test-year adjustments to property and liability insurance expense must be known and measurable. D.P.U. 09-30, at 218; D.T.E. 02-24/25, at 161; D.P.U. 86-86, at 8-10; D.P.U. 84-94, at 44.

Unitil's property and liability insurance program is company-wide (i.e., premiums cover both the electric division and the gas division), and includes both premium-based and

self-insured coverage (Exhs. Unitil-DLC-1, at 21, 27-28 (electric); Unitil-DLC-1, at 17, 21 (gas)). The premium-based insurance costs are incurred by Unitil Service and subsequently allocated among the various affiliates, including the Company (Exhs. AG 1-61, at 1 (electric); AG 1-61, at 1 (gas)). This process resulted in an allocation of 28.69 percent of costs to Unitil during the test year (Exhs. AG 1-61, at 1 (electric); Unitil-DLC-1, WPs 6.2, 6.7 (electric); AG 1-61, at 1 (gas); Unitil-DLC-1, WPs 6.2, 6.7 (gas)). Insurance costs are further allocated between Unitil's electric and gas divisions using applicable allocation ratios from the Company's 2014 common cost allocation study (e.g., property premiums are allocated using plant allocation ratios) (Exhs. Unitil-DLC-1, WPs 6.1, 6.2 (electric); Unitil-DLC-1, WPs 6.1, 6.2 (gas)).

As an initial matter, based on a review of the Company's premium-based insurance expenses over the past several years, the Department finds that Unitil has been able to reasonably control property and liability insurance expenses (Exhs. DPU-FGE 6-16, Att. (electric)); DPU-FGE 11-6 (gas); DPU-FGE 11-7 (gas); DPU-FGE 11-8 (gas); Tr. 6, at 561-562). Unitil has provided updated policy cost information and explanations for increases in premiums for workers' compensation, excess liability, and automobile liability insurance (Exhs. DPU-FGE 8-11 (Supp. 3), Att., WP 6.3 (electric); DPU-FGE 8-22 (Supp. 3), Att., WP 6.3 (gas); DPU-FGE 11-7 (gas); DPU-FGE 11-8 (gas); Tr. 6, at 561-562). The Company did not, however, provide actual premium invoices to support the updated policy cost information. Instead, Unitil noted that the actual premiums would be known later in the proceeding, but the Company did not provide updated supporting evidence

(Tr. 1, at 50-51; see Exh. DPU-FGE 6-18 (electric)). The Department has found that adjustments for increases in premiums without supporting documentation are not known and measurable. D.P.U. 13-90, at 105; Bay State Gas Company, D.P.U. 12-25, at 171 (2012); D.P.U. 09-30, at 218; D.P.U. 10-55, at 274-276; D.P.U. 86-86, at 8-10. Thus, the Department rejects the Company's final proposed adjustment for increases in premiums for workers' compensation, excess liability, and automobile liability insurance.

In addition, the Company's proposed increases in premiums for all risk, crime, kidnapping and extortion, transit, directors and officers liability, and fiduciary liability insurance are not supported by invoices or updated policy cost information. Each of these policy increases is estimated using a single growth rate derived from historical property and liability insurance expense that represents "the average increase across all of the Company's premiums" (Exhs. DPU-FGE 8-11 (Supp. 3), Att., WP 6.3 (electric); DPU-FGE 8-22 (Supp. 3), Att., WP 6.3 (gas); DPU-FGE 9-15 (electric)). The Department has found that estimate-based, post-test-year increases are not known and measurable. D.T.E. 01-56, at 60. Therefore, the Department rejects the Company's proposed adjustments for increases in premiums for all risk, crime, kidnapping and extortion, transit, directors and officers liability, and fiduciary liability insurance.

Based on the findings above, the Department reduces the Company's proposed electric division cost of service by \$41,729 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-9 & WP 6.3 (electric)). The \$41,729 is net of 4.83 percent, or \$2,118, which is assigned to internal transmission (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-9 (electric)). The

Department also reduces the Company's proposed gas division cost of service by \$29,479 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-10 (gas)). While the Department rejects the post-test-year increases for the electric and gas divisions, we recognize that insurance premiums are likely to increase. Thus, as shown on Tables 1 and 2, below, we have included the test-year amounts for the electric and gas divisions in the residual O&M for inflation allowance purposes.

Regarding self-insured expenses, the Department has recognized that because self-insured damage claims vary from year to year, limiting recovery to test-year levels may not produce a representative level of claims expense on a forward-looking basis. See D.P.U. 87-59, at 35-40. Accordingly, the Department has used a five-year average of self-insurance claim payments to determine the appropriate level of self-insured expense for ratemaking purposes. D.P.U. 13-90, at 106; D.P.U. 09-30, at 219-220; D.P.U. 89-194/195, at 75. Unitil's five-year averages of actual self-insured damage claims paid are in accordance with Department precedent. D.P.U. 13-90, at 106. The five-year averages are \$23,778 for the electric division and \$61,675 for the gas division (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-15 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-14 (gas)). These five-year averages less the test-year amounts of \$21,000 and \$15,000 for Unitil's electric and gas divisions results in the Company's proposed adjustments to its self-insurance expense of \$2,778 and \$46,675 for the electric and gas divisions, respectively (Exhs. DPU-FGE 8-11 (Supp. 3, Att., Sch. RevReq-3-15 (electric); AG 1-34, Att. 2, at 19 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-14 (gas); AG 1-34, Att. 2, at 6 (gas)). Accordingly, the

Department accepts the Company's proposed adjustments for self-insurance expense (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-15 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-14 (gas)).

G. Distribution-Related Bad Debt

1. Introduction

A company recovers uncollectible expense (*i.e.*, bad debt) associated with both commodity ("supply-related bad debt") and retail distribution service ("distribution-related bad debt"). See, e.g., D.P.U. 07-71, at 106. The Company's electric division has been recovering supply-related bad debt on a dollar-for-dollar basis through its basic service costs adder since December 1, 2005. Fitchburg Gas and Electric Light Company, D.T.E./D.P.U. 05-GAF-P4/06-28, Order on Remand at 30 (2015). Unitil's gas division has been recovering supply-related bad debt on a dollar-for-dollar basis pursuant to its cost of gas adjustment clause ("CGAC") tariff since January 1, 2006. Fitchburg Gas and Electric Light Company, D.T.E. 06-109, at 4, 9 (2007); D.T.E./D.P.U. 05-GAF-P4/06-28, Order on Remand at 30.

Regarding distribution-related bad debt, the Department permits a representative level of bad debt expense to be included in cost of service. D.P.U. 89-114/90-331/91-80 (Phase One) at 138-140. For both the electric and gas divisions, the Company proposes to calculate the total amount of distribution-related bad debt to be included in distribution rates by dividing the three-year average (*i.e.*, 2012 through 2014) distribution-related net write-offs by the distribution-related revenues for the same period and multiplying the resulting percentage

by normalized test-year distribution revenues (Exhs. Unitil-DLC-1, at 22 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric); Unitil-DLC-1, at 17-18 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-11 (gas)).⁹⁷ During the test year, Unitil booked \$836,328 and \$743,000 to distribution-related bad debt for its electric and gas divisions, respectively (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-11 (gas)).⁹⁸ The Company proposes to increase its distribution-related bad debt expense inclusive of its proposed rate increase by \$57,541 and \$6 for its electric and gas divisions, respectively (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-11 (gas)).⁹⁹ No party addressed this issue on brief.

2. Analysis and Findings

The Department permits companies to include for ratemaking purposes a representative level of bad debt revenues as an expense in cost of service. D.P.U. 09-39, at 164;

⁹⁷ Test-year delivery retail billed revenue was normalized for the revenue increase calculated in this rate case (Exhs. Unitil-DLC-1, at 22 (electric); Unitil-DLC-1, at 17-18 (gas)).

⁹⁸ The Company's test-year amount of distribution-related bad debt expense for the electric division is exclusive of \$22,454 in bad debt expense assigned to internal transmission (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric)). To determine the amount assigned to internal transmission, the Company multiplied the proposed uncollectible distribution revenue requirement by the Company's internal transmission allocator (i.e., 2.6146 percent) (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric)).

⁹⁹ The Company's proposed increase to its distribution-related bad debt expense for the electric division is exclusive of \$1,545 in expense assigned to internal transmission (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric)).

D.P.U. 96-50 (Phase I) at 70-71; D.P.U. 89-114/90-331/91-80 (Phase One) at 138-140. The Department has found that the use of the most recent three years of available data is appropriate in the calculation of bad debt. D.P.U. 96-50 (Phase I) at 71. When a company is allowed dollar-for-dollar recovery of bad debt expense associated with supply, the appropriate method to calculate distribution-related bad debt is to remove all revenues relating to supply from the company's bad debt calculations. See D.P.U. 07-71, at 106-109.

The method used by Unitil to calculate its distribution-related bad debt adjustments for its electric and gas divisions is consistent with Department precedent (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-11 (gas)). See D.P.U. 07-71, at 106-109; D.P.U. 96-50 (Phase I) at 70-71; D.P.U. 89-114/90-331/91-80 (Phase One) at 137-140. The Company, however, applied the three-year average bad debt rate to both the test-year retail billed revenues and the requested distribution rate increase ((Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-11 (gas))). Because the Department has not approved the distribution rate increase as proposed, the Company's proposed bad debt adjustment will be modified accordingly.

For the electric division, applying the three-year average bad debt rate of 1.83 percent to test-year distribution revenues,¹⁰⁰ inclusive of internal transmission, of \$46,764,302 yields a

¹⁰⁰ Although the Company shows a bad debt rate of 1.83 percent, Unitil computes its bad debt for the electric division using a floating decimal of 1.8289157, and the Department also uses this floating decimal in our calculations (see Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric)).

distribution-related bad debt expense of \$855,280. Further, applying the three-year average bad debt rate of 1.83 percent to the allowed distribution revenue increase of \$2,134,853 results in an additional \$39,045 of bad debt expense. Accordingly, the distribution-related bad debt expense is \$894,324. Removing the 2.6146 percent of bad debt that is allocated to internal transmission reduces distribution-related bad debt expense for the electric division by \$23,383 to \$870,941 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric)). Unitil calculated a bad debt expense of \$893,869 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-10 (electric)). Accordingly, the Department decreases the Company's proposed electric cost of service by \$22,928.

For the gas division, applying the three-year average bad debt rate of 2.97 percent to test-year distribution revenues of \$22,287,106 yields a distribution-related bad debt expense of \$661,225.¹⁰¹ Further, applying the three-year average bad debt rate of 2.97 percent to the allowed distribution revenue increase of \$1,634,688 results in an additional \$48,499 of bad debt expense for a total bad debt expense for the gas division of \$709,724. The Company calculated a bad debt expense of \$743,006. Accordingly, the Department decreases the Company's proposed gas cost of service by \$33,282.

¹⁰¹ Although the Company shows a bad debt rate of 2.97 percent, Unitil computes its bad debt for the gas division using a floating decimal of 2.9668515 (see Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-11 (gas)).

H. Property Taxes

1. Introduction

During the test year, Unitil booked \$1,624,361 in property taxes to its electric division and \$1,460,259 in property taxes to its gas division, for a total property tax expense of \$3,084,620 (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24 (electric); AG 5-7, Att. 1 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-20 (gas); AG 5-2, Att. 1 (gas)). In its initial filing, the Company proposed to increase its test-year costs by \$216,966 and \$276,613 for its electric division and gas division, respectively (Exhs. Unitil-DLC-1, at 32 & Sch. RevReq-3-24 (electric); Unitil-DLC-1, at 24 & Sch. RevReq-3-20 (gas)).¹⁰² To derive its proposed increases, Unitil provided a partial set of tax bills and then escalated its total expense for the electric division and gas division by 12.68 percent and 18.2 percent, respectively, to represent an estimate of the increase in property taxes expected to occur (Exhs. Unitil-DLC-1, at 31-32 & Sch. RevReq-3-24 (electric); Unitil-DLC-1, at 24 & Sch. RevReq-3-20 (gas)).

During the discovery period, the Company submitted updated pro forma property tax expenses along with actual property tax bills for the first half of fiscal year 2016 (Exhs. AG 5-7, Atts. 1, 2 (electric); AG 5-2, Atts. 1, 2 (gas)). To derive its proposed

¹⁰² Of the \$216,966, \$23,189 is assigned to internal transmission and \$193,777 is assigned to distribution (Exh. Unitil-DLC-1, Sch. RevReq-3-24 (electric)). In determining the proportional assignment of property taxes to internal transmission, the Company took its total transmission-related plant in service of \$14,160,137 as a percent of its total electric-related plant in service of \$132,486,069 to calculate a plant allocation factor of 10.6880 percent (Exh. Unitil-DLC-1, WP 1 (electric)).

increases, the Company annualized the half-year bills and then escalated its total expense for the electric and gas divisions by 3.17 percent and 4.56 percent, respectively, to represent an estimate of the increase in property taxes expected to occur (Exhs. AG 5-7, Att. 1 (electric); AG 5-2, Att. 1 (gas)). Based on this first update, the Company proposed to increase its test-year costs by \$177,283 for its electric division,¹⁰³ and \$181,165 for its gas division (Exhs. AG 5-7, Att. 1 (electric); AG 5-2, Att. 1 (gas)). The Company stated that it would further update its proposed property tax adjustment and provide actual tax bills after receiving bills for the second half of fiscal year 2016 (Exhs. AG 5-7 (electric); AG 5-2 (gas); Unitil-DLC-Rebuttal-1, at 12 (gas)).

Based on its final calculations, the Company now proposes to increase its electric division test-year cost of service by \$108,840 related to property taxes (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24 (electric)).¹⁰⁴ The Company also proposes to increase its gas division test-year cost of service by \$97,844 related to property taxes (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-20 (gas)). In deriving its final proposed adjustments, the Company determined the overall amount of property tax expense based on the current tax bills, removed a portion of the overall amount for land held for future use, and then allocated 52.66 percent of the remaining expense to its electric division and 47.34 percent to its gas division (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24 (electric);

¹⁰³ Of the \$177,283, \$18,948 is assigned to internal transmission and \$158,335 is assigned to distribution (Exh. AG 5-7, Att. 1 (electric)).

¹⁰⁴ Of the \$108,840, \$11,633 is assigned to internal transmission and \$97,207 is assigned to distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24).

DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-20 (gas)). The Company's final proposed adjustments result in decreases of \$108,126¹⁰⁵ and \$178,769¹⁰⁶ to Unitil's original proposals for its electric and gas divisions, respectively.

2. Positions of the Parties

a. Attorney General

The Attorney General asserts that the Department's policy is to base property tax expense on the most recent property tax bills that a utility receives from communities in which it has property (Attorney General Brief at 36-37, citing, e.g., NSTAR Gas Company, D.P.U. 14-150, at 209; D.P.U. 08-35, at 150; D.P.U. 96-50 (Phase I), at 108-109). The Attorney General also contends that the Department holds the record open in a proceeding to allow a company to provide its most current tax bills (Attorney General Brief at 37, citing, e.g., D.P.U. 14-150, at 209; D.P.U. 08-35, at 150; D.P.U. 96-50 (Phase I), at 108-109). Thus, the Attorney General contends that the Department should direct the Company to recalculate its pro forma property tax expense based on actual property tax bills (Attorney General Brief at 37-38).

b. Company

In its initial brief, the Company asserted that its representative calculation would be fully updated consistent with Unitil's express commitment to present updated property tax bills with the Company's reply brief (Company Brief at 52, citing Exh. Unitil-DLC-Rebuttal-1,

¹⁰⁵ \$216,966 - \$108,840 = \$108,126

¹⁰⁶ \$276,613 - \$97,844 = \$178,769

at 12 (gas)). Unitil maintains that both it and the Attorney General are in agreement with this approach, and, thus, the Department should approve the Company's proposed adjustments as based on updated property tax invoices (Company Brief at 52).

3. Analysis and Findings

The Department's general policy is to base property tax expense on the most recent property tax bills that a utility receives from communities in which it has property.

D.P.U. 08-35, at 150; D.P.U. 96-50 (Phase I) at 108-109; Western Massachusetts Electric Company, D.P.U. 86-280-A at 7, 17 (1987); D.P.U. 84-94, at 19. The Department has rejected the use of projected data to determine a company's municipal tax expenses.

D.P.U. 09-39, at 244; D.P.U. 08-35, at 150; D.P.U. 96-50 (Phase I) at 109-110.

Unitil stated that it would provide a third, final proposed property tax adjustment along with supporting documentation to supplement its earlier adjustment, which annualized bills for the first half of fiscal year 2016 bills (i.e., the quarterly bills due in August 2015 and November 2015) (Exhs. AG 5-7 & Att. 2 (electric); AG 5-2 & Att. 2 (gas); Company Brief at 52, citing Exh. Unitil-DLC-Rebuttal-1, at 12 (gas)). Instead, the Company subsequently provided an updated schedule based on final fiscal year 2016 bills (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-20 (gas)). The Company did not provide actual tax bills to support the final proposed adjustment. Specifically, Unitil cites as supporting documentation the invoices provided in Exhibits AG 5-7 (electric) and AG 5-2 (gas) (Exhs. DPU-FGE 8-11 (Supp. 3), Att. 1 (electric); DPU-FGE 8-22 (Supp. 3), Att. 1 (gas)). Exhibits AG 5-7 (electric) and

AG 5-2 (gas), however, were not updated since their original submission on September 2, 2015, and only contain actual bills for the first half of 2016.

In the specific case of post-hearing updates of property taxes, the Department has allowed companies to submit after the close of hearings either actual property tax invoices or the latest available updated tax information that is sufficiently delineated by the taxing authority to determine its veracity after the close of the hearings. See, e.g., D.P.U. 08-35, at 151; D.T.E. 02-24/25, at 123-124. The Department has determined that it is appropriate to permit such updates because they are based on information external to a company and almost entirely outside the control of the company. D.P.U. 86-280-A at 17. Here, the Company represents that its final actual tax bills produce a lower property tax expense than shown by the bills provided in Exhibits AG 5-7 (electric) and AG 5-2 (gas) (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-20 (gas)). We find that, in this instance, granting the Company's request to accept the lesser amount benefits ratepayers. We continue to put companies on notice, however, that should they seek to make any post-hearing updates, they must provide the Department with appropriate invoices or other information consistent with our precedent that is adequate to permit the Department and parties to rely upon and ascertain the veracity of the information without the need for further process. See, e.g., D.P.U. 09-39-A at 24-28; D.P.U. 08-35, at 151; D.T.E. 02-24/25, at 123-124; New England Telephone and Telegraph Company, D.P.U. 94-50, at 59 (1995); The Berkshire Gas Company, D.P.U. 90-121, at 15-16 (1990); Bay State Gas Company, D.P.U. 89-81, at 48 (1989); D.P.U. 86-280-A at 16-18.

In addition, Unitil's revised calculations are consistent with Department precedent as they exclude property taxes on land held for future use, appropriately allocate costs between Unitil's electric and gas divisions, and distinguish the Company's internal transmission functions from its other electric operations (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-24 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-20 (gas)). D.P.U. 11-01/D.P.U. 11-02, at 281-282. Therefore, the Department accepts the Company's proposed adjustments.

I. Active Hardship Protected Accounts Receivable

1. Introduction

Hardship protected accounts are residential accounts that are protected from shut-off by the utility for nonpayment. 220 C.M.R. §§ 25.03, 25.05. To qualify for protected status from service termination, customers must demonstrate that they have a financial hardship and meet certain other requirements, such as suffering from a serious illness or residing with a child under twelve months of age. See 220 C.M.R. § 25.03(1); 220 C.M.R. § 25.03(3); 220 C.M.R. § 25.05(3).¹⁰⁷ All qualified accounts are protected from shut-off for nonpayment

¹⁰⁷

Pursuant to Department regulations, an account qualifies for protected status where the customer certifies that the customer has a financial hardship, and: (1) a person residing in the household is seriously ill; (2) a child under the age of twelve months resides in the household; (3) the customer takes heating service between the period November 15th and March 15th, and the service has not been shut off for nonpayment prior to November 15th; or (4) all adults residing in the household are age 65 or older and a minor resides in the household. 220 C.M.R. § 25.03. Customers who are unable to pay an overdue bill and meet the income eligibility requirements for the Federal Low-Income Home Energy Assistance Program are deemed to have a financial hardship. 220 C.M.R. § 25.01(2).

year round, except for heating customers with a financial hardship. These heating accounts are protected from shut-off for nonpayment only during the winter moratorium period, November 15th through March 15th. 220 C.M.R. §§ 25.03(1)(a)3, 25.03(1)(b).

Because these accounts may not be shut off, the Company classifies the accounts as “active” and does not write off the associated uncollected amounts (Exhs. Unitil-LMB-1, at 10 (electric); Unitil-LMB-1, at 10 (gas)). The Company’s accounts receivable balance associated with these accounts has been increasing since 2005 (Exhs. Unitil-LMB-1, at 6-7 & Sch. LMB-3 (electric); Unitil-LMB-1, at 6-7 & Sch. LMB-3 (gas)). For the electric division, the Company’s total hardship protected accounts receivable balance outstanding over 360 days has increased from \$135,188 as of December 31, 2005, to \$1,068,681 as of December 31, 2014 (Exh. Unitil-LMB-1, at 8 & Sch. LMB-3 (electric)). For the gas division, the Company’s total hardship protected accounts receivable balance outstanding over 360 days has increased from \$98,343 as of December 31, 2005, to \$595,121 as of December 31, 2014 (Exh. Unitil-LMB-1, at 8 & Sch. LMB-3 (gas)).

The Company proposes to recover its existing hardship protected accounts receivable balances outstanding over 360 days for both the electric division and the gas division through base distribution rates (Exhs. Unitil-LMB-1, at 11-12 (electric); Unitil-LMB-1, at 11-12 (gas)). For the electric division, with respect to the \$1,068,681 existing balance as of the end of the test year, the Company proposes to amortize \$577,719, which is the incremental increase over the amount allowed in D.P.U. 13-90 in the outstanding balance of hardship protected accounts receivable over 360 days past due at the end of the test year (Exhs. Unitil-LMB-1, at 12 &

Sch. LMB-5 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-17 (electric)).¹⁰⁸ Unitil proposes to amortize this amount over five years, producing an annual recovery of \$115,544, which is reflected in the Company's proposed cost of service (Exhs. Unitil-LMB-1, at 12 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-17 (electric)). Under the Company's proposal, any future payments made by customers towards the amortized balance would be credited to all customers through the electric RDAF (Exh. Unitil-LMB-1, at 12 (electric)).

For the gas division, the Company proposes to amortize the test-year balance of \$595,121 over five years producing an annual recovery of \$119,024 (Exhs. Unitil-LMB-1, at 11-12 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-15 (gas)). Under the Company's proposal, any future payments made by customers towards the amortized balance would be credited to all customers through the gas RDAF (Exh. Unitil-LMB-1, at 12 (gas)). No party addressed this issue on brief.

2. Analysis and Findings

The Department has previously found that the growing balance of hardship protected accounts receivable was the result of several factors, including public policy decisions and economic conditions. D.P.U. 13-90, at 163-164; D.P.U. 10-70, at 214-215. After considering these factors, the Department determined that a remedy was warranted because the financial impact of the growing balance of hardship protected accounts receivable could have

¹⁰⁸ In D.P.U. 13-90, at 166-167, the Department allowed the Company to recover its total outstanding balance of hardship protected accounts receivable over 360 days past due at the end of the test year (i.e., \$867,588) through base distribution rates.

unfavorable consequences not only for a company's shareholders but also for a company's ratepayers. D.P.U. 13-90, at 164; D.P.U. 10-70, at 215-216. Thus, in Unitil's last electric base distribution rate case, the Department approved recovery of the Company's outstanding balance of hardship protected accounts receivable over 360 days past due at the end of the test year. D.P.U. 13-90, at 165.

We find that the same factors that impacted our decisions in D.P.U. 13-90 and D.P.U. 10-70 still exist. Specifically, the public policy decisions that extended protections from service terminations for hardship accounts as well as an easing of the eligibility requirements for the Federal Low-Income Home Energy Assistance Program. See, e.g., An Act Relevant to Heating Energy Assistance and Tax Relief, St. 2005, c. 140, § 12, amending G.L. c. 164, § 1F; Investigation Commencing a Rulemaking Pursuant to 220 C.M.R. § 2.00 et seq., D.P.U. 08-104-A (2009); Emergency Rulemaking, D.T.E. 05-87 (2005) (see also Exhs. Unitil-LMB-1, at 6-7 (electric); Unitil-LMB-1, at 6-7 (gas)). In addition, the evidence demonstrates that the financial impact of the growing balance of hardship protected accounts receivable could have unfavorable consequences not only for a company's shareholders but also for a company's ratepayers (Exhs. DPU-FGE 6-3 (electric); DPU-FGE 6-3 (gas)). See also D.P.U. 13-90, at 164-165.

Thus, we approve the Company's proposal to recover the incremental increase in its outstanding balance of hardship protected accounts receivable for its electric division. In addition, for the gas division, we approve Unitil's proposal to recover the outstanding balance of hardship protected receivables over 360 days past due at the end of the test year. The

Company is directed to credit all payments received for the electric division and gas division through each division's respective residential assistance adjustment factor ("RAAF"). See D.P.U. 14-150, at 382.

As noted above, the Company has proposed to amortize the costs for the electric division and the gas division over a five-year period (Exhs. Unitil-LMB-1, at 12-13 & Sch. LMB-5 (electric); Unitil-LMB-1, at 12 & Sch. LMB-5 (gas)). Amortization periods are determined based on a case by-case review of the evidence and underlying facts. Aquarion Water Company of Massachusetts, D.P.U. 08-27, at 99 (2009); Barnstable Water Company, D.P.U. 93-223-B at 14 (1993); D.P.U. 84-145-A at 54. In determining the proper length for the amortization period, the Department must balance the interests of both the company and its ratepayers. D.P.U. 93-223-B at 14. In setting the length of an amortization period, the Department has considered such factors as the amount under consideration for deferral, the value of such an amount to ratepayers based on certain amortization periods, and the impact of the adjustment on the company's finances and income. D.P.U. 08-27, at 99; D.P.U. 93-223-B at 14.

In this case, we consider the size of the balance to be recovered, the underlying facts giving rise to the accumulation of the balance, and the impact of recovery on ratepayers. Based on these considerations and the record in this case, the Department finds that five years is an appropriate amortization period (Exhs. Unitil-LMB-1, at 12-13 & Sch. LMB-5 (electric); Unitil-LMB-1, at 12 & Sch. LMB-5 (gas)). See D.P.U. 10-70, at 220.

Finally, we direct the Company, for the electric division and the gas division, to track the accounts included in the balance of hardship protected accounts allowed for recovery so that the associated costs are excluded from recovery through bad debt expense. Based on the foregoing, the Department allows the proposed cost of service adjustments related to hardship protected accounts receivable of \$115,544 for the electric division and \$119,024 for the gas division.

J. Rate Case Expense

1. Introduction

Initially, the Company estimated that it would incur \$639,000 in rate case expense for its electric division and \$629,000 in rate case expense for its gas division for a total rate case expense of \$1,268,000 (Exhs. Unitil-DLC-1, Sch. RevReq-3-11 (electric); Unitil-DLC-1, Sch. RevReq-3-11 (gas)). During the proceeding, the Company provided an update to redistribute the rate case expense based on a revenue allocator, which allocated 65 percent to the electric docket and 35 percent to the gas docket (Exh. AG 4-3 (gas)). Based on its final invoices and projected costs to complete the compliance filing,¹⁰⁹ the Company proposes a final rate case expense for its electric division of \$457,204 and a rate case expense for its gas division of \$355,062 for a total rate case expense of \$812,266 (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric); DPU-FGE 4-1 (Supp. 13), Att. 1 (gas)).

¹⁰⁹ As discussed below, Unitil proposes to include a total of \$42,800 for legal and consulting services to complete the compliance filing (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric); DPU-FGE 4-1 (Supp. 13), Att. 1 (gas)).

Unitil's proposed rate case expenses include costs related to legal representation, miscellaneous expenses associated with preparing the rate case (e.g., temporary workers, courier services, publication costs, and transcripts), and expert services related to the following: (1) accounting cost of service, marginal cost of service, and rate design; (2) cost of capital; and (3) depreciation study (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric); DPU-FGE 4-2 (electric); DPU-FGE 4-3, Att. 1 (electric); DPU-FGE 4-4 (electric); DPU-FGE 4-5 (electric); DPU-FGE 4-6 (electric); DPU-FGE 4-7 (electric); DPU-FGE 4-8, (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas); DPU-FGE 4-2 (gas); DPU-FGE 4-3, Att. 1 (gas); DPU-FGE 4-4 (gas); DPU-FGE 4-5 (gas); DPU-FGE 4-6 (gas); DPU-FGE 4-7 (gas)).

Unitil proposes to normalize its rate case expense over three years for its electric division and four years for its gas division (Exhs. Unitil-DLC-1, at 25 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric); Unitil-DLC-1, at 20 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas)). Normalizing the Company's proposed rate case expense of \$457,204 for the electric division over three years produces an annual expense of \$152,401 (Exh. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric)). Normalizing the Company's proposed rate case expense of \$355,062 for the gas division over four years produces an annual expense of \$88,766 (Exh. DPU-FGE 4-1 (Supp. 13), Att. 1 (gas)).

2. Positions of the Parties

a. Attorney General

The Attorney General acknowledges that both parties agree that the rate case expense ultimately included in the cost of service should reflect actual rate case costs (Attorney General Brief at 36 (electric), citing Exhs. AG-DJE-Rebuttal-1, at 8 (electric); Unitil-DLC-Rebuttal-1, at 11 (electric)). Accordingly, the Attorney General reasons that the Department should adjust the Company's legal expense to reflect the Company's actual cost rather than rely on the Company's initial and adjusted cost estimates (Attorney General Brief at 36 (electric), citing Exhs. Unitil-DLC-1, Sch. RevReq-3-11 (electric); Unitil-DLC-1, Sch. RevReq-3-11 (gas)).

b. Company

The Company states that its initial testimony presented detailed cost information on its rate case expenses and proposed normalization (Company Brief at 70, citing Exhs. Unitil DLC-1, at 23-25 (electric); Unitil-DLC-1, at 18-21 (gas)). The Company maintains that it has always committed to presenting its final rate case expenses, including legal fees (Company Brief at 71, citing Exhs. Unitil-DLC-Rebuttal at 11; AG-DJE-Rebuttal at 8). The Company asserts that it has provided regular and detailed updates on actual rate case expenses incurred during the course of this proceeding (Company Brief at 70, citing Exhs. DPU-FGE 4-4 (electric); DPU-FGE 4-4 (gas)).

The Company maintains that it relied substantially on internal professional resources in the preparation and presentation of this case (Company Brief at 70, citing Exh. Unitil-DLC-1, at 24 (electric)). Unitil contends that it also conducted appropriate competitive solicitations for

all external service providers (Company Brief at 70, citing Exh. Unitil-DLC-1, at 24 (electric)). In addition, the Company states that it properly calculated the normalization period for rate case expense, i.e., the average interval between the filing dates of the Company's four most recent rate cases (Company Brief at 70, citing Exhs. Unitil-DLC-1, at 25 (electric); Unitil-DLC-1, at 20 (gas)).

3. Analysis and Findings

a. Introduction

The Department allows recovery for rate case expense based on two important considerations. First, the Department permits recovery of rate case expense that has been actually incurred and, thus, is considered known and measurable. D.P.U. 10-114, at 219-220; D.P.U. 07-71, at 99; D.T.E. 05-27, at 157; D.T.E. 98-51, at 61-62. Second, such expenses must be reasonable, appropriate, and prudently incurred. D.P.U. 10-114, at 220; D.P.U. 09-30, at 227.

The overall level of rate case expense among utilities has been, and remains, a matter of concern for the Department. D.P.U. 10-114, at 241-242; D.P.U. 07-71, at 99; D.T.E. 03-40, at 147; D.T.E. 02-24/25, at 192; D.P.U. 93-60, at 145. Rate case expense, like any other expenditure, is an area in which companies must seek to contain costs. D.P.U. 07-71, at 99; D.T.E. 03-40, at 147-148; D.T.E. 02-24/25, at 192; D.P.U. 96-50 (Phase I) at 79. All companies are on notice that the risk of non-recovery of rate case expense looms should they fail to sustain their burden to demonstrate cost containment associated with their selection and retention of outside service providers. D.P.U. 10-114, at 220;

D.P.U. 09-39, at 289-293; D.P.U. 09-30, at 238-239; D.T.E. 03-40, at 152-154. Further, the Department has found that rate case expenses will not be allowed in cost of service where such expenses are disproportionate to the relief being sought. D.P.U. 10-114, at 220; D.P.U. 10-55, at 323; see also D.P.U. 93-223-B at 16-17.

b. Competitive Bidding

i. Introduction

The Department has consistently emphasized the importance of competitive bidding for outside services in a petitioner's overall strategy to contain rate case expense.

See, e.g., D.P.U. 10-114, at 221; D.P.U. 09-30, at 227; D.T.E. 05-27, at 158-159; D.T.E. 03-40, at 148; D.T.E. 02-24/25, at 192.¹¹⁰ If a petitioner elects to secure outside services for rate case expense, it must engage in a competitive bidding process for these services. D.P.U. 10-114, at 221; D.P.U. 09-30, at 227; D.P.U. 07-71, at 99-100, 101; D.T.E. 03-40, at 153. In all but the most unusual of circumstances, it is reasonable to expect that a company can comply with the competitive bidding requirement. D.P.U. 10-55, at 342. The Department fully expects that competitive bidding for outside rate case services, including legal services, will be the norm. D.P.U. 10-55, at 342.

The requirement of having to submit a competitive bid in a structured and organized process serves several important purposes. First, the competitive bidding and qualification

¹¹⁰ The Department has recognized that it may not be feasible or cost-effective for small water companies (i.e., those companies with fewer than 2,000 customers) to engage in a request for proposal process for outside rate case services. Plymouth Water Company, D.P.U. 14-120, at 83-84 (2015).

process provides an essential, objective benchmark for the reasonableness of the cost of the services sought. D.P.U. 10-114, at 221; D.P.U. 09-30, at 228-229; D.P.U. 07-71, at 101; D.T.E. 03-40, at 152. Second, it keeps even a consultant with a stellar past performance from taking the relationship with a company for granted. D.P.U. 10-114, at 221; D.P.U. 07-71, at 101; D.T.E. 03-40, at 152. Finally, a competitive solicitation process serves as a means of cost containment for a company. D.T.E. 03-40, at 152-153.

The competitive bidding process must be structured and objective, and based on a request for proposal process that is fair, open, and transparent. D.P.U. 10-114, at 221, 224; D.P.U. 09-30, at 227-228; D.P.U. 07-71, at 99-100; D.T.E. 03-40, at 153. The timing of the request for proposal process should be appropriate to allow for a suitable field of potential service providers to provide complete bids, and provide the company with sufficient time to evaluate the bids. D.P.U. 10-114, at 221; D.P.U. 10-55, at 342-343. Further, the request for proposals issued to solicit service providers must clearly identify the scope of work to be performed and the criteria for evaluation. D.P.U. 10-114, at 221-222; D.P.U. 10-55, at 343.

The Department does not seek to substitute its judgment for that of a petitioner in determining which service provider may be best suited to serve the petitioner's interests, and obtaining competitive bids does not mean that a company must necessarily retain the services of the lowest bidder regardless of its qualifications. D.P.U. 10-114, at 222; D.T.E. 03-40, at 153. The need to contain rate case expense, however, should be accorded a high priority in the review of bids received for rate case work. D.P.U. 10-114, at 222; D.T.E. 03-40, at 153. In seeking recovery of rate case expenses, companies must provide an adequate justification

and showing, with contemporaneous documentation, that their choice of outside services is both reasonable and cost effective. D.P.U. 10-114, at 222; D.T.E. 03-40, at 153.

ii. Unitil's Request for Proposal Process

The Company seeks to include in rates the legal and consulting expenses associated with its: (1) legal representation; (2) accounting cost of service analysis, marginal cost of service, and rate design analysis; (3) cost of capital analysis; and (4) depreciation study (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric); DPU-FGE 4-2 (electric); DPU-FGE 4-3, Atts. 1, 2 (electric); DPU-FGE 4-4 (electric); DPU-FGE 4-5 (electric); DPU-FGE 4-6 (electric); DPU-FGE 4-7 (electric); DPU-FGE 4-8, (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas); DPU-FGE 4-2 (gas); DPU-FGE 4-3, Atts. 1, 2 (gas); DPU-FGE 4-4 (gas); DPU-FGE 4-5 (gas); DPU-FGE 4-6 (gas); DPU-FGE 4-7 (gas)). Unitil conducted a competitive bidding process for each of the above categories of service providers (Exhs. Unitil-DLC-5 (electric); Unitil-DLC-6 (electric); DPU-FGE 4-8 (electric); Unitil-DLC-5 (gas); Unitil-DLC-6 (gas); DPU-FGE 4-9 (gas)). The Company received several bids in each category (Exhs. Unitil-DLC-5 (electric); Unitil-DLC-6 (electric); Unitil-DLC-5 (gas); Unitil-DLC-6 (gas)). Neither the Attorney General nor any other party challenges the Company's retention of these attorneys and consultants or the costs associated with their services. Nevertheless, Unitil bears the burden to demonstrate that its choices of attorneys and consultants are reasonable and cost effective. D.P.U. 10-55, at 343; D.P.U. 09-30, at 230-231; D.T.E. 03-40, at 153.

Based on our review of the bids, the Company's bid evaluation process, and the invoices, we conclude that Unitil's choices of attorneys and consultants were reasonable and cost effective. We also find that the Company gave proper consideration to price and non-price factors before selecting the providers that Unitil determined would provide the best combination of price and appropriate quality of service (Exhs. Unitil-DLC-6 (electric); Unitil-DLC-6 (gas)). For each category, the Company appropriately selected a provider who possesses expertise and experience, knowledge of Department ratemaking precedent and practice, familiarity with the Company's operations, and a comprehensive understanding of the tasks for which it was requested to bid (Exhs. Unitil-DLC-6 (electric); Unitil-DLC-6 (gas)).

In addition, we conclude that Unitil selected consultants and attorneys that offered the Company adequate cost-control measures. For example, each consultant agreed to implement a "not to exceed" price cap on portions of the consultant's work (Exhs. Unitil-DLC-5, at 7, 39, 54-55, 58, 61, 64, 83, 88, 117, 120-122, 161, 172 (electric); Unitil-DLC-6, at 1 (gas); Unitil-DLC-5, at 39, 54-55, 58, 61, 64, 83, 88, 117, 120-122, 161, 172 (gas); Unitil-DLC-6, at 1 (gas)). With respect to legal services, the selected law firm provided a discounted, blended hourly rate for all attorneys working on the case, an incentive fee structure that would be implemented if a settlement occurred, and a fixed charge for compliance filings (Exhs. Unitil-DLC-5, at 266 (electric); Unitil-DLC-5, at 266 (gas)).

c. Various Rate Case Expenses

The Department has directed companies to provide all invoices for outside rate case services that detail the number of hours billed, the billing rate, and the specific nature of the

services performed. D.P.U. 10-114, at 235-236; D.T.E. 03-40, at 157; D.T.E. 02-24/25, at 193-194. The Department has reviewed the invoices provided by the Company and finds that such invoices are properly itemized (Exhs. DPU-FGE 4-1 (Supps. 1 through 13), Att 2. (electric); DPU-FGE 4-1 (Supps. 1 through 13), Att. 2 (gas)). We find that the total costs associated with each service provider were reasonable, appropriate, proportionate to the overall scope of work provided, and prudently incurred (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric); DPU-FGE 4-1 (Supp. 13), Att. 1 (gas)).

In addition, the Company seeks to include miscellaneous costs of \$15,960 for the electric division and \$11,449 for the gas division as rate case expenses (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric); DPU-FGE 4-1 (Supp. 13), Att. 1 (gas)). These miscellaneous costs include costs associated with support from temporary workers, courier services, publication costs, and transcript costs (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric); DPU-FGE 4-8 (electric); DPU-FGE 4-1 (Supp. 13), Att. 1 (gas); DPU-FGE 4-7 (gas)). Neither the Attorney General nor any other party challenges the inclusion of these costs in rates. Nevertheless, the Company bears the burden of demonstrating that these costs are reasonable and appropriate and were prudently incurred. D.P.U. 10-114, at 220, 224-225; D.P.U. 95-118, at 115-119.

The Department has reviewed the invoices provided by the Company for these miscellaneous costs and finds that such invoices are properly itemized (Exhs. DPU-FGE 4-1 (Supps. 1 through 13), Att 2. (electric); DPU-FGE 4-1 (Supps. 1 through 13), Att. 2 (gas)). In addition, the Department finds that these miscellaneous costs are reasonable and appropriate

and were prudently incurred (Exhs. DPU-FGE 4-1 (Supps. 1 through 13), Att. 2. (electric); DPU-FGE 4-1 (Supps. 1 through 13), Att. 2 (gas)).

d. Fees for Rate Case Completion

The Company has included \$23,792 in its proposed rate case expense related to completion of the rate proceeding for its electric division and \$19,008 in its proposed rate case expense related to completion of the rate proceeding for its gas division (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 1 (electric); DPU-FGE 4-1 (Supp. 13), Att. 1 (gas)). These amounts include fees for (1) legal representation, and (2) rate design consulting services (Exhs. DPU-FGE 4-1 (Supp. 13), Atts. 1, 2 (electric); DPU-FGE 4-1 (Supp. 13), Atts. 1, 2 (gas)).

The Department's long-standing precedent allows only known and measurable changes to test-year expenses to be included as adjustments to cost of service. D.P.U. 10-114, at 237; D.T.E. 03-40, at 161; D.T.E. 02-24/25, at 195; D.T.E. 98-51, at 61-62. Proposed adjustments based on projections or estimates are not known and measurable, and recovery of those expenses is not allowed. D.P.U. 10-114, at 237; D.T.E. 03-40, at 161-162; D.T.E. 02-24/25, at 196; D.T.E. 01-56, at 75. The Department does not preclude the recovery of fixed fees for completion of compliance filing work in a rate case but the reasonableness of the fixed fees must be supported by sufficient evidence. D.P.U. 10-114, at 237; D.T.E. 03-40, at 162; D.T.E. 02-24/25, at 196. Given an adequate showing of the reasonableness of fixed contracts for services to complete a case after the record closes and briefs are filed, a company may qualify to recover such expenses. D.P.U. 10-114, at 237; D.T.E. 03-40, at 162; D.T.E. 02-24/25, at 196. Documented and itemized proof is a

prerequisite to recovery. D.P.U. 10-114, at 237; D.T.E. 03-40, at 162; D.T.E. 02-24/25, at 196. Assuming that the fixed fee agreement is properly supported, the fact that the consultants and the company have agreed to complete the service for a fixed fee gives the Department a level of confidence in the reasonableness of the level of effort and consequent expenditure to carry the case through to the compliance filing. D.P.U. 10-114, at 237; D.P.U. 10-55, at 338.

In its initial fee proposal, the Company's legal counsel agreed to perform the compliance services for a fixed fee (Exhs. Unitil-DLC-5, at 266 (electric); Unitil-DLC-5, at 266 (gas)). Legal counsel provided the estimated number of attorney and paralegal hours to be spent in the compliance phase, as well as a recitation of the services to be performed (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 2, at 20 (electric); DPU-FGE 4-1 (Supp. 13), Att. 2, at 20 (gas)). In addition, legal counsel noted that the effective hourly rate for the compliance tasks would be below the agreed-upon hourly rate for other case-related tasks (Exhs. DPU-FGE 4-1 (Supp. 13), Att. 2, at 18 (electric); DPU-FGE 4-1 (Supp. 13), Att. 2, at 20 (gas)). The Department finds that these costs are reasonable and supported by sufficient evidence.

For the rate design consultants, the Company provided invoices including a description of the specific services to be performed, the consultant performing the services, the number of hours to be spent, the method by which the number of hours was determined, the billing rate, and the resulting costs, including the costs for the compliance work (Exhs. DPU-FGE 4-1

(Supp. 13), Atts. 1, 2 (electric); DPU-FGE 4-1 (Supp. 13), Atts. 1, 2 (gas)). The Department finds that these costs are reasonable and supported by sufficient evidence.

e. Normalization of Rate Case Expense

The proper method to calculate a rate case expense adjustment is to determine the rate case expense, normalize the expense over an appropriate period, and then compare it to the test-year level to determine the adjustment. D.P.U. 10-55, at 338-339; D.T.E. 05-27, at 163; D.T.E. 03-40, at 163; D.T.E. 02-24/25, at 197; D.T.E. 98-51, at 62; D.P.U. 95-40, at 58. The Department's practice is to normalize rate case expense so that a representative annual amount is included in the cost of service. D.P.U. 10-55, at 339; D.T.E. 05-27, at 163; D.T.E. 03-40, at 163; D.T.E. 02-24/25, at 191; D.T.E. 01-56, at 77; D.T.E. 98-51, at 53; D.P.U. 96-50 (Phase I) at 77; The Berkshire Gas Company, D.P.U. 1490, at 33 (1983). Normalization is not intended to ensure dollar for dollar recovery of a particular expense; rather, it is intended to include a representative annual level of rate case expense. D.P.U. 10-55, at 339; D.T.E. 05-27, at 163; D.T.E. 03-40, at 163-164; D.T.E. 02-24/25, at 191; D.P.U. 96-50 (Phase I) at 77.

The Department determines the appropriate period for recovery of rate case expense by taking the average of the intervals between the filing dates of a company's last four rate cases, including the present case, rounded to the nearest whole number. D.P.U. 10-55, at 339; D.T.E. 05-27, at 163 n.105; D.T.E. 03-40, at 164 n.77; D.T.E. 02-24/25, at 191. If the resulting normalization period is deemed unreasonable or if the company has an inadequate rate case filing history, the Department will determine the appropriate normalization period

based on the particular facts of the case. South Egremont Water Company, D.P.U. 86-149, at 2-3 (1986).

Unitil proposes a three-year rate case expense normalization period for its electric division and a four-year rate case expense normalization period for its gas division (Exhs. Unitil-DLC-1, at 25 (electric); Unitil-DLC-1, at 18-19 (gas); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas)). The average interval between the Company's last four electric rate cases is 2.61 years and the average interval between the Company's last four gas rate cases is 4.36 years (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas)).¹¹¹ Accordingly, the Department finds that the Company's proposed normalization periods of three years for the electric division and four years for the gas division are appropriate.

4. Conclusion

Unitil has proposed and the Department has accepted a final rate case expense for its electric division of \$457,204 and a rate case expense for its gas division of \$355,062, for a total rate case expense of \$812,266 (Exhs. DPU-FGE 4-1, Att. 1 (Supp. 13) (electric); DPU-FGE 4-1, Att. 1 (Supp. 13) (gas)). The annual level of normalized rate case expense for the electric division is \$152,401 (\$457,204 divided by three years). During the test year, the

¹¹¹ In addition to the current filing, the Company's prior rate case filings for the electric division were D.P.U. 13-90, D.P.U. 11-01, and D.P.U. 07-71 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric)). The Company's prior rate case filings for the gas division were D.P.U. 11-02, D.P.U. 06-109, and D.P.U. 02-25 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas)).

Company booked \$196,223 in rate case expense for the electric division (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric)). Until proposes to decrease this amount by \$43,822 to incorporate this annual level of normalized rate case expense for ratemaking purposes (Exhs. DPU-FGE 4-1, Att. 1 (Supp 13) (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-11 (electric)). The annual level of normalized rate case expense for the gas division is \$88,765 (\$355,061 divided by four years). During the test year, the Company booked \$154,021 in rate case expense for the gas division (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas)). The Company proposes to decrease this amount by \$65,256 to incorporate this annual level of normalized rate case expense for ratemaking purposes (Exhs. DPU-FGE 4-1, Att. 1 (Supp 13) (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-12 (gas)). Based on the findings above, the Department accepts the Company's proposed adjustments.

K. Inflation Allowance

1. Introduction

For the electric division, Until initially proposed an inflation adjustment of \$165,214, of which \$7,708 was assigned to internal transmission and \$157,506 was assigned to base distribution service (Exh. Until-DLC-1, Sch. RevReq-3-21, at 1 (electric)). The Company subsequently revised its electric division inflation adjustment based on updated expense reporting (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 1 (electric)). In calculating its updated inflation allowance, the Company used the gross domestic product implicit price deflator ("GDPIPD") as an inflation measure (Exhs. Until-DLC-1, at 30

(electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 2 (electric)). The Company calculated the change in the GDPIPD from the midpoint of the test year to the midpoint of the rate year, to compute a 3.87 percent inflation factor (Exhs. Unitil-DLC-1, at 30 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 2 (electric)). Unitil then multiplied the inflation factor by its residual O&M expense of \$4,228,673, producing an updated inflation adjustment of \$163,650 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 1 (electric)). Of this amount, \$7,632 is assigned to internal transmission and \$156,018 is assigned to base distribution service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 1 (electric)).

For the gas division, Unitil initially proposed an inflation adjustment of \$58,666 (Exh. Unitil-DLC- 1, Sch. RevReq-3-15, at 1 (gas)). The Company subsequently revised its inflation adjustment based on updated expense reporting (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-16, at 1 (gas)). In calculating the updated inflation allowance, Unitil used the GDPIPD as an inflation measure (Exhs. Unitil-DLC-1, at 22-23 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-16, at 2 (gas)). The Company calculated the change in the GDPIPD from the midpoint of the test year to the midpoint of the rate year, to compute a 3.87 percent inflation factor (Exhs. Unitil-DLC-1, at 22-23 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-16, at 2 (gas)). The Company then multiplied the inflation factor by its residual O&M expense of \$1,535,746, producing an inflation adjustment of \$59,433 (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-16, at 1 (gas)).

2. Positions of the Parties

The Company asserts that its method for determining the inflation allowance is consistent with Department practice and that no one has challenged its approach (Company Brief at 68-69, citing D.P.U. 11-01/D.P.U. 11-02, at 299-300, 302). Unitil also maintains that it has undertaken a number of efforts to reduce the Company's O&M costs (Company Brief at 69). Specifically, the Company asserts that for health care costs, it has established a cost-effective self-insurance program, regularly evaluates the market, and implemented the consumer-directed health plan for new union employees (Company Brief at 69). The Company also contends that it has a comprehensive budgeting and procurement process that secures substantial savings for the benefit of ratepayers (Company Brief at 69, citing Tr. 1, at 65 et seq.). No other party addressed this issue on brief.

3. Analysis and Findings

The inflation allowance recognizes that known inflationary pressures tend to affect a company's expenses in a manner that can be measured reasonably. D.T.E. 02-24/25, at 184; D.T.E. 01-56, at 71; D.T.E. 98-51, at 100-101; D.T.E. 96-50 (Phase I) at 112-113. The inflation allowance is intended to adjust certain O&M expenses for inflation where the expenses are heterogeneous in nature and include no single expense large enough to warrant specific focus and effort in adjusting. D.P.U. 1720, at 19-21. The Department permits utilities to increase their test-year residual O&M expense by an independently published price index from the midpoint of the test year to the midpoint of the rate year. D.P.U. 08-35, at 154-155; D.T.E. 02-24/25, at 184; D.P.U. 95-40, at 64; D.P.U. 92-250, at 97-98. For the

Department to allow a utility to recover an inflation adjustment, the utility must demonstrate that it has implemented cost containment measures. D.P.U. 09-30, at 285; D.P.U. 08-35, at 154; D.T.E. 02-24/25, at 184; D.T.E. 01-56, at 71-72.

In the instant case, Unitil calculated its inflation allowance for both the electric division and gas division from the midpoint of the test year to the midpoint of the rate year, using the GDPIPD as an inflation measure (Exhs. Unitil-DLC-1, at 30 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 2 (electric); Unitil-DLC-1, at 22-23 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-16, at 2 (gas)). We find that this calculation method and the use of the GDPIPD are consistent with Department precedent. D.P.U. 08-35, at 154-155; D.T.E. 02-24/25, at 184; D.P.U. 95-40, at 64; D.P.U. 92-250, at 97-98. Further, we conclude that the Company properly derived its proposed 3.87 percent inflation factor for both the electric division and the gas division through the aforementioned calculation method (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-21, at 2 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-16, at 2 (gas)).

Next, we turn to the cost-containment measures undertaken by the Company. Unitil has undertaken a number of efforts to reduce the Company's O&M costs. For example, the Company has taken several steps to contain its healthcare costs. On January 1, 2007, the Company introduced a consumer-directed health plan as an option for its non-union employees (Exhs. Unitil-GEL-1, at 11 (electric); Unitil-GEL-1, at 10 (gas)). The premiums for the consumer-directed health plan are significantly lower than those of the Company's other plans (Exhs. Unitil-GEL-1, at 11 (electric); Unitil-GEL-1, at 11 (gas)). In January 2010, the

consumer-directed health plan became the single health plan offering for non-union employees (Exhs. Unitil-GEL-1, at 11 (electric); Unitil-GEL-1, at 11 (gas)). The following year, a coinsurance feature of ten percent was added to the consumer-directed health plan along with an increase in the stop-loss limit on claims from \$125,000 to \$200,000, resulting in no increase in premiums for 2011 (Exhs. Unitil-GEL-1, at 12 (electric); Unitil-GEL-1, at 11 (gas)). Effective June 1, 2013, the consumer-directed health plan became the single health plan offering for new union employees hired after 2013 (Exhs. Unitil-GEL-1, at 12 (electric); Unitil-GEL-1, at 11 (gas)). In 2014, the Company closed the existing preferred provider organization plan to union employees hired before June 1, 2013 (Exhs. Unitil-GEL-1, at 12 (electric); Unitil-GEL-1, at 11 (gas)). These employees can now choose between the consumer-directed health plan or an exclusive provider organization medical plan, which has helped control long-term healthcare costs (Exhs. Unitil-GEL-1, at 12 (electric); Unitil-GEL-1, at 11 (gas)).

In addition, the Company undergoes a comprehensive budget review on an annual basis and considers every line item, every departmental budget category, every area of expense of the company, and budgets that for the coming year (Tr. 1, at 65). In setting the budgets for the next year, Unitil emphasizes cost control and cost management (Tr. 1, at 66). The Company also takes a market-based pricing approach with regard to outside vendors to ensure that the Company is receiving the best prices available (Tr. 1, at 66-67). Based on these considerations, the Department finds that the Company has implemented cost-containment

measures that provide direct ratepayer benefits to warrant the allowance of an inflation adjustment.

If an O&M expense has been adjusted or disallowed for ratemaking purposes, such that the adjusted expense is representative of costs to be incurred in the year following new rates, the test-year expense also is removed in its entirety from the inflation allowance.

D.P.U. 09-39, at 322-323; D.T.E. 05-27, at 204-205; D.T.E. 02-24/25, at 184-185;
Blackstone Gas Company, D.T.E. 01-50, at 19 (2001); D.P.U. 88-67 (Phase I) at 141;
Commonwealth Gas Company, D.P.U. 87-122, at 82 (1987).

For the electric division, Unitil has removed test-year expenses associated with various O&M expense items that either have been separately adjusted for ratemaking purposes or are not subject to inflationary pressures, as listed in Table 1, below. The Department has excluded from the residual O&M expense the test-year costs associated with the Company's RAAF and Verizon-related vegetation management. In addition, the Department has reduced the Company's residual O&M expense in order to normalize its severance expense and adjusted the residual O&M expense to include the test year for property and liability insurance.

Based on the above findings, the Department concludes that an inflation allowance adjustment based on the most recent forecast of GDPIPD from the midpoint of the test year to the midpoint of the rate year, applied to the Company's approved level of residual O&M expense less the Department's adjustments, is proper in this case. As shown in Table 1, below, the resulting inflation allowance for Unitil's electric division is \$147,261.

Accordingly, the Department will decrease the Company's proposed cost of service for its electric division by \$16,388.

For the gas division, Unitil has removed test-year expenses associated with various O&M expense items that either have been separately adjusted for ratemaking purposes or are not subject to inflationary pressures, as listed in Table 2, below. The Department has reduced the Company's residual O&M expense in order to normalize its severance and leak repair expenses. Further, the Department adjusted the Company's residual O&M to include the test year for property and liability insurance.

Based on the above findings, the Department concludes that an inflation allowance adjustment based on the most recent forecast of GDPIPD from the midpoint of the test year to the midpoint of the rate year, applied to the Company's approved level of residual O&M expense less the Department's adjustments, is proper in this case. As shown in Table 2, below, the resulting inflation allowance for Unitil's gas division is \$53,735. Accordingly, the Department will decrease the Company's proposed cost of service for its gas division by \$5,698.

Table 1: Inflation Allowance, Electric Division

Test Year O&M Expense per Books	18,238,387
Less Normalizing Adjustments:	
Sales for Resale Adjustment	6,938,917
DPU 13-90 Storm Resiliency Program	295,995
DPU 13-90 Protected Receivables	101,219
Payroll	3,683,309
Medical and Dental Insurance	441,928
401K Costs	179,042
Property & Liability Insurance	175,280
Rate Case Cost Normalization	196,223
Shareholder Expenses	23,526
Unallowed Storm Costs	252,637
Self Insurance Normalization	21,000
Vegetation Accrual	-288,579
Prior Year Verizon Expense	21,444
Prior Year Business Development Expense	185,864
Transmission Vegetation Management Expense	25,746
Subtotal	12,253,549
Less Non-Inflationary Items:	
Pension	126,294
PBOPs	450,997
Bad Debt	837,254
Amortizations - USC Charge	20,879
Facility Leases - USC Charge	320,741
Subtotal	1,756,164
Residual O&M Expense Subject to Inflation per Company	4,228,673
Department Adjustments:	
Property & Liability Insurance	175,280
RAAF	(276,817)
Severance Expense*	(74,693)
Verizon Related Vegetation Management	(247,240)
Subtotal	(423,470)
Residual O&M Expense Subject to Inflation per DPU	3,805,202
Projected Inflation Rate from Midpoint of Test Year to Midpoint of Rate Year	3.87%
Inflation Allowance per DPU	147,261
Inflation Allowance Proposed by Company	163,650
Assigned to Internal Transmission	7,632
DPU Adjustment	(16,388)

*adjustment to normalize test year

Table 2: Inflation Allowance, Gas Division

Test Year O&M Expense per Books	6,863,418
Less Normalizing Adjustments:	
Sales for Resale Adjustment	158,206
Payroll	3,137,694
Medical and Dental Insurance	364,298
401K Costs	141,009
Property & Liability Insurance	134,890
Rate Case Cost Normalization	154,021
Shareholder Expenses	16,890
Self Insurance Normalization	15,000
Subtotal	4,122,007
Less Non-Inflationary Items:	
Pension	0
Postemployment Benefits Other than Pensions	200,000
Bad Debts	756,630
Amortizations - USC Charge	18,769
Facility Leases - USC Charge	230,266
Subtotal	1,205,665
Residual O&M Expense Subject to Inflation per Company	1,535,746
Department Adjustments:	
Property & Liability Insurance	134,890
Leak Repair Expense*	(256,337)
Severance Expense*	(25,791)
Subtotal	(147,238)
Residual O&M Expense Subject to Inflation per DPU	1,388,508
Projected Inflation Rate from Midpoint of Test Year to Midpoint of Rate Year	3.87%
Inflation Allowance per DPU	53,735
Inflation Allowance Proposed by Company	59,433
DPU Adjustment	(5,698)

*adjustment to normalize test year

L. Depreciation Expense

1. Introduction

During the test year, Unitil booked \$5,661,740 in depreciation expense for its electric division, of which \$492,701 was assigned to internal transmission and \$5,169,039 was assigned to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 1 (electric)). The Company derived an annualized depreciation expense of \$5,755,448 for the electric division by applying currently authorized depreciation rates to the test-year-end depreciable plant balance, of which \$503,863 was assigned to internal transmission and \$5,251,585 was assigned to base distribution (Exhs. Unitil-DLC-1, at 32 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 1 (electric)). This produced an annualization adjustment of \$93,708, of which \$11,162 was assigned to internal transmission and \$82,546 was assigned to base distribution (Exhs. Unitil-DLC-1, at 33 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 1 (electric)).

Based on the Company's proposed accrual rates, the Company initially proposed to decrease its annualized test-year electric division depreciation expense by \$255,852, of which \$20,442 was assigned to internal transmission and \$235,410 was assigned to base distribution (Exhs. Unitil-DLC-1, at 33 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 2 (electric)). The Company now proposes to decrease its electric division depreciation expense by an additional \$6,434 to reflect changes in proposed accrual rates applied to Account 353 (Transmission Station Equipment – Electric) and Account 367 (Underground Conductors and Devices – Electric) (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 3 (electric)).

Of this amount, \$905 is assigned to internal transmission and \$5,529 is assigned to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 3 (electric)).

During the test year, Unitil booked \$4,578,541 in depreciation expense for its gas division (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-17, at 1 (gas)). The Company derived an annualized depreciation expense of \$5,015,666 for the gas division by applying currently authorized depreciation rates to the test-year-end depreciable plant balances, resulting in an annualization adjustment of \$437,125 (Exhs. Unitil-DLC-1, at 25 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-17, at 1 (gas)). Based on the Company's proposed accrual rates, Unitil proposes to increase its annualized test-year gas division depreciation expense by \$24,581 (Exhs. Unitil-DLC-1, at 25 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-17, at 2 (gas)).

For its electric division, the Company applied account-specific accrual rates to test-year-end depreciable plant, resulting in a 4.26 percent composite accrual rate (Exh. Unitil-PMN-1, at 13).¹¹² For its gas division, Unitil applied account-specific accrual rates to test-year-end depreciable plant, resulting in a 4.41 percent composite accrual rate (Exh. Unitil-PMN-1, at 13). For common plant used by both the electric and gas divisions, the Company applied account-specific accrual rates, resulting in an overall accrual rate of 6.09 percent (Exh. Unitil-PMN-1, at 13). These accrual rates represent a decrease from the

¹¹² For its depreciation witness, the Company submitted identical initial testimony and a depreciation study in the electric and gas cases. For ease of reference, we do not distinguish between the two dockets. The Company, however, submitted separate workpapers for the electric division and the gas division, which are designated as such.

Company's current overall accrual rate of 4.47 percent for electric plant, and an increase from Unitil's current overall accrual rates of 4.40 percent for gas plant, and a decrease of 5.66 percent for gas and common plant (Exh. Unitil-PMN-1, at 13).

In support of its proposed accrual rates, the Company presented a depreciation study using plant data as of December 31, 2014, and employed the overall straight-line method, broad group procedure, and average remaining life technique to estimate the proposed depreciation accrual rates (Exh. Unitil-PMN-1, at 3). The Company's historic life analysis relied on the simulated plant record balances ("SPR-BAL") method, a well known and accepted method employed in depreciation analysis (Exh. Unitil-PMN-1, at 6). The SPR-BAL analysis is an iterative procedure in which factors derived from empirical survivor curves are applied to actual recorded annual plant additions to generate theoretical surviving year-end balances (Exh. Unitil-PMN-1, at 6). In this way, empirical curves that best simulate the actual ending balances in a specified range of years are determined to establish an appropriate average service life ("ASL") for the respective plant accounts (Exhs. Unitil-PMN-1, at 6; Unitil-PMN-2, at 10).¹¹³ Using the ASL data, considerations of plant additions and retirements, and engineering judgment, the Company calculated the remaining life of plant

¹¹³ These empirical curves are generally known as "Iowa curves" (Exh. Unitil-PMN-1, at 6-7). Iowa curves were initially developed at the Iowa State College Engineering Experiment Station during the 1920s and 1930s, and are widely accepted in determining average life frequencies for utility plant. D.P.U. 12-25, at 274 n.170; Boston Edison Company/Cambridge Electric Light Company/Canal Electric Company/Commonwealth Electric Company, D.T.E. 06-40, at 66-67, n. 44 (2006). Initially, 18 curve types were published in 1935, and four additional survivor curves were identified in 1957. D.T.E. 06-40, at 66-67, n.44.

accounts (Exh. Unitil-PMN-1, at 8). Unitil also developed net salvage factors for plant accounts (Exh. Unitil-PMN-1, at 12). The calculated net salvage factors were used in the derivation of each of the proposed accrual rates presented in the depreciation study (Exh. Unitil-PMN-1, at 12-13).

2. Positions of the Parties

a. Attorney General

i. Introduction

The Attorney General argues that Unitil proposed life-curve combinations for certain accounts that are not based on sound depreciation practices (Attorney General Brief at 41 (electric); Attorney General Brief at 38 (gas)). Specifically, the Attorney General contends the Company did not assign sufficient weight to the conformance index, instead focusing on SPR-BAL results that had retirement and cycle indices of 100 (Attorney General Brief at 41 (electric); Attorney General Brief at 38 (gas); Attorney General Reply Brief at 20-21).¹¹⁴ The Attorney General claims that the Company's recommendations are based on a misapplication of the statistical analysis and recommends different ASLs and curves for Account 353 (Transmission Station Equipment – Electric), Account 365 (Overhead Conductors and Devices – Electric), Account 367 (Underground Conductors and Devices – Electric), and Account 380

¹¹⁴ The conformance index measures the sum of the squared differences between each book and simulated balance, indicating how well a chosen curve represents the data; the retirement index indicates the age of the account with respect to retirements and how much of the retirement data is relied upon; the cycle index represents the age of the oldest addition as a percent of the maximum probable life of the given life-curve combination (Exh. Unitil-PMN-2, at 22; Tr. 3, at 148).

(Services – Gas) (Attorney General Brief at 40-45 (electric); Attorney General Brief at 38-41 (gas); Attorney General Reply Brief at 21-27).

The Attorney General also argues that the Company has proposed arbitrarily negative numbers for net salvage, and that the Department should set Unitil's net salvage based on industry values instead (Attorney General Brief at 46 (electric); Attorney General Brief at 41-42 (gas); Attorney General Reply Brief at 27-28). The Attorney General claims the Company's historical database is unreliable, and the Attorney General takes issue specifically with the net salvage values for Account 353 (Transmission Station Equipment – Electric), Account 355 (Transmission Poles and Fixtures – Electric), Account 362 (Distribution Station Equipment – Electric), Account 365 (Overhead Conductors and Devices – Electric), Account 366 (Underground Conduits – Electric), Account 367 (Underground Conductors and Devices – Electric), Account 369 (Services – Electric), Account 376 (Distribution Mains – Gas), and Account 380 (Distribution Services – Gas) (Attorney General Brief at 46 (electric); Attorney General Brief at 42 (gas)). The Attorney General recommends that the Department adopt her proposed net salvage values, and requests that the Department further direct the Company to perform an audit of its net salvage recordkeeping (Attorney General Brief at 49 (electric); Attorney General Reply Brief at 28). The Attorney General's arguments regarding specific accrual rates and net salvage factors are detailed below.

ii. Account 353 – Transmission Station Equipment – Electric

The Attorney General challenges Unitil's initial recommendation of a 50-year L 4.0 curve for Account 353, arguing that a 52-year S 2.0 curve is more appropriate (Attorney

General Brief at 41-44 (electric); Attorney General Reply Brief at 21-23). The Attorney General insists the Company did not utilize sound depreciation practice by relying on the retirement and cycle indices over the conformance index, and that the Attorney General's recommended life-curve combination is superior (Attorney General Brief at 41-44 (electric); Attorney General Reply Brief at 22). The Attorney General also contends that the Company endorsed a 50-year S 3.0 curve for the first time in its initial brief, and that this curve too is inferior to the 52-year S 2.0 curve proposed by the Attorney General (Attorney General Reply Brief at 23). The Attorney General claims the 52-year S 2.0 curve exhibits a superior conformance index than both a 50-year L 4.0 and a 50-year S 3.0 curve, and that the SPR-BAL results, as well as external considerations, suggest a service life of longer than 50 years (Attorney General Reply Brief at 22-23). The Attorney General contends that the Company's historical database for this account reflects a retirement of a major transformer that had only been in service for 14 years, which is atypical and would bias results toward returning a shorter ASL (Attorney General Reply Brief at 23-24). The Attorney General suggests that if the Department were to adopt an S 3.0 Iowa survivor curve for Account 353, it should also adopt an ASL of at least 52 years (Attorney General Reply Brief at 24).

Regarding the net salvage for Account 353, the Attorney General recommends a value of negative 20 percent, compared to the Company's proposal of negative 80 percent (Attorney General Brief at 46 (electric)). The Attorney General claims that the Company's historical net salvage database is unreliable, and that the database's validity is undermined by the highly negative net salvage yielded in each account (Attorney General Brief at 46-47 (electric)). The

Attorney General contends that while the Company's database for Account 353 yields a net salvage level of negative 135.5 percent for the period 2000 through 2014, the type of equipment in this account typically has net salvage values ranging between negative five and negative 15 percent, with some companies occasionally demonstrating negative 20 percent (Attorney General Brief at 47 (electric) citing Exh. AG-JP-1, at 30-31 (electric)). The Attorney General asserts that while both she and the Company propose net salvage levels lower than the Company's historical database suggest, Unitil does so in an arbitrary manner that sets net salvage values that are unreasonable (Attorney General Brief at 48 (electric)).

iii. Account 355 – Transmission Poles & Fixtures – Electric

For Account 355, the Attorney General argues that a net salvage factor of negative 50 percent is more appropriate than the Company's proposed net salvage of negative 120 percent (Attorney General Brief at 46 (electric)). The Attorney General claims that Unitil's historical data suggests a net salvage of negative 201.4 percent for Account 355, which the Attorney General argues is more than four times the industry range of negative 40 percent to negative 50 percent (Attorney General Brief at 47 (electric)). As discussed above, the Attorney General also claims that the Company's historical database is unreliable and recommends the Department adopt net salvage factors that are within the range of industry values (Attorney General Brief at 46-47 (electric)). The Attorney General suggests Unitil's database reflects instances where retirements are recorded in a particular year with no cost of removal or gross salvage, as well as instances where no retirements are recorded, but cost of removal or gross salvage are recorded (Attorney General Brief at 46 (electric)). The Attorney

General recommends that the Department adopt her proposed net salvage of negative 50 percent to bring the Company's net salvage within the range of industry values (Attorney General Brief at 46 (electric); Attorney General Reply Brief at 27-28).

iv. Account 362 – Distribution Station Equipment – Electric

For Account 362, the Attorney General recommends a net salvage factor of negative 20 percent, compared to the Company's proposed net salvage factor of negative 75 percent (Attorney General Brief at 46 (electric)). The Attorney General claims that the Company's historical database is unreliable and recommends that the Department adopt the Attorney General's net salvage factors, which she asserts are within the range of industry values (Attorney General Brief at 46-47 (electric); Attorney General Reply Brief at 27-28).

v. Account 365 – Overhead Conductors & Devices – Electric

For Account 365, the Attorney General recommends a net salvage factor of negative 65 percent, compared to the Company's proposed net salvage factor of negative 85 percent (Attorney General Brief at 46 (electric)). The Attorney General claims that Utilit's historical database is unreliable and recommends that the Department adopt the Attorney General's net salvage factors, which she asserts are within the range of industry values (Attorney General Brief at 46-47 (electric); Attorney General Reply Brief at 27-28).

vi. Account 367 – Underground Conductors & Devices – Electric

For Account 367, the Attorney General recommends an ASL of 54 years, compared to the Company's recommended ASL of 50 years (Attorney General Brief at 44 (electric); Attorney General Reply Brief at 25). The Attorney General contends that while the SPR-BAL

analyses justify an ASL of 62 years to 70 years, both she and the Company recommend ASLs that are lower and reflect the principle of gradualism (Attorney General Brief at 45 (electric); Attorney General Reply Brief at 25). The Attorney General asserts that the Company's application of gradualism is inconsistent due to the fact that the Company's depreciation expert recommends an ASL for Account 367 that differs from the SPR-BAL results by ten percent, but when that same expert testified before the Public Utilities Commission of Texas, he recommended an ASL that differed by 20 percent for a similar account (Attorney General Brief at 45 (electric), citing Exh. AG 6-3, Att. 9, at 3, 15 (electric)). The Attorney General contends that the Company did not explain why an ASL should be allowed to increase or decrease as much as 20 percent in the state of Texas, but only ten percent in Massachusetts, and the Attorney General argues that the Department should apply the principle of gradualism consistently with the witness's recommendations in other proceedings (Attorney General Reply Brief at 25; see Attorney General Brief at 45 (electric)).

Regarding the appropriate curve for Account 367, in her initial brief, the Attorney General recommends the Department adopt an R 2.0 curve, but provides no explanation or argument to support such a recommendation (Attorney General Brief at 45 (electric)). In her reply brief, the Attorney General recommends the Department adopt an R 3.0 curve for Account 367, but does not explain why this curve is more appropriate than the Attorney General's previously recommended R 2.0, or the Company's proposal of an S 5.0 curve (Attorney General Reply Brief at 25).

For Account 367, the Attorney General recommends a net salvage factor of negative 50 percent, compared to the Company's proposed negative 85 percent (Attorney General Brief at 46 (electric)). The Attorney General claims that the Company's historical database is unreliable and recommends that the Department adopt the Attorney General's net salvage factors, which she asserts are within the range of industry values (Attorney General Brief at 46-47 (electric); Attorney General Reply Brief at 27-28).

vii. Account 369 – Services – Electric

For Account 369, the Attorney General recommends a net salvage factor of negative 100 percent, compared to the Company's proposed net salvage factor of negative 140 percent (Attorney General Brief at 46 (electric)). The Attorney General claims that Unitil's historical database is unreliable and recommends that the Department adopt the Attorney General's net salvage factors, which she asserts are within the range of industry values (Attorney General Brief at 46-47 (electric); Attorney General Reply Brief at 27-28).

viii. Account 376 – Distribution Mains – Gas

For Account 376, the Attorney General recommends a net salvage factor of negative 60 percent, compared to the Company's proposed net salvage factor of negative 120 percent (Attorney General Brief at 42 (gas)). The Attorney General claims that the Company's historical database is unreliable and recommends the that Department adopt the Attorney General's proposed net salvage factor, as it is closer to the most negative range of industry values (Attorney General Brief at 42-44 (gas)). The Attorney General asserts that for Account 376 the Company records some of the most negative net salvage values in the country

and suggests this is indicative of the Company's faulty record keeping (Attorney General Brief at 42 (gas)). The Attorney General argues that the Company's net salvage should be lower because the Company abandons services in place unless removal is required, which would limit the amount of cost of removal recorded per retired asset (Attorney General Brief at 42 (gas)).

ix. Account 380 – Distribution Services – Gas

For Account 380, the Attorney General proposes a 52-year R 3.0 curve (Attorney General Brief at 38 (gas)). The Attorney General argues that the Company's proposal is not based on sound depreciation practices, and should therefore be rejected (Attorney General Brief at 38-39 (gas)). The Attorney General claims that the life-curve combination proposed by the Company indicates that no service retirements would occur in the first eleven to 26 years after being placed in service, which the Attorney General argues is unlikely as line relocations, customer dig-ins, and other events would result in the early retirement of at least some of Unitil's services (Attorney General Brief at 41 (gas)). The Attorney General further contends that the Company should have proposed an ASL that is closer to the 75 years proposed for mains (Account 376) because services are essentially smaller mains, made of similar materials (Attorney General Brief at 41 (gas)).

Regarding net salvage, the Attorney General proposes a factor of negative 100 percent, compared to the Company's proposed net salvage factor of negative 150 percent (Attorney General Brief at 42 (gas), citing Exh. AG-JP-1, at 22 (gas)). The Attorney General claims that the Company's historical database is unreliable and recommends that the Department adopt the Attorney General's net salvage factor for Account 380, which she asserts is consistent with the

most negative range of values in the utility industry (Attorney General Brief at 42-44 (gas); Attorney General Reply Brief at 27-28).

b. Company

i. Introduction

Unitil submits that the proposed depreciation rates are the result of detailed analyses of each division's investment in plant facilities, and are reasonable and equitable in the recovery of their respective depreciable assets (Company Brief at 53). The Company contends that the depreciation study in the instant proceeding was prepared by the same consultant and is consistent with the Company's last study in D.P.U. 11-01/D.P.U. 11-02 (Company Brief at 53, citing Exh. D.P.U. 11-01/D.P.U. 11-02, at 282 et seq.).¹¹⁵ In determining the proposed ASLs and curves, the Company avers that it first looked at SPR-BAL results that had retirement and cycle indices of 100, indicating that all the retirement data was reflected, and the highest percentage of each curve was used in the fitting process, and then looked at the conformance index, which measures the best fit of the data to the specific life and curve selections (Company Brief at 56; Company Reply Brief at 10). The Company claims that the Attorney General's recommendations rely too heavily on the conformance index, while Unitil's approach ensures that all of the retirement and curve data available is captured (Company Brief at 58, citing Tr. 3, at 147, 159-160). Unitil asserts its method of analyzing the SPR-BAL

¹¹⁵ Unitil did not conduct a depreciation study in its last electric base distribution rate case, D.P.U. 13-90, and instead the Company applied the account-specific accrual rates approved by the Department in D.P.U. 11-01. D.P.U. 13-90, at 197.

results reflects a balance of the three aforementioned indices and is therefore more appropriate (Company Brief at 58; Company Reply Brief at 10).

Regarding net salvage, Unitil contends that it examined the net salvage incurred by the Company, account by account, from the year 2000 to present, and that the data and method are consistent with those found to be acceptable by the Department in D.P.U. 11-01/D.P.U. 11-02 (Company Brief at 61). The Company claims that while the Attorney General references industry data for her recommended net salvage values, the Attorney General did not provide any industry data or information to support her recommendations (Company Brief at 57).

Based on the above, the Company argues that its proposed accrual rates and net salvage factors should be accepted (Company Brief at 68). Unitil's arguments concerning the specific accounts challenged by the Attorney General are presented below.

ii. Account 353 – Transmission Station Equipment – Electric

With respect to Account 353, Unitil argues that its initial recommendation of a 50-year L 4.0 curve was based on the balanced statistical analysis described above (i.e., balancing the retirement, cycle, and conformance indices) (Company Brief at 58-59, citing Exhs. Unitil-PMN-Rebuttal-1 (electric); DPU-FGE 11-5 (electric)). The Company asserts that the life-curve combination proposed by the Attorney General does not utilize all of the retirement data or available curves, and that the conformance index for Unitil's proposal is higher in three of the four band analyses (Company Brief at 59). Unitil notes that during evidentiary hearings, the Department inquired about the appropriateness of using a 50-year S 3.0 curve rather than a 50-year L 4.0 (Company Brief at 59, citing Tr. 3, at 164). The

Company asserts that the 50-year S 3.0 curve utilizes 100 percent of the Company's retirement data and available curves, and exhibits a higher conformance index than both the Company's original proposal, and the life-curve combination proposed by the Attorney General (Company Brief at 59).

Regarding the net salvage for Account 353, Unitil contends that the recommended level is based on the Company's historical net salvage levels (Company Brief at 62, citing Unitil-PMN-1-Rebuttal-1, at 5 (electric)). In response to the Attorney General's claim that the historical database is unreliable, the Company counters that the data presented is reflected in the Company's financial statements and is regularly audited by an independent auditor (Company Brief at 62). Moreover, Unitil asserts that the data is consistent with what was presented in the Company's last depreciation study in D.P.U. 11-01/D.P.U. 11-02, and is also the same data used to calculate the Company's rate base (Company Brief at 62-63; Company Reply Brief at 13). The Company maintains that the Attorney General's suggestion of using industry data is appropriate only for companies that have no historic information with which to determine net salvage values, and further that the Attorney General did not present any industry data to support her recommendations (Company Brief at 63; Company Reply Brief at 13).

iii. Account 355 – Transmission Poles & Fixtures – Electric

Unitil contends that the proposed net salvage of negative 120 percent for Account 355 is fully supported by the Company's data, which is the same data used, and found by the Department to be acceptable, in D.P.U. 11-01/D.P.U. 11-02 (Company Brief at 61). In

response to the Attorney General's claims regarding the unreliability of the Company's data, Unitil argues that instances of unrecorded data are not uncommon based on the experience of the Company's depreciation witness, and explains that the use of averages of five-year increments over several periods, as well as over a long history, provides ample support for each recommended net salvage value, and reduces any sensitivity from costs not being recorded in a single year (Company Brief at 62). The Company asserts that the data presented is reflected in the Company's financial statements, is the same data used to calculate rate base, and is regularly audited by an independent auditor (Company Brief at 62-63; Company Reply Brief at 12). The Company maintains that the Attorney General's suggestion of using industry data is only appropriate for companies that have no historic information with which to determine net salvage values, and, further, that the Attorney General did not present any industry data to support her recommendations (Company Brief at 63; Company Reply Brief at 13).

iv. Account 362 – Distribution Station Equipment – Electric

For Account 362, the Company claims its proposed net salvage factor of negative 75 percent, compared to the existing net salvage factor of negative 70 percent, is fully supported by Unitil's data (Company Brief at 61). In response to the Attorney General's claims regarding the unreliability of the Company's data, the Company asserts that the data presented is reflected in the Company's financial statements, is the same data used to calculate rate base, and is regularly audited by an independent auditor (Company Brief at 62-63; Company Reply Brief at 12). The Company maintains that the Attorney General's suggestion

of using industry data is only appropriate for companies that have no historic information with which to determine net salvage values, and further maintains that the Attorney General did not present any industry data to support her recommendations (Company Brief at 63; Company Reply Brief at 13).

v. Account 365 – Overhead Conductors & Devices – Electric

For Account 365, the Company proposes leaving the existing net salvage factor of negative 85 percent unchanged (Company Brief at 61). Unitil argues that the Company's historic net salvage data is the same data used in D.P.U. 11-01/D.P.U. 11-02, which the Department found to be acceptable, and that the data fully supports Unitil's recommended factor (Company Brief at 61-62). The Company maintains that the Attorney General's suggestion of using industry data is inappropriate for companies that have adequate historic information from which to determine net salvage values, and Unitil further contends that the Attorney General did not present any industry data to support her recommendations (Company Brief at 63; Company Reply Brief at 13).

vi. Account 367 – Underground Conductors & Devices – Electric

With respect to Account 367, Unitil initially proposed increasing the ASL from 45 to 50 years, while leaving the S 5.0 curve unchanged (Company Brief at 60; Company Reply Brief at 12). Unitil contends that during evidentiary hearings, the Department questioned the Company regarding the appropriateness of an R 4.0 curve instead of an S 5.0 curve for Account 367, and Unitil notes that an R 4.0 curve could be easily justified based on the statistical analyses (Company Brief at 60, citing Tr. 3, at 165-166; Company Reply Brief

at 12). The Company asserts that an R 4.0 curve displays a higher conformance index in two of the four analysis bands than the curve proposed by the Attorney General, and utilizes 100 percent of the Company's data and curves for the account (Company Brief at 60). The Company now proposes the application of a 50-year R 4.0 curve for Account 367, and has updated its cost of service accordingly (Company Brief at 60; Company Reply Brief at 12).

Regarding net salvage for Account 367, the Company proposes a factor of negative 85 percent (Company Brief at 61). Unitil contends that the recommended level of net salvage is based on the Company's historical experience, and that the data utilized is the same data reflected in Unitil's financial statements, which have been audited by an independent auditor (Company Brief at 62-63; Company Reply Brief at 12). The Company maintains that the Attorney General's suggestion of using industry data is inappropriate for companies that have adequate historic information from which to determine net salvage values, and further contends that the Attorney General did not present any industry data to support her recommendations (Company Brief at 63; Company Reply Brief at 13).

vii. Account 369 – Services – Electric

For Account 369, the Company recommends a net salvage factor of negative 140 percent, compared to the existing net salvage factor of negative 125 percent (Company Brief at 61). Unitil argues that the Company's historic net salvage data is the same data used in D.P.U. 11-01/D.P.U. 11-02, which the Department found to be acceptable, and that the data fully supports the Company's recommended factor (Company Brief at 62-63). Unitil maintains that the Attorney General's suggestion of using industry data is inappropriate for

companies that have adequate historic information from which to determine net salvage values, and further contends that the Attorney General did not present any industry data to support her recommendations (Company Brief at 63; Company Reply Brief at 13).

viii. Account 376 – Distribution Mains – Gas

For Account 376, Unitil recommends a net salvage factor of negative 120 percent, compared to the existing negative 110 percent (Company Brief at 66). Unitil states that the Attorney General has provided no record evidence to support her claim that the Company's net salvage values for Account 376 are some of the industry's most negative net salvage values (Company Brief at 66). Rather, the Company contends that it has historically experienced such negative salvage for this account (Company Brief at 66, citing Exh. Unitil-PMN-Rebuttal-1, at 5 (gas)). The Company asserts that the Attorney General's claims regarding the practice of abandoning plant in place is speculative and not supported by the evidence (Company Brief at 67). Unitil avers there is no record evidence to support the Attorney General's claims including details on the amount of plant that is retired in place, the costs associated with retiring plant in place, or the portion required to be removed (Company Brief at 67).

Unitil argues that the Company's historic net salvage data is reliable, as it is the same data used in D.P.U. 11-01/D.P.U. 11-02, which the Department found to be acceptable, and is the same data used in the Company's audited financials, as well as the same data used to calculate rate base (Company Brief at 67; Company Reply Brief at 12-13). The Company

contends that the Attorney General did not present any industry data to support her recommendations (Company Reply Brief at 13).

ix. Account 380 – Distribution Services - Gas

Unitil submits that the Company performed the same type of analysis on Account 380 for the gas division as it did for the electric division, and that the analysis supports the selection of a 45-year S 5.0 curve (Company Brief at 64; Company Reply Brief at 12). The Company contends that the chosen life-curve combination is the one that exhibited the highest conformance index while utilizing all of the Company's historical data (Company Brief at 64). Unitil claims that even by the Attorney General's recommended approach of choosing life-curve combinations with the highest conformance index, the life-curve combination proposed by the Attorney General is inferior to the one proposed by Unitil (Company Brief at 64).

Regarding net salvage, Unitil argues that the Company's historic net salvage data is reliable, as it is the same data used in D.P.U. 11-01/D.P.U. 11-02, which the Department found to be acceptable, and is the same data used in the Company's audited financials, as well as the same data used to calculate rate base (Company Brief at 67; Company Reply Brief at 12-13). The Company contends that the Attorney General did not present any industry data to support her recommendations (Company Reply Brief at 13).

3. Analysis and Findings

a. Standard of Review

Depreciation expense allows a company to recover its capital investments in a timely and equitable fashion over the service lives of the investments. D.T.E. 98-51, at 75; D.P.U. 96-50 (Phase I) at 104; Milford Water Company, D.P.U. 84-135, at 23 (1985); Boston Edison Company, D.P.U. 1350, at 97 (1983). Depreciation studies not only rely on statistical analysis but also on the judgment and expertise of the preparer. The Department has held that when a witness reaches a conclusion about a depreciation study that is at variance with that witness's engineering and statistical analysis, the Department will not accept such a conclusion absent sufficient justification on the record for such a departure. D.P.U. 92-250, at 64; The Berkshire Gas Company, D.P.U. 905, at 13-15 (1982); Massachusetts Electric Company, D.P.U. 200, at 20-21 (1980).

The Department recognizes that the determination of depreciation accrual rates requires both statistical analysis and the application of the preparer's judgment and expertise. D.T.E. 02-24/25, at 132; D.P.U. 92-250, at 64. Because depreciation studies rely by their nature on examining historic performance to assess future events, a degree of subjectivity is inevitable.¹¹⁶ Nevertheless, the product of a depreciation study consists of specific accrual rates to be applied to specific account balances associated with depreciable property. A mere

¹¹⁶ The element of subjectivity is especially relevant in the calculation of net salvage factors where the cost to demolish or retire facilities cannot be established with certainty until the actual event occurs. D.P.U. 92-250, at 66; D.P.U. 1720, at 44; D.P.U. 1350, at 109-110.

assertion that judgment and experience warrant a particular conclusion does not constitute evidence. See Eastern Edison Company, D.P.U. 243, at 16-17 (1980); D.P.U. 200, at 20-21; Lowell Gas Company, D.P.U. 19037/19037-A at 23 (1977).

It thus follows that the reviewer of a depreciation study must be able to determine the reasons why the preparer of the study chose one particular life-span curve or salvage value over another, preferably through the direct filing and at least in the form of comprehensive responses to well-prepared discovery. The Department will continue to look to the expert witness for interpretation of statistical analyses but will consider other expert testimony and evidence that challenges the preparer's interpretation and expects sufficient justification on the record for any variances resulting from the engineering and statistical analyses.

D.P.U. 89-114/90-331/91-80 (Phase One) at 53-55. To the extent a depreciation study provides a clear and comprehensive explanation of the factors that went into the selection of accrual rates, such an approach will facilitate review by the Department and intervenors.

b. Account-by-Account Analysis

i. Account 353 – Transmission Station Equipment – Electric

Account 353 contains assets such as high voltage transformers and switching equipment (Exh. Unitil-PMN-2, at 32). The current accrual rate for this account is 4.11 percent, based on a 49-year S 5.0 curve and a net salvage factor of negative 70 percent (Exh. Unitil-PMN-2, at 32). Unitil initially proposed to use a 50-year L 4.0 curve and a salvage factor of negative 80 percent for this account, resulting in a decrease in the accrual rate to 3.92 percent (Exh. Unitil-PMN-2, at 32). During the proceeding, the Company updated its proposed

accrual rate to 3.91 percent to reflect the use of a 50-year S 3.0 curve (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 3 (electric); RR-DPU-2; Company Brief at 59). The Attorney General proposes to use a 52-year S 2.0 curve and a salvage factor of negative 20 percent, arguing that the Company's analysis of the SPR-BAL results is arbitrary (Attorney General Brief at 40, 46 (electric)).

As an initial matter, the Department finds that the Company's method of analyzing the SPR-BAL results of its depreciation study is reasonable. Because the goal of a depreciation study is to determine specific accrual rates to apply to a company's own depreciable assets, Unitil's method of assigning more weight to life-curve combinations that utilize all of the Company's retirement data and all available curves (i.e., those exhibiting retirement and cycle indices of 100) ensures that the accrual rates are reflective of the Company's actual historical experience. Once Unitil identified which life-curve combinations utilized all of the Company's own data, choosing the life-curve combination that exhibits the highest conformance index results in a choice that reflects the greatest level of conformance to the Company's full set of plant data. Turning specifically to Account 353, employing the Company's method to the statistical analyses consistently identifies a 50-year S 3.0 curve as a reasonable choice (Exh. Unitil-PMN-2, WP at 53-56 (electric)). The difference in the conformance index values between the Attorney General's and Company's proposals is so minimal as to be deemed insignificant (Exh. Unitil-PMN-2, WP at 53-56 (electric)). Further, the largest difference between each party's proposal is that Unitil's proposal ensures that all of the Company's

historical data was relied upon to arrive at a result, while the Attorney General's does not (Exh. Unitil-PMN-2, WP at 53-56 (electric)).

In support of her proposal for Account 353, the Attorney General also provides contradictory arguments, which casts doubt on her interpretation of the depreciation study, and understanding of the underlying assets. For example, in the Attorney General's initial brief, she claims that the Company's proposed curve for Account 353 reflects a situation where no retirements would be expected for the first four or five years of any addition, a situation she contends is not typical for assets in this account, which are likely to experience early retirements due to failure or storm damages (Attorney General Brief at 43-44 (electric)). In the Attorney General's reply brief, discussing the same Account 353, the Attorney General claims that the Company's data includes the retirement of a transformer after only 14 years, which the Attorney General contends is atypically short for an asset in this account (Attorney General Reply Brief at 23-24). These two statements, that assets in Account 353 are likely to experience retirements in the first four or five years, and that a retirement after only 14 years is atypically short are clearly conflicting.

Turning to the issue of net salvage for Account 353, the Company's historical net salvage data demonstrates a trend toward increasingly negative values, with an overall average of negative 135 percent (Exhs. Unitil-PMN-2, WP at 206 (electric); DPU-FGE 11-5, at 4 (electric)). The Company's proposal is to make a gradual adjustment to the existing salvage factor of negative 70 percent, proposing a factor of negative 80 percent (Exhs. Unitil-PMN-2, at 32; DPU-FGE 11-5, at 4 (electric)). The Department finds that the Company's proposal is

supported by its historical data and an appropriate application of the concept of gradualism (Exhs. Unitil-PMN-2, at 32 & WP at 206 (electric); DPU-FGE 11-3 (electric); DPU-FGE 11-5, at 4 (electric)). In contrast, the Attorney General claims a net salvage factor of negative 20 percent is more in line with industry data, but she fails to provide any data supporting this figure (Attorney General Brief at 46 (electric)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 353. Therefore, the Department accepts the proposed accrual rate of 3.91 for Account 353.

ii. Account 355 – Transmission Poles & Fixtures – Electric

Account 355 contains structures that support high voltage overhead conductors (Exh. Unitil-PMN-2, at 33). The current accrual rate for this account is 5.38 percent, based on a 45-year S 4.0 curve and a net salvage factor of negative 100 percent for this account (Exh. Unitil-PMN-2, at 33). Unitil recommends maintaining the 45-year S 4.0 curve as reasonable, but proposes changing the existing net salvage factor to negative 120 percent, reflecting a gradual and conservative level compared to the Company's historical average (Exhs. Unitil-PMN-2, at 33; DPU-FGE 11-6, at 2 (electric)). The Company's proposal results in an accrual rate of 6.13 percent (Exh. Unitil-PMN-2, at 33). The Department has reviewed the Company's depreciation study and workpapers, and finds that the proposal to leave the current life-curve combination unchanged is reasonable (Exh. Unitil-PMN-2, at 33 & WP at 57-60 (electric)).

Regarding net salvage, Unitil's historical net salvage data for Account 355 demonstrates a trend toward increasingly negative values, with an overall average of negative 201.4 percent (Exhs. Unitil-PMN-2, WP at 212-213 (electric); DPU-FGE 11-6, at 2 (electric)). The Department finds that the Company's proposal is supported by its historical data, and an appropriate application of the concept of gradualism (Exhs. Unitil-PMN-2, at 33 & WP at 212-213 (electric); DPU-FGE 11-3 (electric); DPU-FGE 11-6, at 2 (electric)). While the Attorney General claims that a net salvage factor of negative 50 percent is more in line with industry data, she fails to provide any industry data supporting this figure (Attorney General Brief at 46 (electric)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 355. Therefore, the Department accepts the proposed accrual rate of 6.13 percent for Account 355.

iii. Account 362 – Distribution Station Equipment – Electric

Account 362 includes distribution substations and related switching equipment for primary voltage delivery (Exh. Unitil-PMN-2, at 36). The current accrual rate for this account is 5.18 percent, based on a 42-year S 4.0 curve and a net salvage factor of negative 70 percent for this account (Exh. Unitil-PMN-2, at 33). Unitil recommends maintaining the 42-year S 4.0 curve as reasonable, but proposes changing the existing net salvage factor to negative 75 percent (Exhs. Unitil-PMN-2, at 36; DPU-FGE 11-7, at 4 (electric)). The Company's proposal decreases the accrual rate from 5.18 percent to 5.04 percent (Exh. Unitil-PMN-2,

at 36). The Department has reviewed the Company's depreciation study and workpapers, and finds that the proposal to leave the current life-curve combination unchanged is reasonable (Exh. Unutil-PMN-2, at 36 & WP at 69-72 (electric)).

Regarding net salvage, the Company's historical net salvage data for Account 362 demonstrates a trend toward increasingly negative values, with an overall average of negative 90.8 percent (Exhs. Unutil-PMN-2, WP at 208-209 (electric); DPU-FGE 11-7, at 4 (electric)). The Department finds that the Company's proposed net salvage of negative 75 percent is supported by its historical data and represents a modest increase from the current net salvage of negative 70 percent (Exhs. Unutil-PMN-2, at 36 & WP at 208-209 (electric); DPU-FGE 11-7, at 4 (electric)). In contrast, the Attorney General claims that a net salvage factor of negative 20 percent is more in-line with industry data, but fails to provide any industry data supporting this figure (Attorney General Brief at 46 (electric)).

Based on the analysis above, the Department finds that Unutil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 362. Therefore, the Department accepts the proposed accrual rate of 5.04 percent for Account 362.

iv. Account 365 – Overhead Conductors & Devices – Electric

Account 365 contains various sizes of conductors and cable used in the primary and secondary voltages for energy delivery, as well as switches and insulators (Exh. Unutil-PMN-2, at 38). The current accrual rate for this account is 4.48 percent, based on 44-year R 4.0 curve and a net salvage factor of negative 85 percent (Exh. Unutil-PMN-2, at 38). Unutil proposes a

44-year S 4.0 curve for this account and recommends maintaining the existing net salvage factor of negative 85 percent, resulting in an accrual rate of 4.51 percent (Exh. Unitil-PMN-2, at 38). The Department has reviewed the Company's depreciation study and workpapers and finds that the proposed life-curve combination is reasonable (Exh. Unitil-PMN-2, at 38 & WP at 77-80 (electric)).

Regarding the net salvage for Account 365, the Company has demonstrated that the proposal to maintain a net salvage of negative 85 percent is consistent with Unitil's historical data (Exhs. Unitil-PMN-2, WP at 218-219 (electric); DPU-FGE 11-9, at 4 (electric)). The historical net salvage for Account 365 has developed a consistency over time, with a five-year and ten-year average of negative 89.6 percent, and an overall average of negative 94.2 percent, which supports the Company's proposal to maintain the existing net salvage of negative 85 percent (Exh. DPU-FGE 11-9, at 4 (electric); see Exh. Unitil-PMN-2, WP at 218-219 (electric)). In contrast, the Attorney General claims that a net salvage factor of negative 65 percent is more in-line with industry data, but fails to provide any industry data supporting this figure (Attorney General Brief at 46 (electric)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 365. Therefore, the Department accepts the proposed accrual rate of 4.51 percent for Account 365.

v. Account 367 – Underground Conductors & Devices – Electric

Account 367 contains various sizes of conductors at primary and secondary voltages installed in the Company's conduit for energy delivery (Exh. Unitil-PMN-2, at 40). The current accrual rate for this account is 3.34 percent, based on 45-year S 5.0 curve and a net salvage factor of negative 50 percent (Exh. Unitil-PMN-2, at 40). Unitil initially proposed a 50-year S 5.0 curve for this account with net salvage factor of negative 85 percent, resulting in an accrual rate of 3.85 percent, but now proposes an accrual rate of 3.80 percent based on the application of a 50-year R 4.0 curve (Exhs. Unitil-PMN-2, at 38; DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 3 (electric); RR-DPU-3; Company Brief at 60). The Attorney General proposes a 54-year ASL for Account 367, and an R 2.0 curve in initial brief, and an R 3.0 curve in reply brief (Attorney General Brief at 45 (electric); Attorney General Reply Brief at 25). Notwithstanding the discrepancy in the Attorney General's briefs, a review of the statistical analysis for Account 367 does not support either the R 2.0 or R 3.0 curve (Exh. Unitil-PMN-2, WP at 85-88 (electric)). Of the curves in the analysis that utilize all of Unitil's data, the R 4.0 curve displays the highest conformance index, and is therefore reasonable for Account 367 (Exh. Unitil-PMN-2, WP at 85-88 (electric)).

Turning to the issue of ASL, both the Attorney General and the Company propose a number that is lower than that suggested by the SPR-BAL results based on an application of the principle of gradualism. While the Attorney General argues that the Company should increase the ASL for Account 367 by the same percentage as was used by Unitil's witness in a case before the Public Utility Commission of Texas, she does not provide supporting documentation

regarding the underlying assets of Account 367, or how the ASL for Account 367 in the instant case compares to the ASL that was used by the public utility in the Texas proceeding (see Attorney General Brief at 45 (electric)). The Attorney General's argument here is tenuous, as no two utilities, let alone two utilities with such disparate service territories and conditions as one located in Massachusetts and one located in Texas, will have an identical composition of assets and an identical history of additions and retirements. Therefore, a direct meaningful comparison is inapposite. The Department finds that the Company has applied the concept of gradualism accordingly. Accordingly, the Department is persuaded that Unitil's proposed adjustment to the ASL for Account 367 is reasonable.

Turning to the issue of net salvage, the Company has demonstrated that the proposed net salvage of negative 85 percent is a reasonable and gradual shift from the existing negative 50 percent, consistent with Unitil's historical data (Exhs. Unitil-PMN-2, WP at 222-223 (electric); DPU-FGE 11-11, at 3 (electric)). The Company's historical net salvage data for Account 367 demonstrates a trend toward increasingly negative values, with an overall average of negative 132 percent, as well as ten-year and five-year averages of negative 138 percent and negative 179 percent, respectively (Exhs. Unitil-PMN-2, WP at 222-223 (electric); DPU-FGE 11-11, at 3 (electric)). In contrast, the Attorney General claims that a net salvage factor of negative 50 percent is more in-line with industry data, but fails to provide any industry data supporting this figure (Attorney General Brief at 46 (electric)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve

combination and net salvage for Account 367. Therefore, the Department accepts the proposed accrual rate of 3.80 percent for Account 367.

vi. Account 369 – Services – Electric

Account 369 contains various sizes of overhead and underground conductors, cables, and switches that connect each customer to the Company's electric grid from that customer's individual location (Exh. Unitil-PMN-2, at 42). The current accrual rate for this account is 5.16 percent, based on a 45-year S 4.0 curve and a net salvage factor of negative 125 percent (Exh. Unitil-PMN-2, at 42). Unitil proposes a 50-year S 3.0 curve for this account, with a net salvage factor of negative 140 percent (Exhs. Unitil-PMN-2, at 42; DPU-FGE 11-13 (electric)). The Company's proposal decreases the accrual rate from 5.16 percent to 4.85 percent (Exh. Unitil-PMN-2, at 42). The Department has reviewed the Company's depreciation study and workpapers and finds that the proposed 50-year S 3.0 curve is reasonable (Exh. Unitil-PMN-2, at 42 & WP at 93-96 (electric)).

Regarding net salvage, the Company's historical net salvage data for Account 369 demonstrates a trend toward increasingly negative values, with an overall average of negative 224.4 percent (Exhs. Unitil-PMN-2, WP at 226-227 (electric); DPU-FGE 11-13, at 4 (electric)). The Department finds that the Company's proposed net salvage of negative 140 percent is supported by its historical data, and represents a modest and gradual increase from the current net salvage of negative 125 percent (Exhs. Unitil-PMN-2, at 42 & WP at 226-227 (electric); DPU-FGE 11-13, at 4 (electric)). In contrast, the Attorney General's proposed net salvage factor of negative 100 percent is inconsistent with the trend

exhibited by Unitil's historical data. The Attorney General claims her recommendation is more in-line with industry data, but fails to provide any industry data supporting this figure (Attorney General Brief at 46 (electric)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 369. Therefore, the Department accepts the proposed accrual rate of 4.85 percent for Account 369.

vii. Account 376 – Distribution Mains – Gas

Account 376 is the Company's largest depreciable gas plant account, consisting of several types of mains (Exh. Unitil-PMN-2, at 53). The current accrual rate for this account is 3.19 percent, based on a 70-year R 3.0 curve and a net salvage factor of negative 110 percent (Exh. Unitil-PMN-2, at 53). Unitil proposes a 75-year R 3.0 curve for this account, with a net salvage factor of negative 120 percent (Exhs. Unitil-PMN-2, at 53; DPU-FGE 11-17 (gas)). The Company's proposal increases the accrual rate from 3.19 percent to 3.73 percent (Exh. Unitil-PMN-2, at 53). The Department has reviewed the Company's depreciation study and workpapers and finds that the proposed 75-year R 3.0 curve is reasonable (Exh. Unitil-PMN-2, at 53 & WP at 47-50 (gas)).

Regarding net salvage, the Company's historical net salvage data for Account 376 demonstrates historically negative values, with an overall average of negative 294.1 percent (Exhs. Unitil-PMN-2, WP at 143-144 (gas); DPU-FGE 11-17, at 3 (gas)). The Department finds that the Company's proposed net salvage of negative 120 percent is supported by its

historical data, and represents a modest and gradual increase from the current net salvage of negative 110 percent (Exhs. Unitil-PMN-2, at 53 & WP at 143-144 (gas); DPU-FGE 11-17, at 4 (gas)). In contrast, the Attorney General's proposed net salvage factor of negative 60 percent is inconsistent with the trend exhibited by the Company's historical data, and represents a significant departure from the existing net salvage. While the Attorney General claims that the practice of abandoning plant in place should result in a lower level of net salvage for Account 376 (Attorney General Brief at 42 (gas)), there is no record evidence establishing the percentage or amount of plant that is retired in place, and her assumption ignores the fact that even when abandoning plant, it is often necessary to remove sections of pipe and obstructions, which results in removal costs (Exh. AG 6-32 (gas)). Further, the Attorney General claims her net salvage factor recommendation of 60 percent is more in line with industry data, but fails to provide any industry data supporting this figure (Attorney General Brief at 42 (gas)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 376. Therefore, the Department accepts the proposed accrual rate of 3.73 percent for Account 376.

viii. Account 380 – Distribution Services – Gas

Account 380 is the Company's second largest depreciable gas plant, consisting of services of varying material types, which connect customers from their physical location to the Company's mains (Exh. Unitil-PMN-2, at 55). The current accrual rate for this account is

6.07 percent, based on a 48-year R 5.0 curve and a net salvage factor of negative 175 percent (Exh. Unitil-PMN-2, at 55). Unitil proposes a 45-year S 5.0 curve for this account, with a net salvage factor of negative 150 percent (Exhs. Unitil-PMN-2, at 55; DPU-FGE 11-18 (gas)). The Company's proposal decreases the accrual rate from 6.07 percent to 5.78 percent (Exh. Unitil-PMN-2, at 55). The Department has reviewed Unitil's depreciation study and workpapers, and finds that the proposed 45-year S 5.0 curve is reasonable and supported by the results of the statistical analysis (Exh. Unitil-PMN-2, at 55 & WP at 55-58 (gas)). When applying either the Company's method, which the Department discussed as being appropriate in Section VII.A.3.b.i, above, or the Attorney General's preferred method of relying more on the conformance index, the Company's proposed life-curve combination consistently outranks that proposed by the Attorney General (Exh. Unitil-PMN-2, WP at 55-58 (gas)). Further, the Attorney General's claim that the ASL for Account 380 should closely resemble that of Account 376 merely because services and mains are made of similar materials is not supported by the evidentiary record. The Department therefore will adopt the Company's recommended 45-year S 5.0 curve combination.

Turning to net salvage, Unitil's historical net salvage data for Account 380 demonstrates historically negative values that have been decreasing at a steady rate (Exhs. Unitil-PMN-2, WP at 149-150 (gas); DPU-FGE 11-18, at 5 (gas)). While the overall average for Account 380 is negative 218.4 percent, the 15-year, ten-year, and five-year averages are negative 202.6 percent, negative 186.8 percent, and negative 151.5 percent, respectively (Exhs. Unitil-PMN-2, WP at 149-150 (gas); DPU-FGE 11-18, at 5 (gas)). The

trend exhibited for this account fully supports the Company's proposal to move from a net salvage factor of negative 175 percent to negative 150 percent. In contrast, the Attorney General's proposed net salvage factor of negative 100 percent is inconsistent with the trend exhibited by the Company's historical data, and represents a significant departure from the existing net salvage for Account 380. The Attorney General claims that her recommendation is more in-line with industry data, but fails to provide any industry figure supporting this figure (Attorney General Brief at 43 (gas)).

Based on the analysis above, the Department finds that Unitil has properly interpreted the data and exercised reasoned judgment in its selection of the proposed life-curve combination and net salvage for Account 380. Therefore, the Department accepts the proposed accrual rate of 5.78 percent for Account 380.

c. Conclusion

Based on the analysis above, the Department finds that Unitil has appropriately calculated the depreciation expense for its electric and gas divisions. Therefore, the Department approves the Company's proposed depreciation accrual rates, and the corresponding depreciation expense as proposed.¹¹⁷ For the electric division, the adjustment is a decrease of \$262,286, which consists of the initial proposed decrease of \$255,852 and the additional decrease of \$6,434 (Exhs. Unitil-DLC-1, at 33 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 2, 3 (electric)). Of the \$262,286 electric division amount, \$21,347

¹¹⁷ Our approval includes the Company's updated accrual rates to Account 353 and Account 367, discussed in Section VII.L.3.b.i. and Section VII.L.3.b.v., above.

is assigned to internal transmission and \$240,939 is assigned to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-22, at 2, 3 (electric)). For the gas division, the adjustment is an increase of \$24,581 (Exhs. Unitil-DLC-1, at 25 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-17, at 2 (gas)).

Regarding the Attorney General's various claims that the Company's historical net salvage database is unreliable, the Department has reviewed Unitil's underlying data and concludes that a finding of defectiveness or inaccuracy is not supported by the evidence (Exhs. Unitil-PMN-2, WP (electric); Unitil-PMN-2, WP (gas); AG 6-1, Att. (electric); AG 6-1, Att. (gas); AG 6-6, Atts. 1, 2 (electric); AG 6-6, Atts. 1, 2 (gas)). Many of the issues the Attorney General has identified, such as certain years showing zero retirements for certain accounts, or retirements and cost or removals not occurring in the same year, are occurrences that are not entirely unusual, as not all accounts experience retirements in every year, and the Company has indicated that its data is not time synchronized (see Exhs. AG 6-20 (electric); AG 6-20 (gas)). Moreover, the use of short- and long-run averages over large periods of time in a depreciation study will tend to smooth the effects of any data that could be considered to be an outlier. Thus, the Department will not require an audit of the Company's net salvage recordkeeping. Nevertheless, as the Company has indicated that its financial audits support the reliability of its historical database, the Department directs Unitil to file, as part of its next base distribution rate proceeding, comprehensive and reviewable documentation that supports the reliability of its historical database of net salvage and plant retirements and additions.

M. Amortization Expense

1. Introduction

During the test year, Unitil booked \$3,044,193 in amortization expense for its electric division (Exhs. AG 2-4 (electric); DPU-FGE 8-11 (Supp. 3), Att., Schs. 3, RevReq-2-1 (electric)). This amount is comprised of: (1) \$1,629,184, associated with a seven-year amortization of the December 2008 ice storm approved by the Department in D.P.U. 11-01/D.P.U. 11-02, at 71-73; (2) \$974,466, associated with a three-year amortization of the storm restoration costs related to Tropical Storm Irene, which occurred in August 2011, the October 2011 Snowstorm, and Hurricane Sandy, which occurred in October 2012, and approved by the Department in D.P.U. 13-90, at 153; (3) \$64,707 in amortized 2010 storm costs related to the storm fund that was disapproved in D.P.U. 13-90; (4) \$176,557, which represents net regulatory asset amortizations pursuant to Accounting Standards Codification 740, formerly Statement of Financial Accounting Standard No. 109, “Accounting for Income Taxes,” (“FAS 109”);¹¹⁸ and (5) \$199,278, which represents computer software amortization booked to Account 303 (Intangible Plant) (Exhs. AG 2-4 (electric); AG 4-4, Att. (electric); DPU-FGE 5-22, Att. (electric); DPU-FGE 8-11 (Supp. 3), Att., WP 5.1

¹¹⁸ FAS 109 requires companies to report the effects of income taxes resulting from transactions occurring in the current and preceding years to be reported on the financial statements for current and future years.
<http://www.mass.gov/dor/businesses/help-and-resources/legal-library/tirs/tirs-by-years/2009-releases/tir-09-8-claiming-the-fas-109-deduction-for.html> (May 28, 2009). See also D.P.U. 14-150, at 240; Bay State Gas Company, D.P.U. 13-75, at 269 (2014).

(electric)).¹¹⁹ An additional \$20,879 represents test-year amortization expense associated with computer software allocated from Unitil Service (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-23 (electric)).

During the test year, Unitil booked \$289,193 in amortization expense for its gas division (Exhs. AG 2-5 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3 (gas)). This amount is comprised of: (1) \$1,061 associated with deferred farm credit amortizations; (2) \$101,113, which represents net FAS 109 regulatory asset amortizations; and (3) \$187,019, which represents computer software amortization booked to Account 303 (Intangible Plant) (Exhs. AG 2-5 (gas); DPU-FGE 8-22 (Supp. 3), Att., WP 3.1 (gas)). An additional \$18,769 represents test-year amortization expense associated with computer software allocated from Unitil Service (Exh. DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-18 & WP 3.3 (gas)).

Unitil initially proposed to increase the electric division's amortization expense by \$696,047 to annualize the test-year level of storm restoration cost amortization approved in D.P.U. 13-90,¹²⁰ and by \$252,722 in software amortization expense based on known and measurable changes through the midpoint of the rate year (Exh. Unitil-DLC-1, at 34-35 & Sch. RevReq. 3 (electric)). The \$252,722 adjustment removed the amortization expense

¹¹⁹ Minor discrepancies in the amounts presented in this section are attributed to rounding.

¹²⁰ In D.P.U. 13-90, at 153, the Department approved an annual amortization expense of \$1,670,513 associated with storm restoration costs stemming from Tropical Storm Irene, the October 2011 Snowstorm, and Hurricane Sandy. As the Company's rates became effective June 1, 2014, the annualizing adjustment of \$696,047 increases the test-year expense of \$974,466 to the annual amount approved in D.P.U. 13-90 (Exh. Unitil-DLC-1, at 34-35 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-5 (electric)).

associated with projects expected to be fully amortized by the midpoint of the rate year, and included costs for projects expected to be put in service through the midpoint of the rate year, including a proposed new customer information system (“CIS”) project at the Unitil Service level (Exh. Unitil-DLC-1, at 34 & WP 5.4 (electric)). The CIS project had an estimated total cost of \$16,440,823 and was proposed to be amortized over ten years at an annual expense of \$1,644,082, of which 28.69 percent, or \$471,687, would be allocated to the Company and further allocated to each division, with the electric division’s annual expense totaling \$248,390 (Exhs. Unitil-DLC-1, at 34 (electric); DPU-FGE 3-11 (electric)).

During the proceeding, it became apparent that the CIS project would not be completed by the midpoint of the rate year, and Unitil agreed to remove the amortization expense associated with the CIS project from the electric division’s cost of service (Tr. 2, at 123; see Exh. DPU-FGE 8-11 (Supp. 3), Att., WP 5.4 (electric)). In addition, the Company updated its revenue requirement to remove \$64,707 associated with the storm fund Unitil proposed in D.P.U. 13-90, which the Department did not approve (Exhs. AG 4-4, Att. (electric); AG 5-2 (electric); DPU-FGE 5-22, Att. (electric); DPU-FGE 8-10 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-27 (electric)).

The Company’s updated amortization expense adjustment for the electric division consists of \$696,047 associated with amortized storm restoration costs approved in D.P.U. 13-90, negative \$64,707 related to the unapproved storm fund, and \$4,331 in software amortization expense (Exh. DPU-FGE 8-11 (Supp. 3), Att., Schs. RevReq-3, RevReq-3-5,

RevReq-3-23, RevReq-3-27 (electric)).¹²¹ The Company does not propose any adjustment for its FAS 109 regulatory asset for the electric division (Exh. DPU-FGE 8-11 (Supp. 3), Att., WP 1.4 (electric)). These adjustments result in a total updated amortization expense adjustment of \$635,462 for the electric division (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. 3 (electric)).

Unitil initially proposed to increase the gas division's amortization expense by \$9,206.¹²² related to the amortization of its deferred farm credit balance, and by \$188,968 in software amortization expense based on known and measurable changes through the midpoint of the rate year (Exh. Unitil-DLC-1, at 26-27 & Sch. RevReq-3 (gas)). The \$188,968 adjustment removed the amortization expense associated with projects expected to be fully amortized by the midpoint of the rate year and included costs for projects expected to be put in service through the midpoint of the rate year, including a proposed CIS project at the Unitil Service level (Exh. Unitil-DLC-1, at 26 & Sch. RevReq-3-17 & WP 3.4 (gas)). The CIS project had an estimated total cost of \$16,440,823 and was proposed to be amortized over ten years at an annual expense of \$1,644,082, of which 28.69 percent would be allocated to the

¹²¹ Of the \$4,331 adjustment, 4.831 percent or \$209 is assigned to internal transmission and \$4,122 is assigned to base distribution (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-23 (electric)).

¹²² The Company had a test-year ending deferred farm credit balance of \$41,064, which it proposed to amortize over four years consistent with the normalization period used to normalize rate case expense (Exhs. Unitil-DLC-1, at 27 (gas); AG 2-16, Att. (gas)). This normalization rate results in an annual amortization of \$10,266, which is \$9,206 more than the test-year expense of \$1,061 (Exhs. Unitil-DLC-1, at 27 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-19 (gas)).

Company and further allocated to each division, with the gas division's annual expense totaling \$223,297 (Exhs. Unitil-DLC-1, at 26 & WP 3.4 (gas); DPU-FGE 3-12 (gas); see Exh. Unitil-DLC-1, WP 3.4 (gas)). As previously discussed, during the proceeding it became apparent that the CIS project would not be completed by the midpoint of the rate year, and the Company agreed to remove the amortization expense associated with the CIS project from the gas division's cost of service (Tr. 2, at 123; see Exh. DPU-FGE 8-22 (Supp. 3), Att., WP 4.2 (gas)). The Company does not propose any adjustment for its FAS 109 regulatory asset for the gas division (see Exhs. AG 2-5 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3 (gas)).

Unitil's updated amortization expense adjustment consists of the \$9,206 associated with amortized deferred farm credit and negative \$34,329 in software amortization expense, for a total adjustment of negative \$25,123 for the gas division (Exh. DPU-FGE 8-22 (Supp. 3), Att., Schs. RevReq-3, RevReq-3-18, RevReq-3-19 (gas)).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Department should modify Unitil's proposed amortization of deferred storm recovery costs to avoid over recovery (Attorney General Brief at 33-34 (electric); Attorney General Reply Brief at 14-15). The Attorney General notes that in the Company's last base distribution rate case, the Department allowed Unitil to recover storm restoration costs of \$5,011,540 amortized over three years, resulting in an annual amortization of \$1,670,513 (Attorney General Brief at 33 (electric)). The Attorney General maintains that the Company began amortizing these storm costs on June 1, 2014, and that by

the beginning of the rate year on May 1, 2016, 23 months of amortization, or \$3,201,817 will have been recorded (Attorney General Brief at 33-34 (electric)). Therefore, the Attorney General claims, the remaining balance at the start of the rate year will be \$1,809,723, and the amortization will be complete as of May 31, 2017 (Attorney General Brief at 34 (electric)). Since the expected period between the present rate case and the next is three years, the Attorney General asserts that the remaining balance of deferred storm costs as of May 1, 2016, should be amortized over three years to prevent over recovery of such costs (Attorney General Brief at 34 (electric)). The Attorney General asserts that amortizing the remaining \$1,809,723 over three years results in an annual amortization of \$603,241, and a resulting reduction of \$1,067,272 to the annual amortization expense reflected by Unitil (Attorney General Brief at 34-35 (electric)).

The Attorney General argues that the Company inappropriately focuses on whether the deferred balance extends beyond the midpoint of the rate year (Attorney General Reply Brief at 15, citing Company Brief at 75). The Attorney General maintains that the support cited by the Company relates to payroll adjustments which are inapplicable to this circumstance (Attorney General Reply Brief at 15, citing D.T.E. 05-27, at 126). The Attorney General concludes that while the Department authorized recovery of deferred storm costs in D.P.U. 13-90, the Department did not authorize over recovery, and as such should reduce the annual amortization by \$1,067,272 (Attorney General Brief at 34 (electric)).

b. Company

The Company asserts that the Department determined, after a comprehensive review in D.P.U. 13-90, that Unitil was entitled to recover storm restoration costs associated with Tropical Storm Irene, the October 2011 Snow Storm, and Hurricane Sandy (Company Brief at 74; Company Reply Brief at 18-19). The Company notes that in that proceeding, the Attorney General argued for a five-year amortization period, which was ultimately rejected by the Department in favor of a three-year amortization period (Company Brief at 74). The Company contends that the Attorney General currently seeks a “second shot” at the five-year amortization period, despite the fact that the time for seeking reconsideration of the Department’s findings in that case has long since passed (Company Brief at 74). Unitil avers that further delay in the recovery of costs that were deemed to be prudently incurred is unfairly penal, especially considering the time that has passed since these costs were incurred, and the fact that the Department did not allow the recovery of carrying charges (Company Brief at 74; Company Reply Brief at 18). The Company argues that the Department made a comprehensive and balanced consideration of all relevant evidence in D.P.U. 13-90, and established both the proper amount of costs, and the appropriate amortization period for the recovery of those costs (Company Brief at 74-75). Unitil argues that the Attorney General’s proposal would upset this balanced view by only considering a single factor (Company Brief at 75).

Moreover, the Company asserts that the need for the proposed adjustment is beyond the midpoint of the rate year, a date established by the Department beyond which adjustments are

largely disfavored (Company Brief at 75, citing D.T.E. 05-27, at 126; Company Reply Brief at 19). Unitil contends that the Attorney General mischaracterizes the Company's arguments with respect to the midpoint of the rate year (Company Reply Brief at 19). The Company asserts that it was not attempting to highlight payroll expenses but was simply pointing out that Department precedent disfavors changes to costs and expenses made after the midpoint of the rate year (Company Reply Brief at 19).

3. Analysis and Findings

The Department addresses the Company's amortization proposals in this order: software amortization for the electric and gas divisions, storm restoration costs for the electric division, the deferred farm credit balance for the gas division, and the net FAS 109 regulatory asset balance for the electric and gas divisions.

The Department has found that software costs are a routine and continuing part of a company's business and that these expenses are recurring in nature. D.P.U. 07-71, at 119-120; D.P.U. 92-111, at 67-68; D.P.U. 89-114/90-331/91-80 (Phase One) at 152-153. At the same time, the Department will adjust test-year expense levels for known and measurable changes to the test year. D.P.U. 87-260, at 75. The Department has examined Unitil's proposed amortization expenses for both the electric and gas divisions (see, e.g., Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-23 & WPs 5.2, 5.4 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-18 & WPs 3.2, 3.4 (gas)). The Department finds that test-year software amortization expense was appropriately adjusted to include software applications that would be completed and in service by the midpoint of the rate year,

and to exclude amortization expense associated with software applications that are scheduled to be fully amortized by the midpoint of the rate year (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-23 & WPs 5.2, 5.4 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-18 & WPs 3.2, 3.4 (gas)). Moreover, the Company has appropriately removed, for both the electric and gas divisions, the amortization expense associated with the initially proposed CIS project, which will not be completed until 2017 (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-23 & WP 5.4 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-3-18 & WP 3.4 (gas); Tr. 2, at 123).

Turning to the electric division's proposed adjustment related to the recovery of storm restoration costs, the Department finds that Unitil has appropriately adjusted the test-year amount to reflect the full annual amount approved in D.P.U. 13-90 (Exh. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-3-5 (electric)). Regarding the Attorney General's proposal to extend the amortization period associated with these storm costs, the Department finds such treatment to be inappropriate. The Department has on occasion allowed adjustments to test-year amortization expenses for known and measurable changes to the test year and for changes that have been determined will occur up to the midpoint of the rate year; in instances where costs have been fully amortized by the issuance date of an Order, or will be fully amortized by the midpoint of the rate year, the Department has excluded these costs from a company's cost of service. See D.P.U. 13-90, at 200; D.P.U. 11-01/D.P.U. 11-02, at 294-295, 298-299; D.P.U. 07-71, at 117-118, 119-120. Unitil's storm restoration costs will not be fully amortized until May 1, 2017, which is a full year after the Order issuance date,

and six months after the midpoint of the rate year, which is November 1, 2016 (Tr. 5, at 399).

As noted above, the midpoint of the rate year was the cutoff that determined that the \$16,440,823 CIS project should not be included in amortization expense, and it is the appropriate cutoff to use regarding the Company's storm costs.

Moreover, the issue of storm restoration costs associated with Tropical Storm Irene, the October 2011 Snow Storm, and Hurricane Sandy was comprehensively reviewed in D.P.U. 13-90, and the Department determined the appropriate level of costs for recovery, as well as the appropriate amortization of such costs. D.P.U. 13-90, at 117-153. Over recovery of storm cost recovery, as argued by the Attorney General, is not a necessary result. In D.P.U. 13-90, the Department did not approve for recovery the full amount of costs incurred as proposed by the Company, and the Department did not allow the Company to recover carrying charges associated with these three major storms. D.P.U. 13-90, at 152-153. Additionally, since many of the storm recovery costs were incurred as far back as 2011, with recovery beginning in 2014, the amortization approved by the Department in D.P.U. 13-90 likely would not result in the Company recovering all of its costs due to the time value of money.¹²³ The Department carefully weighed such considerations in Unitil's previous base distribution rate case, and determined an appropriate level of expenses, as well as an appropriate amortization period that would strike a balance of responsibility between shareholders and ratepayers, for incurred costs that were deemed to be extraordinary and

¹²³ Without the recovery of carrying charges, the Company does not account for the value of money for the time between the incurrence of costs and the recovery of costs in rates.

prudently incurred. D.P.U. 13-90, at 150-153. The Department is not persuaded that it should modify its findings from D.P.U. 13-90. Therefore, the Department rejects the Attorney General's proposal and will allow the Company to continue to amortize its storm-related costs as determined in D.P.U. 13-90.

Regarding the gas division's proposed adjustment associated with the amortization of its deferred farm credit balance, the Department stated in Farm Discounts, D.T.E. 98-47, Letter Order at 6 (November 16, 1998), that gas distribution companies may defer costs associated with the implementation of the farm discount for consideration in a subsequent general base distribution rate case. Bay State Gas Company, D.P.U. 13-75, at 246 (2014). Consistent with precedent, the Department finds that the Company is allowed to recover the test-year farm discount credit balance of \$41,064. See D.P.U. 09-30, at 262-263; D.T.E. 98-47, Letter Order at 6. The Department has allowed amortization of the deferred farm discounts over periods consistent with the normalization period used to normalize rate case expense. See D.P.U. 10-70, at 144; D.P.U. 09-30, at 263; D.T.E. 02-24/25, at 204-205. Therefore, the Department approves the Company's proposed amortization of Unitil's farm discount expense of \$10,266 over four years, which is consistent with the four-year normalization period approved for the Company's gas division rate case expense, as set forth in Section VII.J.3.e., above. See D.P.U. 13-75, at 248; D.P.U. 10-70, at 144; D.P.U. 09-30, at 263; D.T.E. 02-24/25, at 204-205.

Finally, Unitil did not propose any adjustments to its test-year amortizations related to FAS 109 regulatory assets for its electric and gas divisions (Exhs. DPU-FGE 8-11 (Supp. 3),

Att., WP 1.4 (electric); AG 2-4 (gas)). On review of the record evidence, we accept the Company's test-year amortization for FAS 109 regulatory assets for both the electric and gas divisions (Exhs. DPU-FGE 8-11 (Supp. 3), Att., WP 1.4 (electric); AG 2-4 (gas)). Based on the foregoing analysis, the Department approves the Company's adjustments to its amortization expense for the electric and gas divisions.

N. Gas Acquisition Pension and Post-Retirement Benefits Other Than Pension

1. Introduction

Unitil reports that, for the gas division, its test-year pension and post-retirement benefits other than pension ("PBOP") costs associated with gas acquisition activities were \$14,500 (RR-DPU-23). Notwithstanding the Company's representation in RR-DPU-23, it appears that Unitil collects these pension and PBOP costs through its PAF (Tr. 6, at 537). The Company states that it has removed these costs from base distribution cost of service (RR-DPU-23). No party commented on this issue on brief.

2. Analysis and Findings

The Department has found that supply-related gas costs should be collected through the CGAC. D.T.E. 02-24/25, at 284; Commonwealth Gas Company, D.T.E. 98-63, Stamp-Approved Settlement Agreement (1998); D.P.U. 93-60, at 281. The salaries and benefits of the Company's gas acquisition personnel are clearly supply-related gas costs. D.P.U. 93-60, at 281. Therefore, we find that these costs should be included in the gas acquisition category and be recovered through the CGAC and not through the PAF. Accordingly, if the Company is collecting these cost through the PAF, the Department directs

Unitil to adjust the PAF to remove pension and PBOP cost associated with gas acquisition activities and to collect the costs through the CGAC.

O. Residential Assistance Adjustment Factor

1. Introduction

In the Company's last electric base distribution rate case, the Department discontinued the RAAF and provided Unitil with alternative means of recovering costs associated with the provision of the low-income discount and the AMP. D.P.U. 13-90, at 258-259.¹²⁴ The Department moved recovery of the revenue shortfall associated with the provision of the low-income discount to the Company's electric division RDM. D.P.U. 13-90, at 259-260. With respect to the AMP costs, the Department concluded that a representative amount of AMP costs could be recovered through base rates as a standard O&M expense without affecting Unitil's ability to operate an AMP that complied with Department directives. D.P.U. 13-90, at 260. Consequently, the Department directed the Company to terminate the RAAF tariff as of June 1, 2014. D.P.U. 13-90, at 260.

During the period from June 2014 through December 2014, the Company recorded \$147,104 in AMP costs for the electric division (RR-DPU-19 (electric)). The Company proposes an increase of \$129,713 to include electric division AMP costs incurred from January 2014 through May 2014, the period of the test year during which AMP costs were recorded through the RAAF rather than base distribution expenses (Exh. Unitil-DLC-1,

¹²⁴ Unitil recovers its AMP costs for its gas division on a fully reconciling basis (Exh. Unitil-DJD-1, at 6-7 & 8 n.3 (gas)). That recovery remains unchanged in this proceeding.

at 26-27 & Sch. RevReq-3-13 (electric)). Adding this amount to the total AMP costs recorded from June 2014 through December 2014, yields a proposed test-year electric division AMP cost of \$276,817 (RR-DPU-19 (electric)).

2. Positions of the Parties

a. Low-Income Network

The Low-Income Network requests that the Department reinstate recovery of the Company's AMP costs through a fully reconciling mechanism (Low-Income Network Brief at 2 (electric); Low-Income Network Reply Brief at 1 (electric)). The Low-Income Network argues that the conditions underlying the Department's decision in D.P.U. 08-4 to recover AMP costs in a separate reconciling mechanism still remain (Low-Income Network Brief at 5 (electric), citing Exhs. LI 1-1 (electric), LI 1-2 (electric), LI 1-3 (electric), LI 1-4 (electric), LI 2-1 (electric)). In particular, the Low-Income Network asserts that the unpredictability of program participation due to external factors like weather, the economy, and utility prices, as well as prudent program expansion, justify the use of a fully reconciling mechanism for the recovery of AMP costs (Low-Income Network Brief at 5-6 (electric)). No other party addressed this issue on brief.

b. Company

The Company argues that the Department should adopt the Low-Income Network's recommendation to fully restore the application of a reconciling factor to recover electric AMP costs (Company Brief at 111). The Company asserts that the recent change made to AMP cost recovery (i.e., terminating the RAAF and including a representative amount of AMP costs in

base distribution rates) threatens the substantial progress achieved in AMP design and implementation (Company Brief at 111).

3. Analysis and Findings

In Unitil's last base distribution rate case for its electric division, the Department made its decision to eliminate the Company's electric division RAAF based on the assumption that the AMP was a stable program that was not prone to major cost fluctuations or program design modifications. D.P.U. 13-90, at 260. Nonetheless, the Department is now concerned that Unitil's current cost recovery method, which limits cost recovery to a fixed amount, may distort incentives to implement program changes in line with the Department's objectives to encourage increasing customer participation in the AMP (Exh. LI 1-3 (electric); Tr. 1, at 38-39; Tr. 2, at 87-88).

In addition, the Department recently approved continuation of a reconciling mechanism for NSTAR Gas's AMP. D.P.U. 14-150, at 382-384. The Department also approved two settlement agreements recently that permitted continuation of the RAAF for Liberty Utilities (New England Natural Gas Company) Corp. ("Liberty Utilities") and Bay State Gas Company. Liberty Utilities (New England Natural Gas Company) Corp., D.P.U. 15-75, at 8 (February 10, 2016); Bay State Gas Company, D.P.U. 15-50, at 10 (2015).¹²⁵ Reinstating the RAAF would allow the Company to standardize program changes and improvements in line

¹²⁵ In D.P.U. 15-75, the settling parties were Liberty Utilities, the Attorney General, the Low-Income Network, and DOER. D.P.U. 15-75, at 3. In D.P.U. 15-50, the settling parties were Bay State Gas Company, the Attorney General, and the Low-Income Network. D.P.U. 15-50, at 4.

with other electric and gas companies (Exh. LI 1-4 (electric)). Conversely, continuing the Company's current electric division AMP cost recovery treatment may adversely affect Unitil's ability to operate an AMP that aligns with Department objectives while maintaining competitiveness with industry peers (Tr. 2, at 87-88).

For these reasons, the Department finds that Unitil's RAAF should be reinstated for the purpose of recovering AMP expenses on a fully reconciling basis. The RAAF has historically been composed of two categories of recovered costs: (1) the incremental costs of a company's AMP, and (2) the revenue shortfall related to the provision of the low-income discount.

D.P.U. 13-90, at 259. With the reinstatement of the RAAF to fully reconcile AMP costs, we find it is also administratively expedient to restore the recovery method of the revenue shortfall related to the provision of the low-income discount.¹²⁶ Accordingly, the Company is directed to remove the low-income discount recovery from its RDM and resume recovery of this shortfall through the RAAF. The Department directs Unitil to reinstate the RAAF as of May 1, 2016. As part of its compliance filing to this Order, the Company is directed to include a residential assistance adjustment clause ("RAAC") tariff for its electric division. In addition, as part of its compliance filing to this Order, the Company is directed to modify its RDM tariff for its electric division to remove the recovery of the revenue shortfall associated with the provision of the low-income discount and to include this recovery in the RAAF for its electric division.

¹²⁶ Restoring the recovery method makes the treatment by Unitil consistent with that of other companies. See D.P.U. 15-50, Tariff M.D.P.U. No. 216, § 6; D.P.U. 14-150, at 378-380, 382-384; D.P.U. 10-70, Tariff M.D.P.U. No. 1040J.

Finally, because AMP costs will no longer be recovered as an O&M expense in base rates, the Company's proposed adjustment to AMP costs is no longer necessary. Therefore, the Department disallows the Company's proposed adjustment of \$129,713. Additionally, \$147,104 of AMP costs shall be removed from test-year O&M expenses (RR-DPU-19). The Department thus reduces the electric division cost of service by a total of \$276,817.

The Department notes that Unitil recovers its AMP costs for its gas division on a fully reconciling basis (Exh. Unitil-DJD-1, at 6-7, 8 n.3 (gas)). That recovery remains unchanged in this proceeding.

VIII. CAPITAL STRUCTURE AND RATE OF RETURN

A. Introduction

The Company calculates its overall cost of capital, or WACC, at 8.72 percent, representing the rate of return to be applied on rate base to determine the Company's total return on its investment (see Exhs. Unitil-DLC-1, at 35 (electric); Unitil-RBH-1, at 2; DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); Unitil-DLC-1, at 29 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).¹²⁷ This WACC is based on a proposed capital structure of 47.08 percent long-term debt, and 52.92 percent common equity (Exhs. Unitil-DLC-1, at 36 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); Unitil-DLC-1, at 29 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)). In addition, the Company proposes a cost of long-term debt of 7.02 percent, and a cost of

¹²⁷ For its capital structure witness, the Company submitted identical initial and rebuttal testimony in the electric and gas dockets. For ease of reference, we do not distinguish between the two dockets.

equity or ROE of 10.25 percent (Exhs. Unitil-DLC-1, at 35 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); Unitil-DLC-1, at 28 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).

The Attorney General calculates a combined WACC of 7.94 percent for Unitil's electric and gas divisions, based on an ROE of 8.75 percent developed using an ROE of 8.65 percent and 8.85 percent for the electric and gas divisions, respectively (Exhs. AG-JRW-1, at 4; AG-JRW-1a; AG-JRW-4; AG-JRW-10).¹²⁸ Below, we examine: (1) the Company's capital structure and cost of debt; (2) the respective proxy group selections; and (3) the appropriate ROE.

B. Capital Structure and Cost of Debt

1. Company's Proposal

As of the end of the test year, Unitil reported a capital structure consisting of \$64,300,000 in long-term debt and \$65,141,263 in common equity, representing 49.68 percent long-term debt and 50.32 per cent common equity (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)). The Company made two adjustments to its test-year-end capital structure.

¹²⁸ For her capital structure witness, the Attorney General submitted identical testimony in the electric and gas dockets. For ease of reference, we do not distinguish between the two dockets.

First, Unitil reduced its long-term debt by \$1,900,000 to account for a sinking fund payment due November 30, 2016,¹²⁹ associated with the Company's 6.75 percent senior note (Exhs. Unitil-DLC-1, at 36 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); Unitil-DLC-1, at 28-29 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).¹³⁰ Unitil determined that because the sinking fund payment would be made before the midpoint of the rate year, it is appropriate to remove the amount from its long-term debt balance (Exhs. Unitil-DLC-1, at 36 (electric); Unitil-DLC-1, at 28-29 (gas)). Thus, the Company proposes a long-term debt balance of \$62,400,000 (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).

Second, the Company included in its common equity balance a capital contribution from Unitil Corporation of \$5,000,000 made in April 2015 (Exhs. Unitil-MHC-1, at 6 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); AG 8-7 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas); AG 8-7 (gas)). Thus, Unitil proposes a common equity balance of \$70,141,263 (Exhs. DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).

¹²⁹ Sinking funds are provisions found in indenture agreements that facilitate the orderly retirement of long-term debt and preferred stock issues. Typically, sinking fund provisions require a utility to redeem each year a portion of the principal of a particular security. D.P.U. 84-94, at 49-50.

¹³⁰ On or about November 30, 2015, the Company classified the sinking fund obligation as a current liability, and thus removed the amount from its long-term debt balance and recorded the amount as a current liability (Exhs. Unitil-DLC-1, at 36 (electric); Unitil-DLC-1, at 28-29 (gas)).

Based on these two adjustments, the Company proposes a capital structure consisting of 47.08 percent long-term debt and 52.92 percent common equity (Exhs. Unitil-DLC-1, at 36 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); Unitil-DLC-1, at 29 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).¹³¹ Further, the Company proposes a rate of 7.02 percent for its long-term debt (Exhs. Unitil-DLC-1, at 36 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5 (electric); Unitil-DLC-1, at 29 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5 (gas)).

The Attorney General accepted the Company's proposed capital structure and cost of long-term debt but noted that the proposed capitalization has more equity and less financial risk than the capitalizations of Unitil Corporation and electric and gas companies (Exh. AG-JRW-1, at 3-4).¹³² No other party commented on the Company's capital structure and cost of debt.

¹³¹ On brief, Unitil attributes its elevated common equity ratio to the Company's low earnings and subsequent inability to access the debt markets (Company Brief at 79). Nevertheless, the Company maintains that its common equity ratio is within the bounds of sound utility practice, based on the Department's recent decisions involving gas companies and their proxy groups (Company Brief at 79-80, citing D.P.U. 14-150, at 321 (52.10 percent common equity); D.P.U. 13-75 (53.68 percent common equity); Company Reply Brief at 23).

¹³² On brief, the Attorney General asserts that Unitil's proposed capitalization contains a higher level of equity as compared to the capital structure of the Company's parent company and of the two proxy groups proposed by the Attorney General (Attorney General Brief at 49-50 (electric); Attorney General Reply Brief at 29). The Attorney General posits that the higher common equity ratio reduces Unitil's financial risk, and should be taken into consideration when determining the Company's allowed ROE (Attorney General Brief at 50 (electric); Attorney General Reply Brief at 29-30).

2. Analysis and Findings

a. Capital Structure

A company's capital structure typically consists of long-term debt, preferred stock, and common equity. D.P.U. 07-71, at 122; D.T.E. 03-40, at 319; D.T.E. 01-56, at 97; Pinehills Water Company, D.T.E. 01-42, at 17-18 (2001). The ratio of each capital structure component to the total capital structure is used to weight the cost (or return) of each capital structure component to derive a WACC. The WACC is used to calculate the return on rate base for calculating the appropriate debt service and return on investment for the company to be included in its revenue requirements. D.P.U. 07-71, at 122; D.T.E. 03-40, at 319; D.T.E. 01-42, at 17-18; D.P.U. 86-149, at 5.

The Department will normally accept a company's test-year-end capital structure, allowing for known and measurable changes. D.T.E. 03-40, at 323-324; D.P.U. 88-67 (Phase I) at 174; D.P.U. 84-94, at 50. Within a broad range, the Department will defer to the management of a utility in decisions regarding the appropriate capital structure and normally will accept the utility's test-year-end capital structure, unless the capital structure deviates substantially from sound utility practice. Mystic Valley Gas Company v. Department of Public Utilities, 359 Mass. 420, 428-429 (1971); High Wood Water Company, D.P.U. 1360, at 26-27 (1983); Blackstone Gas Company, D.P.U. 1135, at 4 (1982); see also Cambridge Electric Light Company, D.P.U. 20104, at 42 (1979).

The Company reduced its reported test-year-end long-term debt by \$1,900,000 to account for a sinking fund payment due November 30, 2016, associated with the Company's

6.75 percent senior note (Exhs. Unitil-DLC-1, at 36 (electric); DPU-FGE 8-11 (Supp. 3), Att., Sch. RevReq-5-1 (electric); Unitil-DLC-1, at 28-29 (gas); DPU-FGE 8-22 (Supp. 3), Att., Sch. RevReq-5-1 (gas)). Although the sinking fund payment is not due until November 30, 2016, the Company classified the sinking fund payment as a current liability for accounting purposes as of November 30, 2015 (Exhs. Unitil-DLC-1, at 36 (electric); Unitil-DLC-1, at 28-29 (gas)).¹³³

In accordance with Department precedent, companies are allowed to make test-year long-term adjustments related to sinking fund payments, redemptions and retirement of debt, and issuance of new debt, provided that the proposed adjustments take place by the date of the Order, and, thus, are known and measurable. D.P.U. 01-56, at 99; D.T.E. 03-40, at 323-324; D.P.U. 88-67 (Phase I) at 174; D.P.U. 84-94, at 50. The scheduled sinking fund payment of \$1,900,000 will not take place until November 30, 2016 (Exhs. Unitil-DLC-1, at 36 (electric); Unitil-DLC-1, at 28 (gas)). The Department finds because November 30, 2016, occurs after the issuance of this Order, the sinking fund adjustment is not known and measurable. Therefore, the Department will increase Unitil's long-term debt balance by \$1,900,000, producing a total balance of \$64,300,000.

In making this adjustment, the Department considers the Company's treatment of this sinking fund obligation as a current liability to be contrary to the Department's accounting

¹³³ Under generally accepted accounting principles, that portion of long-term debt that is scheduled to mature within one year is treated for financial accounting purposes as short-term debt. See Nantucket Electric Company/Massachusetts Electric Company, D.T.E. 04-74, at 22 (2004); Commonwealth Electric Company, D.T.E. 02-51, at 6 (2002).

standards. While generally accepted accounting principles may classify portions of long-term debt payable within one year as short-term liabilities for public reporting purposes, it is well-settled that financial accounting standards do not automatically dictate ratemaking treatment. Boston Edison Company, D.P.U./D.T.E. 97-95, at 76-77 (2001); D.P.U. 94-50, at 305; D.P.U. 92-78, at 79-80. The impending maturity date of a long-term debt instrument, or timing of sinking fund payments, does not transform the debt into a short-term obligation. See Blackstone Gas Company, D.P.U. 10-69, at 7-8 (2010); Massachusetts Electric Company/Nantucket Electric Company, D.T.E. 04-74, at 22 (2004); Commonwealth Electric Company, D.T.E. 02-51, at 6 (2002). See also 220 C.M.R. § 50.00, Balance Sheet Accounts, Accounts 221, 224; 220 C.M.R. § 51.01, 18 C.F.R. Ch. 1, part 101, Balance Sheet Accounts, Accounts 221, 224. The Company is directed to revise its accounting treatment of long-term debt so that the entire outstanding balance of its long-term debt remains classified as long-term debt, so long as the underlying debt instrument remains outstanding. D.P.U. 10-69, at 8.

Turning to the Company's proposed adjustments to its common equity balance, the \$5,000,000 capital contribution from Unitil Corporation is a known and measurable change to test-year-end capitalization. In this circumstance, the Department accepts this adjustment to the Company's capital structure. D.P.U. 10-70, at 241; D.P.U. 07-71, at 122.

Notwithstanding our acceptance of this adjustment, the Department recognizes that a parent company capital contribution is not subject to regulatory review under a discernible standard. For example, stock issuances by the Company would be subject to the test under G.L. c. 164, § 14, as to whether the contributions were reasonably necessary to accomplish some legitimate

purpose in meeting Unitil's service obligations. See Fitchburg Gas and Electric Light Company v. Department of Public Utilities, 395 Mass. 836, 841-842 (1985), citing Fitchburg Gas and Electric Light Company v. Department of Public Utilities, 394 Mass. 671, 678 (1985). Although parent holding companies can be a source of financial strength to subsidiaries, capital contributions to a subsidiary outside of the regulatory review process could have consequences where the adjustment to the subsidiary's capital structure results in a higher rate of return. In this case, the Department finds that Unitil Corporation's capital contribution was required in order to reduce the Company's short-term debt levels during a period when the Company was unable to access long-term debt (Tr. 6, at 567-568). We accept the Company's common equity balance of \$70,141,263, which includes Unitil Corporation's capital contribution to Unitil. We will, however, continue to examine parent holding company capital contributions for potential adverse rate effects.

Based on the foregoing analysis, the Department shall use a long-term debt balance of \$64,300,000 and a common equity balance of \$70,141,263 to determine Unitil's capital structure. As shown on Schedule 5 of this Order in Section XI.E. (electric) and Section XI.O. (gas), below, the use of these balances produces a capital structure consisting of 47.83 percent long-term debt and 52.17 percent common equity.

b. Cost of Debt

Costs associated with the issuance of long-term debt, such as issuance costs, debt discounts, and other related expenses, are necessary operating expenses and are expected to occur from time to time as long-term debt is issued by a company. D.P.U. 10-114, at 294;

D.T.E. 01-56, at 99; D.P.U. 90-121, at 160. The appropriate ratemaking treatment of issuance costs is to include them in the effective cost of debt by amortizing the issuance costs over the life of the issue without providing a return on the unrecovered portion of the issuance costs. See D.P.U. 92-78, at 91-92; D.P.U. 90-121, at 160-161. No party objected to the Company's proposed costs of long-term debt.

We find that Unitil's method of calculating its cost of long-term debt is consistent with Department precedent. See D.T.E. 01-56, at 97-100. Consistent with the Department's decision to increase the Company's 6.75 percent series debt balance by \$1,900,000, the Department has recalculated the Company's weighted cost of capital. Using the information provided in Exhibits DPU-FGE 8-11, Schedule RevReq-5-1 (electric) and DPU-FGE 8-22, Schedule RevReq-5-1 (gas), the inclusion of an additional \$1,900,000 in the Company's 6.75 percent series debt produces a weighted cost of debt of 7.01 percent. Accordingly, the Department will apply a cost of long-term debt of 7.01 percent to determine the Company's WACC.

C. Proxy Groups

1. Company's Proxy Group

Unitil is a wholly owned subsidiary of Unitil Corporation and is not publicly traded. Therefore, the Company has no public market for its stock. Accordingly, Unitil presents its cost of equity, or ROE, analysis using the capitalization and financial statistics of a proxy group of 40 electric and gas companies (Exh. Unitil-RBH-1, at 10-15). The Company selected its proxy group from a group of 57 companies classified as "electric or natural gas utilities" by

Value Line Investment Survey (“Value Line”) (Exh. Unitil-RBH-1, at 12). From that group, the Company chose companies that: (1) have been covered by at least two utility industry equity analysts; (2) have investment grade senior-unsecured bond and/or corporate credit ratings from Standard & Poor’s Financial Services, LLC (“S&P”); and (3) receive at least 70 percent of their operating income from regulated electric or natural gas utility operations (Exh. Unitil-RBH-1, at 13). As part of this process, the Company excluded: (1) companies that do not consistently pay quarterly cash dividends, given that some of the ROE models used by the Company assume that earnings and dividends grow over time; and (2) companies that are currently known to be party to a merger, or other significant transaction (Exh. Unitil-RBH-1, at 13).¹³⁴

2. Attorney General’s Proxy Groups

The Attorney General presents separate proxy groups for the Company’s electric division and gas division (Exh. AG-JRW-1, at 22-23). The Attorney General’s electric proxy group consists of 29 electric companies (Exhs. AG-JRW-1, at 22; AG-JRW-4, at 1).

According to the Attorney General, her electric proxy group receives on average 82 percent of its revenues from regulated electric operations, has (i) an BBB +/Baa1 bond rating from S&P,

¹³⁴ The Company removed four companies from its initial group of 40 companies: (1) Black Hills Corporation, (2) Southern Company, (3) TECO Energy, Inc., and (4) AGL Resources Inc. (Exh. Unitil-RBH-Rebuttal-1, at 19 n.33). Unitil explained that these companies entered into significant corporate transactions following Unitil’s initial filing, thus deviating from the Company’s financial criteria used to select its proxy group (Exh. Unitil-RBH-Rebuttal-1, at 19 n.33).

(ii) a current median common equity ratio of 47.3 percent, and (iii) an earned ROE of 9.2 percent (Exhs. AG-JRW 1, at 22-23; AG-JRW-4, at 1).

The Attorney General's gas proxy group consists of seven publicly held gas distribution companies (Exh. AG-JRW-1, at 23). The Attorney General set four criteria in selecting the seven companies: (1) companies that are listed as a natural gas distribution, transmission, and/or integrated gas company in AUS Utility Reports; (2) companies that are listed as a natural gas utility in the Standard Edition of Value Line; (3) companies that have an investment grade bond rating by Moody's and S&P; and (4) companies that are not involved in an acquisition of another utility, are not the target of acquisition, and were not in the sale or spin-off of utility assets in the past six months (Exhs. AG-JRW-1, at 23; AG-JRW-4, at 1). According to the Attorney General, her gas proxy group has a median common equity ratio of 49.0 percent (Exhs. AG-JRW-1, at 26; AG-JRW-4, at 1). The Attorney General adds that her gas proxy group receives 67 percent of its revenues from regulated gas operations and has (i) an A- bond rating from S&P, (ii) a current median common equity ratio of 49.0 percent, and (iii) an earned ROE of 10.2 percent (Exhs. AG-JRW-1, at 24; AG-JRW-4, at 1).

3. Positions of the Parties

a. Attorney General

The Attorney General argues that she has evaluated the return requirements of investors on the common stock of her proxy group of publicly held electric utility and gas distribution companies (Attorney General Brief at 53 (electric), citing Exhs. AG-JRW-1, at 22-25; AG-JRW-4; Attorney General Brief at 48 (gas)). The Attorney General maintains that she has

appropriately evaluated Unitil's risk relative to that of her proxy group based on an analysis of credit ratings, while at the same time recognizing both the Company's lower business risk profile associated with distribution operations and higher financial risk arising from low earnings and its inability to access long-term debt (Attorney General Reply Brief at 30-31). Based on her comparison of the electric and gas proxy groups, using credit ratings as measures of investment risk, the Attorney General concludes that the Company's investment risk is about the same as her electric proxy group and a little higher than her gas proxy group (Attorney General Brief at 55 (electric), citing Exh. AG-JRW-1, at 24-25; Attorney General Brief at 50 (gas)). Ultimately the Attorney General asserts that the Department should use the Attorney General's proxy groups (see Attorney General Brief at 69 (electric)).

b. Company

Unitil argues that in determining its ROE, it has used an appropriate proxy group that excludes companies that do not consistently pay quarterly cash dividends, and includes companies that: (1) are covered by at least two utility industry equity analysts; (2) have investment grade senior unsecured bond or corporate credit ratings from S&P; (3) are primarily regulated electric or natural gas utilities; (3) derive at least 70 percent of operating income from regulated electric or natural gas utility operations; and (4) are not currently a party to a merger or other significant transaction (Company Brief at 80, citing Exh. Unitil-RBH-1, at 10-13). The Company argues that its proxy group consists of a mixed group of electric and gas companies and its selection criteria are generally consistent with the

selection criteria used by the Department in prior Orders (Company Brief at 81, citing D.P.U. 11-01/D.P.U. 11-02, at 385).

The Company maintains that the Attorney General's proxy group analysis fails to consider the underlying reasons for the Company's inability to issue long-term debt (Company Brief at 78-79, citing Exh. AG-JRW-1, at 63; Unitil-RBH-Rebuttal-1, at 2; Company Reply Brief at 23). The Company also challenges the Attorney General's credit rating analysis (Company Reply Brief at 23). Unitil contends that although the Attorney General acknowledges the importance of credit coverage and earned returns in the credit rating process, she fails to discuss whether Unitil would be able to maintain its current BBB+ bond rating given its current financial condition (Company Reply Brief at 23).¹³⁵

4. Analysis and Findings

The use of a proxy group of companies is standard practice in setting an ROE that is comparable to returns on investments of similar risk. See D.P.U. 08-35, at 176-177; D.T.E. 99-118, at 80-82; D.P.U. 92-78, at 109-110; Western Massachusetts Electric Company, D.P.U. 1300, at 97 (1983). The use of a proxy group is especially relevant for evaluation of a cost of equity analysis when a distribution company does not have common stock that is publicly traded. See D.P.U. 08-35, at 176-177; D.T.E. 99-118, at 80-82; D.P.U. 92-78, at 109-110. The Department has stated that companies in the proxy group must

¹³⁵ Unitil posits that, given its present financial indices, its securities would be accorded non-investment grade, or so-called junk bond status (Company Reply Brief at 23-24).

have common stock that is publicly traded,¹³⁶ and must be generally comparable in investment risk. D.P.U. 1300, at 97.

In our evaluation of the proxy groups used by the Company and the Attorney General, we recognize that it is neither necessary nor possible to find a group in which the companies match Unitil in every detail. See D.T.E. 99-118, at 80; D.P.U. 87-59, at 68; Boston Gas Company, D.P.U. 1100, at 135-136 (1982). Rather, we may rely on an analysis that employs valid criteria to determine which companies will be in the proxy group, and that provides sufficient financial and operating data to discern the investment risk of the Company versus the proxy group. See D.T.E. 99-118, at 80; D.P.U. 87-59, at 68; D.P.U. 1100, at 135-136.

The Department expects diligence by parties in assembling proxy groups that will produce statistically reliable analyses required to determine a fair rate of return for the Company. See D.P.U. 10-55, at 480-482. Overly exclusive selection criteria may affect the statistical reliability of a proxy group, especially if such screening criteria result in a limited number of companies in the proxy group. D.P.U. 10-55, at 480-482. The Department expects parties to limit criteria to the extent necessary to develop a broader as opposed to a narrower proxy group. D.P.U. 10-114, at 299; see D.P.U. 10-55, at 481-482. To the extent that a particular company's characteristics differ from those of the others in a proxy group, those differences should be identified in sufficient detail to enable a reviewer to discern any effects on investment risk. D.P.U. 10-114, at 299; D.P.U. 10-55, at 480-482.

¹³⁶ With publicly traded stock, a company would have adequate financial information that is publicly available for evaluation.

We find that Unitil and the Attorney General each employed a set of valid criteria to select their respective proxy groups, and that they each provided sufficient information about the proxy groups to allow the Department to draw conclusions about the relative risk characteristics of the Company versus the members of the proxy groups. See D.P.U. 12-25, at 402; D.P.U. 09-30, at 307. Therefore, the Department will accept those proxy groups to assist the Department in determining the Company's fair and reasonable cost of equity.

Our acceptance of these groups notwithstanding, we identify several factors that the Department will take into consideration in determining the appropriate ROE for the Company. First, as discussed below, both Unitil and the proxy group members have a number of reconciling mechanisms. The extent to which these particular reconciling mechanisms affect a company's cash flow will affect the evaluation of the Company's comparability to the proxy groups. Second, some of the holding companies in the proxy groups also are involved in non-regulated businesses beyond energy distribution activities (Exhs. AG-JRW-4, at 1; AG 8-16, Att. 1; AUS Utilities Reports, passim). All else being equal, these business activities potentially make these companies more risky and potentially more profitable than the Company. D.P.U. 11-01/D.P.U. 11-02, at 385; D.P.U. 10-114, at 300; D.P.U. 09-30, at 309; D.P.U. 07-71, at 135. Therefore, while we accept Unitil's and the Attorney General's proxy groups as a basis for evaluating their cost of equity proposals, we also will consider the particular characteristics of the Company as compared to members of the proxy groups when determining the appropriate ROE.

D. Return on Equity

1. Company's Proposal

In determining its proposed ROE, the Company relied on the discounted cash flow (“DCF”) model (including the constant growth and multi-stage models), capital asset pricing model (“CAPM”), and the bond yield plus risk premium approach (“risk premium model”) (Exhs. Unitil-RBH-1, at 3 & Schs. Unitil-RBH-2; Unitil-RBH-3; Unitil-RBH-4; Unitil-RBH-6; Unitil-RBH-7). These models were applied to market and financial data developed from a proxy group of electric and gas distribution companies (Exh. Unitil-RBH-1, at 10-14). Based on the results of these models,¹³⁷ and considering the Company’s business risks relative to its proxy group, Unitil determined that its ROE is in the range of ten percent to 10.50 percent (Exh. Unitil-RBH-1, at 2). As part of this analysis, the Company states that it considered flotation costs and the effect of the Company’s ROE on its financial integrity (Exh. Unitil-RBH-1, at 3, 37).¹³⁸ Accordingly, the Company requests that the Department approve an ROE for Unitil of 10.25 percent for its electric and gas divisions (Exhs. Unitil-RBH-1, at 2).

¹³⁷ On the low end, the Company’s constant growth analysis produced an ROE of 8.37 percent (Exh. Unitil-RBH-Rebuttal-1, at 62 & Sch. Unitil-RBH-Rebuttal-2, at 3). On the high end, the Company’s CAPM analysis produced an ROE of 11.41 percent (Exh. Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-6).

¹³⁸ Flotation costs are the costs, such as underwriting fees, legal fees, and registration fees, incurred by a publicly traded company when it issues new securities. See D.P.U. 88-135/151, at 115; D.P.U. 85-266-A/271-A at 169.

2. Attorney General's Proposal

In determining her proposed ROE, the Attorney General relied on the DCF model, including the constant growth model, and the CAPM (Exhs. AG-JRW-1, at 4, 37-38, 50; AG-JRW-10; AG-JRW-11). The Attorney General applied these models to market and financial data developed from her own proxy groups of electric and gas companies (Exhs. AG-JRW-1, at 4; AG-JRW-1a; AG-JRW-4; AG-JRW-10). The Attorney General's DCF analysis produced an ROE of 8.65 percent and 8.85 percent for the electric and gas divisions, respectively, while her CAPM analysis resulted in ROEs of 8.10 percent and 8.40 percent for the electric and gas divisions, respectively (Exhs. AG-JRW-1, at 49, 59; AG-JRW-10, at 1; AG-JRW-11, at 1). Giving greater weight to her DCF model, the Attorney General concludes that the appropriate ROE for Until's electric and gas divisions is 8.75 percent (Exh. AG-JRW-1, at 4, 59).

3. Positions of the Parties

a. Attorney General

The Attorney General argues that Unutil's proposed cost of equity is based on "fatally flawed" DCF, CAPM, and risk premium modeling analyses (Attorney General Brief at 69 (electric); Attorney General Reply Brief at 30). The Attorney General asserts that her recommended ROE satisfies the requirements of Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591 (1944) ("Hope") and Bluefield Water Works and Improvement Company v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) ("Bluefield") (Attorney General Brief at 49 (electric)).

In support of her position, the Attorney General argues that the Company's gross domestic product ("GDP") growth rate of 5.37 percent in its multi-stage DCF model is excessive; the Company's CAPM analysis produces results that vastly overstate long-term growth projections; and the Company's risk premium modeling produces an inflated measure of the risk premium because it is based on historic authorized ROEs less Treasury yields, and then is applied to projected Treasury yields that always are forecasted to increase (Attorney General Brief at 57, 65, 67 (electric), citing Exh. AG-JRW-1, at 67; Attorney General Reply Brief at 34-35, citing Exh. AG-JRW-1, at 68-72).

Further, the Attorney General claims that Unitil's BBB+ S&P issuer credit rating is about the same as the average credit rating of BBB+ and A- for her electric proxy group, and slightly higher than her gas proxy group (Attorney General Brief at 55 (electric); Attorney General Reply Brief at 31). Thus, the Attorney General asserts that an ROE of 8.75 percent satisfies the Hope and Bluefield directives that established returns on capital should be:

- (1) comparable to returns investors expect to earn on other investments of similar risk;
- (2) sufficient to assure confidence in the company's financial integrity; and (3) adequate to maintain and support a company's credit and to attract capital (Attorney General Brief at 49-50 (electric)).

b. Company

Unitil argues that its proposed ROE of 10.25 percent reflects current capital market conditions and is the result of a number of widely accepted common equity cost models (Company Brief at 77, citing Exh. Unitil-RBH-1, at 3). Further, Unitil argues that its

proposed ROE of 10.25 percent would support the Company's financial integrity relative to its peers, whereas the Attorney General proposed 8.75 percent recommendation would dilute the Company's coverage ratio, create additional disadvantages, and increase its relative risk and its cost of equity (Company Brief at 104-105). Unitil contends that over the two-year period ending September 15, 2015, while public utility commissions have authorized ROEs of ten percent or higher for 31 electric and natural gas utilities, none have authorized a return as low as 8.75 percent (Company Brief at 95, citing Exh. Unitil-RBH-Rebuttal-1, at 10). Unitil contends that because the Attorney General's recommended ROE is so far below what is being authorized for "comparable" companies, it is not in accord with the constitutional standards of Hope and Bluefield (Company Brief at 95, citing Attorney General v. Department of Public Utilities, 392 Mass. 266 (1984); Company Reply Brief at 24). In this regard, the Company contends that its proposed ROE of 10.25 percent is based, in part, on a proxy group of electric and gas distribution companies that, in general, already have implemented revenue stabilization mechanisms and have infrastructure tracking mechanisms (Company Brief at 90, citing Exh. Unitil-RBH-1, Sch. RBH-11). Thus, according to Unitil, any reduction in the ROE because the Company has a decoupling and infrastructure tracking mechanism would be inappropriate (Company Brief at 91). Rather, Unitil argues that the Department must consider the negative impact on ROE of decoupling and the need for a gas system enhancement plan ("GSEP") type mechanism for a company like Unitil absent such a mechanism (Company Brief at 91).¹³⁹

¹³⁹ General Laws c. 164, § 145 was added by Section 2 of the Acts of 2014, c. 149, An

Finally, the Company argues that the Department recently allowed NSTAR Gas an ROE of 9.8 percent and made no specific reduction for revenue decoupling or GSEP (Company Brief at 106, citing D.P.U. 14-150; Company Reply Brief at 25). The Company argues: (1) that Unitil is far riskier than NSTAR Gas because of Unitil's chronic under earnings and its inability to issue long-term debt; and (2) Unitil's risk profile is greater than that of the Attorney General's proxy groups, thus warranting a higher cost of equity (Company Brief at 106; Company Reply Brief at 23).

4. Discounted Cash Flow Model

a. Company's Proposal

The DCF model is based on the premise that a stock's current price is equal to the present value of the expected future cash flows that investors expect to receive (Exh. Unitil-RBH-1, at 17). The Company used both a constant growth and a multi-stage DCF model (Exhs. Unitil-RBH-1, at 17, 23 & Schs. Unitil-RBH-2; Unitil-RBH-3; Unitil-RBH-4; Unitil-RBH-6; Unitil-RBH-7).

The constant growth DCF model comprises a forward-looking dividend yield component and an expected dividend growth rate into perpetuity as represented by the following formula:

$$P_0 = D_1 / (1+k) + D_2 / (1+k)^2 + \dots + D_{\infty} / (1+k)^{\infty}$$

Act Relative to Natural Gas Leaks, to permit 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. D.P.U. 14-130, at 1, 2-5.

where P_0 is today's stock price, D_1 , D_2 , etc., are all expected future dividends, and k is the discount rate (i.e., the investor's required ROE) (Exh. Unitil-RBH-1, at 17). The Company calculated the dividend yield component based on the current annualized dividends of its proxy group (Exh. Unitil-RBH-1, at 18). For the expected growth rate, the Company used a consensus of the Zacks Investment Research, Inc. ("Zacks"), Thomson Reuters First Call ("First Call"), and Value Line surveys to estimate a long-term earnings growth rate (Exhs. Unitil-RBH-1, at 21-22; Unitil-RBH-Rebuttal-1, at 61 & Sch. Unitil-RBH-Rebuttal-2).

To address what it contends are certain simplifying assumptions underlying the constant growth model, Unitil also used a multi-stage DCF model (Exh. Unitil-RBH-1, at 23). This model employs multiple earnings growth rate and payout rate assumptions (Exh. Unitil-RBH-1, at 23-28). Earnings growth and payout ratio assumptions change throughout the three stages of this model (Exh. Unitil-RBH-1, at 23-28).¹⁴⁰ In particular, the Company employed a long-term GDP growth rate of 5.37 percent (Exh. Unitil-RBH-1, at 27).

The Company's constant growth DCF model produced a cost of equity range of 8.37 percent to 10.28 percent (Exhs. Unitil-RBH-1, at 23; Unitil-RBH-Rebuttal-1, at 62 &

¹⁴⁰ In the first stage, earnings growth is based on average earnings-per-share growth as reported by Value Line, Zacks, and First Call, and a company-specific payout ratio from Value Line is used (Exh. Unitil-RBH-1, at 27). In the second stage, earnings growth transitions to a long-term GDP growth rate and company-specific payout ratios transition to the long-term industry payout ratio (Exh. Unitil-RBH-1, at 27). In the third stage, earnings growth is based on the long-term GDP growth rate, while the payout ratio is based on the long-term expected payout ratio (Exh. Unitil-RBH-1, at 27). The terminal value is based on the expected dividend divided by the difference between the cost of equity (i.e., the discount rate) and the long-term expected growth rate (Exh. Unitil-RBH-1, at 24-25, 27).

Sch. Unitil-RBH-Rebuttal-2). Unitil's multi-stage DCF model produced a cost of equity range of 9.36 percent to 9.98 percent (Exhs. Unitil-RBH-1, at 28; Unitil-RBH-Rebuttal-1, at 62 & Sch. Unitil-RBH-Rebuttal-3).

b. Attorney General's Proposal

The Attorney General relies on a constant growth DCF model, reasoning that the public utility business is in the steady-state (or constant-growth) stage of a three-stage DCF (Exh. AG-JRW-1, at 38). To determine the cost of equity using her constant growth DCF model, the Attorney General summed the estimated dividend yield and growth rates of her proxy group (Exh. AG-JRW-1, at 49). The Attorney General calculated the DCF dividend yield for the proxy group using the current annual dividend and the 30-day, 90-day, and 180-day average stock prices based on data supplied by Yahoo! Inc. (Exhs. AG-JRW-1, at 39; AG-JRW-10, at 2). Using this method, the median dividend yields for the Attorney General's electric proxy group range from 3.70 percent to 3.80 percent (Exhs. AG-JRW-1, at 39; AG-JRW-10, at 2). Within this range, the Attorney General chose 3.80 percent as the dividend yield for the electric proxy group (Exhs. AG-JRW-1, at 39; AG-JRW-10, at 2). Using this method, the median dividend yields for the Attorney General's gas proxy group range from 3.40 percent to 3.50 percent (Exhs. AG-JRW-1, at 39; AG-JRW-10, at 2). Within this range, the Attorney General chose 3.45 percent as the dividend yield for the gas proxy group (Exhs. AG-JRW-1, at 38; AG-JRW-10, at 2).

The dividend yield is obtained by dividing the annualized expected dividend in the coming quarter by the current stock price (Exh. AG-JRW-1, at 40). To annualize the expected

dividend, the Attorney General multiplied the expected dividend for the coming quarter by four and multiplied the result by one-half of the expected growth rate (Exh. AG-JRW 1, at 40).

In developing the expected growth rate, the Attorney General relies on the historic and projected growth rates of earnings per share, dividends per share, and book value per share provided by Value Line and the earnings per share growth forecasts of Wall Street analysts provided by Yahoo! Inc., Thomson Reuters, and Zacks (Exh. AG-JRW-1, at 41). Although the Attorney General assumes that earnings per share and dividends per share will exhibit similar growth rates over the very long term, she relies on dividends per share and book value per share to balance what she states are the shortcomings of relying solely on earnings per share as a proxy (i.e., an upward bias among Wall Street analysts) (Exh. AG-JRW-1, at 44-45). The DCF growth rate for the electric and gas proxy groups used in the Attorney General's analysis are 4.75 percent and 5.30 percent, respectively (Exhs. AG-JRW-1, at 49; AG-JRW-10, at 1).

The Attorney General added the adjusted dividend yield and the estimated growth rate to determine a cost of equity for the electric and gas proxy groups (Exhs. AG-JRW-1, at 49; AG-JRW-10, at 1). The DCF analysis performed by the Attorney General yields a cost of equity of 8.65 percent and 8.85 percent for the electric and gas proxy groups, respectively (Exhs. AG-JRW-1, at 49; AG-JRW-10, at 1).

c. Positions of the Parties

i. Attorney General

The Attorney General argues that her DCF-estimated cost of equity of 8.65 percent and 8.85 percent for the electric and gas divisions (based on a 3.8 percent and 3.45 percent growth adjusted dividend yield and a 4.75 percent and 5.30 percent growth rate, respectively) appropriately supports her proposed ROE for Unitil (Attorney General Brief at 55 (electric), citing Exh. AG-JRW-1, at 49). The Attorney General maintains that her model incorporates both historical and projected growth rate measures and is not overly reliant on the earnings per share forecasts of Wall Street analysts that she argues are “overly optimistic and upwardly biased” (Attorney General Brief at 56 (electric), citing Exh. AG-JRW-1, at 44-49).

The Attorney General argues that the Department should reject the DCF analysis that supports Unitil’s proposed ROE for several reasons. First, the Attorney General argues that the Company’s analysis has given little weight to its constant-growth DCF results (Attorney General Brief at 57 (electric), citing Exh. AG-JRW-1, at 67). In this regard, the Attorney General notes that the average of Company’s mean constant-growth and multi-state DCF are 9.15 percent and 9.48 percent (Attorney General Brief at 57 (electric), citing Exh. AG-JRW-1, at 67). These results are respectively 115 basis points and 77 basis points below the Company’s recommended ROE of 10.25 percent (Attorney General Brief at 57 (electric)).

Second, the Attorney General asserts that the Company’s GDP growth rate of 5.37 percent in its multi-stage DCF model is excessive, is unsupported by theoretical or empirical evidence, is not reflective of economic growth in the United States, and is about

100 basis points above projections of long-term GDP growth (Attorney General Brief at 57 (electric), citing Exh. AG-JRW-1, at 67; Attorney General Reply Brief at 34-35, citing Exh. AG-JRW-1, at 68-72). The Attorney General claims that despite some fluctuations, nominal GDP growth rates have declined over the years and have been in the 3.50 percent to four percent range over the five years leading up to 2014 (Attorney General Brief at 58-59 (electric), citing Exh. AG-JRW-14, at 3-4).¹⁴¹ The Attorney General contends that the compounded GDP growth rate of 6.63 percent over the 50 years since the mid-1960s belies a monotonic and significant decline in nominal GDP growth rates in recent decades (Attorney General Brief at 59 (electric), citing Exh. AG-JRW-1, at 70). Therefore, the Attorney General concludes that a more appropriate nominal GDP growth rate figure for today's economy is in the range of four to five percent (Attorney General Brief at 59 (electric), citing Exhs. AG-JRW-1, at 70-71; AG-JRW-14, at 5; Attorney General Reply Brief at 34).

Finally, the Attorney General argues that the Company's DCF analyses are inconsistent in their use of historic versus projected data (Attorney General Brief at 60 (electric), citing Exh. AG-JRW-1, at 71-72). In particular, the Attorney General argues that in developing a DCF growth rate for its constant-growth DCF analysis, the Company ignored historical

¹⁴¹ The Attorney General maintains that nominal GDP has grown at a compounded rate of 6.63 percent since 1960, and grew from six percent to over twelve percent from the 1960s to the early 1980s due largely to inflation and higher prices (Attorney General Brief at 58 (electric), citing Exh. AG-JRW-14, at 1, 2). The Attorney General adds that with the exception of an uptick during the mid-2000s, economic growth in the United States has slowed considerably in recent decades, with nominal GDP growth rates declining due to lower real GDP growth and lower inflation (Attorney General Brief at 58-59 (electric), citing Exh. AG-JRW-14, at 3-4).

earnings per share, dividends per share, book value per share data, and relied solely on inflated long-term earnings per share growth rate projections (Attorney General Brief at 60 (electric), citing Exh. AG-JRW-1, at 71-72). In addition, the Attorney General asserts that, in developing a terminal DCF growth rate for its multi-stage growth DCF analysis, the Company ignored well-known, long-term real GDP growth rate forecasts of the Congressional Budget Office and Energy Information Administration and, instead, relied solely on historic data dating back to 1929 (Attorney General Brief at 60 (electric), citing Exh. AG-JRW-1, at 71-72; Attorney General Reply Brief at 35).

ii. Company

Unitil disputes the Attorney General's assertion that GDP growth rate is not the appropriate rate to use for purpose of measuring DCF long-term growth rate as applied to the Company's proxy group (Company Brief at 97, citing Attorney General Brief at 58 (electric)). First, the Company argues that the assumption that GDP growth is a reasonable measure of long-term growth is common in cost of equity analyses (Company Brief at 97). Unitil asserts that Morningstar, Inc., a source relied upon by the Attorney General for her market risk premium estimates as part of her analysis, describes an approach for calculating the long-term growth estimate that is similar to that which is included in the Company's model (Company Brief at 97, citing Exh. Unitil-RBH-Rebuttal-1, at 31 n.66).

The Company also asserts that the Attorney General treated certain data and assumptions in an inconsistent manner (Company Brief at 92). For example, Unitil maintains that the Attorney General used the earnings per share growth rates of Wall Street analysts in

estimating a DCF equity cost rate, while at the same time she stated that the long-term earnings per share growth rates of Wall Street analysts are optimistic and upwardly biased (Company Brief at 92-93). The Company also asserts that the Attorney General's calculation of the expected growth rate cannot be replicated (Company Brief at 93, citing Exh. Unitil-RBH-Rebuttal-1, at 8). In addition, Unitil argues that its updated long-term GDP growth rate forecast of 5.26 percent is not overstated (Company Brief at 98, citing Exh. Unitil-SCH-Rebuttal-1, at 34). The Company asserts that the Attorney General's own expected growth rate for her natural gas proxy group of 5.30 percent is nearly identical to the Company's calculation of its long-term GDP growth (Company Brief at 101, citing Exh. AG-JRW-1, at 49). Unitil maintains that from 1990 to 2008, the nominal GDP growth rate was consistently in the five percent to seven percent range (Company Brief at 98, citing Exh. Unitil-RBH-Rebuttal-1, at 32, Chart 6). Further, the Company contends that the long-run average growth rate of 6.20 percent is 94 basis points above the Company's proposed GDP growth rate of 5.26 percent (Company Brief at 98, citing Exh. Unitil-RBH-Rebuttal-1, at 34). In addition, the long-run growth rate is consistent with data presented by the Attorney General, such as the average long-term growth rate in nominal GDP, the S&P 500 Index,¹⁴² the S&P earnings per share, and S&P 500 dividends per share (Company Brief at 98, citing Exh. Unitil-RBH-Rebuttal-1, at 33-34).

¹⁴² The S&P stock market index is based on the market capitalization of 500 large companies having common stock listed on the New York Stock Exchange or NASDAQ.

d. Analysis and Findings

In developing their proposed ROEs, both the Company and the Attorney General use a form of the DCF model that assumes an infinite investment horizon and a constant growth rate (Exhs. Unitil-RBH-1, at 17-19; AG-JRW-1, at 35-36). This model has a number of very strict assumptions (e.g., the infinite investment horizon and dividend growth at a constant rate in perpetuity) (Exh. Unitil-RBH-1, at 19). These assumptions affect the estimates of the cost of equity. D.P.U. 10-114, at 312; D.P.U. 09-39, at 387.

Because regulation establishes a level of authorized earnings for a utility that, in turn, implicitly influences dividends per share, estimation of the growth rate from such data is an inherently circular process. D.P.U. 10-114, at 312; D.P.U. 10-55, at 512; D.P.U. 09-30, at 357-358. In addition, the DCF model includes an element of circularity when applied in a rate case because investors' expectations depend upon regulatory decisions. D.P.U. 10-70, at 253; D.P.U. 09-30, at 357-358. Consequently, this circularity affects the results of both the Company's and the Attorney General's DCF models. The Attorney General's DCF model places less emphasis on analyst forecasts of earnings per share growth rates which, to some extent, compensates for this circularity (see Exh. AG-JRW-1, at 44).

Nonetheless, the Department finds that both the Company's and the Attorney General's approaches to the DCF model are logical and reasonable. Further, there is no evidence to establish that investors rely overwhelmingly on one approach over the other. Therefore, we find that both approaches provide a credible basis for evaluating a determination of Unitil's allowed ROE.

In addition, the Company and the Attorney General use different growth rates in their respective DCF analyses (Exhs. Unitil-RBH-1, at 19-21 & Schs. Unitil-RBH-Rebuttal-2, Unitil-RBH-Rebuttal-3, Unitil-RBH-Rebuttal-4; AG-JRW-1, at 40-42; AG-JRW-10).

Determining the appropriate long-term growth expectations of investors in a DCF analysis can be difficult and controversial (see Exhs. Unitil-RBH-1, at 19; AG-JRW-1, at 38-40). The Company relies on a forward-looking growth analysis using earnings per share, based on the assumption that investors form their investment decisions based on expectations of growth in earnings and not dividends (Exhs. Unitil-RBH-1, at 21-22; Unitil-RBH-Rebuttal-1, at 26 & Schs. Unitil-RBH-Rebuttal-2, Unitil-RBH-Rebuttal-3). The Attorney General bases her growth rate on a historical and forward-looking growth analysis using earnings per share, dividends per share, book value per share, and retention growth rates (Exh. AG-JRW-1, at 41-42). The Attorney General emphasizes dividend growth over earnings growth because of the alleged upward bias of forecasts by financial analysts (Exhs. AG-JRW-1, at 44-45; AG-JRW-10, at 3, 4, 5). The Department, cognizant that analysts' earnings forecast appear to be upwardly biased when compared with actual outcomes, gives some weight to the Attorney General's preference for the use of dividend growth as a more reliable input for purposes of determining the appropriate DCF growth rate (Exh. AG-JRW-1, at 45). Accordingly, the Department will take this bias into consideration in evaluating the Company's DCF analysis. D.P.U. 13-75, at 302.

5. Capital Asset Pricing Model

a. Company's Proposal

The Company used the CAPM to estimate the cost of equity for its proxy group (Exh. Unitil-RBH-1, at 51). The application of the Company's CAPM resulted in eight individual cost of equity estimates, ranging from 9.72 percent to 11.41 percent (Exhs. Unitil-RBH-1, at 32, 54; Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-6). Unitil considered these results when determining its proposed ROE (Exhs. Unitil-RBH-1, at 6-7; Unitil-RBH-Rebuttal-1, Sch. Unitil-RBH-Rebuttal-6).

The CAPM is a market-based investment model based on capital markets theory and modern portfolio theory. In the CAPM, the required rate of return on common equity is equal to the expected risk free rate of return plus a premium for the implicit systematic risk of the security (Exh. Unitil-RBH-1, at 29). There are three necessary components to calculate the cost of equity in the CAPM: (1) an expected risk-free rate of return; (2) the market risk premium; and (3) the beta, a measure of systematic risk (Exhs. Unitil-RBH-1, at 29; Unitil-RBH-Rebuttal-1, at 62 & Sch. Unitil-RBH-Rebuttal-6).

The Company used the current and forecasted 30-year Treasury bond yields to arrive at current, near-term, and long-term risk-free rates (Exhs. Unitil-RBH-1, at 30; Unitil-RBH-Rebuttal-1, at 62 & Sch. Unitil-RBH-Rebuttal-6). The CAPM market risk premium is derived from the total return on the overall market minus the risk-free rate of return. The Company developed ex-ante market risk premiums based on data from both Bloomberg Professionals ("Bloomberg") and Value Line by calculating their respective

estimated market required returns less the Treasury bond yield (Exhs. Unitil-RBH-1, at 30; Unitil-RBH-Rebuttal-1, at 62 & Schs. Unitil-RBH-Rebuttal-4, Unitil-RBH-Rebuttal-6). The Company obtained beta coefficients for its proxy group from Bloomberg (i.e., 0.682) and Value Line (i.e., 0.764) (Exh. Unitil-RBH-Rebuttal-1, at 63 & Schs. Unitil-RBH-Rebuttal-5, Unitil-RBH-Rebuttal-6).

Using these beta coefficients in combination with separate Bloomberg and Value Line data and current, near-term, and long-term risk-free rates, Unitil calculated four Bloomberg market DCF-derived CAPM results and four Value Line market DCF-derived CAPM results (Exhs. Unitil-RBH-1, at 30-31; Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-6).

b. Attorney General's Proposal

The Attorney General used a traditional CAPM approach in which the cost of equity is equal to the sum of the interest rate on risk-free bonds and an equity risk premium (i.e., the excess return that an investor expects to receive above the risk-free rate for investing in stocks) (Exhs. AG-JRW-1, at 50-51; AG-JRW-11, at 1). The Attorney General's CAPM analysis resulted in a cost of equity of 8.10 percent and 8.40 percent for the electric and gas divisions respectively (Exhs. AG-JRW-1, at 58; AG-JRW-11, at 1).

In her analysis, the Attorney General used the upper bound of the six-month average yield on 30-year Treasury bonds (i.e., four percent) as the risk-free rate (Exh. AG-JRW-1, at 51-52). The Attorney General then calculated an estimated market risk premium of 5.5 percent for the electric and gas proxy groups, based on the midpoint of a range of market risk premiums of four percent to six percent (Exhs. AG-JRW-1, at 58; AG-JRW-11, at 1, 5-6).

To calculate the beta coefficient, the Attorney General performed a regression analysis of the returns of the companies in her proxy group against the return of the S&P 500 representing the market, resulting in a median beta coefficient of 0.75 percent and 0.80 percent for the electric and gas divisions, respectively (Exhs. AG-JRW-1, at 52-53; AG-JRW-11, at 1, 3). The Attorney General multiplied the estimated market risk premium of 5.5 percent by the beta coefficients of 0.75 percent and 0.80 percent to produce an expected equity risk premium of 4.10 percent and 4.4 percent for the electric and gas divisions, respectively (see Exhs. AG-JRW-1, at 58; AG-JRW-11, at 1). When the risk-free rate of four percent is added to the expected risk premiums of 4.10 percent and 4.4 percent for the electric and gas divisions, respectively, the result is a cost of equity of 8.10 percent and 8.4 percent for the electric and gas divisions, respectively (see Exhs. AG- JRW-1, at 58; AG-JRW-11, at 1).

c. Positions of the Parties

i. Attorney General

The Attorney General argues that the Company's CAPM analysis produces results that vastly overstate long-term growth projections (Attorney General Brief at 65 (electric)). According to the Attorney General, the Company's primary errors are with its use of inflated market risk premiums of 10.38 percent and 10.24 percent (Attorney General Brief at 64 (electric)).¹⁴³ Further, the Attorney General contends that the Company's long-term earnings

¹⁴³ The Attorney General refers to the market risk premium figures and long-term earnings per share growth rates from Unitil's initial filing and not those in the CAPM update provided by the Company on September 15, 2015 (Attorney General Brief at 65 (electric)).

per share growth rates of 11.04 percent and 10.93 percent reflect those overly optimistic and upwardly biased Wall Street analysts' forecasts (Attorney General Brief at 64-65 (electric), citing Exh. AG-JRW-1, at 45).

In contrast, the Attorney General maintains that long-term economic, earnings, and dividend growth rates in the United States indicate that historical long-term growth rates are in the five percent to seven percent range (Attorney General Brief at 65 (electric), citing Exhs. AG-JRW-1, at 75).¹⁴⁴ Moreover, the Attorney General asserts that more recent trends suggest lower future economic growth than the long-term historic GDP growth, in the range of four percent to five percent for today's economy and the projected long-term GDP growth rate forecasts by economists and government agencies is about 100 basis points below the Company's long-term growth rate of 5.37 percent (Attorney General Brief at 65 (electric), citing Exh. AG-JRW-1, at 75).¹⁴⁵

Finally, the Attorney General argues that given current low inflation and limited economic growth, the Company's projected earnings growth rates, implied expected stock market returns, and equity risk premiums are not indicative of the realities of the economy (Attorney General Brief at 66 (electric), citing Exh. AG-JRW-1, at 76-77). Based on the

¹⁴⁴ The Attorney General evaluated the growth in nominal GDP, S&P 500 stock price appreciation, and S&P 500 earnings per share and dividends per share growth since 1960 (Attorney General Brief at 58 (electric), citing Exh. AG-JRW-14).

¹⁴⁵ The Attorney General refers to the long-term growth rate from Util's initial filing and not to the updated long-term growth rate provided by the Company on September 15, 2015 (Attorney General Brief at 65 (electric)).

above, the Attorney General argues that the Department should reject the Company's proposed CAPM analysis and recommendations (Attorney General Brief at 66 (electric)).

ii. Company

The Company dismisses the Attorney General's claim that Unitil's CAPM estimates are not consistent with historic or projected economic and earnings growth in the U.S. (Company Brief at 101). Further, the Company contends that the method used to develop the expected market return is consistent with a study cited by the Attorney General and that the expected growth rates developed using this method are highly consistent with observed levels (Company Brief at 102, citing Exh. Unitil-RBH-Rebuttal-1, at 40-43 & Chart 7).

For the reasons mentioned above, Unitil maintains that the Company's method is consistent with those used by sources on which the Attorney General relies, produces estimates that are in line with historical capital appreciation rates, and is consistent with the sustainable growth method use by the Attorney General in her DCF analyses (Company Brief at 102).

d. Analysis and Findings

The Department has previously found that the traditional CAPM as a basis for determining a utility's cost of equity has limited value because of a number of questionable assumptions that underlie the model. See D.P.U. 10-114, at 318; D.P.U. 10-70, at 270; D.P.U. 08-35, at 207; D.T.E. 03-40, at 359-360; Commonwealth Electric Company, D.P.U. 956, at 54 (1982).¹⁴⁶ For example, the Department has not been persuaded that

¹⁴⁶ In D.P.U. 08-35, at 207 n.131, the Department identified the following questionable assumptions used in the CAPM: (1) capital markets are perfect with no transaction costs, taxes, or impediments to trading, all assets are perfectly marketable, and no one

long-term government bonds are the appropriate proxy for the risk-free rate and has found that the coefficient of determination for beta is generally so low that the statistical reliability of the results is questionable. D.T.E. 01-56, at 113; D.P.U. 93-60, at 256-257; D.P.U. 92-78, at 113; D.P.U. 88-67 (Phase I) at 182-184.

The Attorney General's CAPM analysis employs a risk-free rate of four percent, using the upper bound of the prior six months' 30-year Treasury bond rates as a proxy (Exh. AG-JRW-1, at 51-52, 58). Current federal monetary policy that is intended to stimulate the economy has pushed treasury yields to near-historic lows (Exh. AG-JRW-1, at 19). Consequently, the Department has found that a CAPM analysis based on current treasury yields may tend to underestimate the risk-free rate over the long term and, thereby, understate the required ROE. See D.P.U. 14-150, at 350; D.P.U. 12-25, at 427; D.P.U. 11-01/D.P.U. 11-02, at 416.

The Company develops a range of risk-free rates from 2.89 percent to 3.40 percent, relying on the current 30-year Treasury bond rates, as well as the near- and long-term projected 30-year Treasury bond rates based on interest rate forecasts published in Blue Chip

trader is significant enough to influence price; (2) there are no restrictions to short-selling securities; (3) investors can lend or borrow funds at the risk-free rate; (4) investors have homogeneous expectations (i.e., investors possess similar beliefs on the expected returns and risks of securities); (5) investors construct portfolios on the basis of the expected return and variance of return only, implying that security returns are normally distributed; and (6) investors maximize the expected utility of the terminal value of their investment at the end of one period.

Financial Forecasts (Exh. Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-6).¹⁴⁷

The CAPM is based on investor expectations and, therefore, it is appropriate to use a prospective measure for the risk-free rate component. The Department has found that Blue Chip Financial Forecasts is widely relied on by investors and provides a useful proxy for investor expectations for the risk-free rate. D.P.U. 13-75, at 314.

The Attorney General calculated a market risk premium of 5.5 percent, based on her analysis of numerous surveys of financial professionals, including financial forecasters, chief financial officers, and academics (Exhs. AG-JRW-1, at 57; AG-JRW-11, at 1). Alternatively, the Company calculates a market risk premium range of 9.72 percent to 11.41 percent based on DCF analyses (Exh. Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-6). Because the CAPM is considered an ex-ante, forward-looking model that recognizes that investors are generally risk averse and will demand higher returns in exchange for assuming higher levels of investment risk, the Department finds that the Company's approach based on DCF analyses is less reliable than the survey results of financial professionals. D.P.U. 13-90, at 225-226; D.P.U. 13-75, at 314.

The Company asserts that investors rely on financial analysts' forecasts in making investment decisions and, therefore, earnings per share forecasts are superior to other measures of growth in predicting stock prices (see Exh. Unitil-RBH-1, at 20). The Department notes that a 2014 survey of over 8,000 academics, financial analysts, and

¹⁴⁷ Blue Chip Financial Forecasts is a monthly publication of Wolters Kluwer Law & Business.

companies estimates a market risk premium of five percent, which is far lower than the 9.72 percent to 11.41 percent range used in Unitil's analysis (Exhs. Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-6; AG-JRW-1, at 58; AG-JRW-11, at 1).¹⁴⁸ Accordingly, the Department places more weight on the Attorney General's approach to developing a market risk premium.

Based on the above considerations, the Department will place limited weight on the results of the respective CAPM estimates in determining the appropriate ROE. Based on the above considerations, to the limited extent that we rely on CAPM estimates, the Department gives more weight to the Attorney General's proposed CAPM.

6. Risk Premium Model

a. Company's Proposal

The risk premium model is based on the concept that investing in common stock is riskier than investing in debt and, therefore, investors require a higher rate of return for equity (Exh. Unitil-RBH-1, at 32).¹⁴⁹ In the bond yield plus risk premium model used by the Company, the cost of equity is derived by calculating a risk premium over the returns available

¹⁴⁸ See Pablo Fernandez, Pablo Linares, and Isabel Fernandez Acin, "Market Risk Premium Used for 88 Countries in 2014: A Survey with 8,288 Answers" (June 20, 2014).

¹⁴⁹ The equity risk premium is defined as the incremental return that an equity investment provides over the risk-free rate (Exh. Unitil-RBH-1, at 33 n.26). The risk premium method of determining the cost of equity recognizes that common equity capital is more risky than debt from an investor's standpoint, and that investors require higher returns on stocks than on bonds to compensate for the additional risk. The general approach is relatively straightforward: (1) determine the historical spread between the return on debt and the ROE; and (2) add this spread to the current debt yield to derive an estimate of current equity return requirements. D.P.U. 13-75, at 316 n.201.

to bondholders (Exh. Unitil-RBH-1, at 32). The Company's risk premium analysis produced a cost of equity range of 10.01 percent to 10.59 percent (Exh. Unitil-RBH-Rebuttal-1, at 63 & Sch. Unitil-RBH-Rebuttal-7).

Unitil calculated the risk premium as the difference between: (1) actual authorized returns using data from 1,449 electric utility and 1,015 gas utility rate proceedings between January 1, 1980, and September 15, 2015; and (2) the then-prevailing long-term Treasury yield (i.e., 30-year) (Exhs. Unitil-RBH-1, at 33; Unitil-RBH-Rebuttal-1, at 63). To account for the forward-looking return and interest rates, Unitil calculated the average return period between the filing of this case and the approval of rates, as well as the level of interest rates during the pendency of the proceedings (Exh. Unitil-RBH-1, at 33). To assess the relationship between the 30-year Treasury yield and the equity risk premium, the Company relied on a statistical analysis that concluded there was a statistically significant inverse relationship between the 30-year Treasury yield and the equity risk premium (Exhs. Unitil-RBH-1, at 34-35; Unitil-RBH-Rebuttal-1, Schs. Unitil-RBH-Rebuttal-7, Unitil-RBH-Rebuttal-8, Unitil-RBH-Rebuttal-9, Unitil-RBH-Rebuttal-10).

b. Positions of the Parties

i. Attorney General

The Attorney General asserts that the Company's application of the bond yield plus risk premium model is flawed for three reasons (Attorney General Brief at 67 (electric)). First, the Attorney General argues that the Company's method produces an inflated measure of the risk premium because it is based on historic authorized ROEs less Treasury yields, and then is

applied to projected Treasury yields that always are forecasted to increase (Attorney General Brief at 67 (electric)). Second, the Attorney General argues that the Company's overall approach improperly uses authorized ROEs as an input to the model, and that such an approach is more of a gauge of public utility commission behavior than a consideration of investor behavior (Attorney General Brief at 67 (electric), citing Exh. AG-JRW-1, at 79-80). In this regard, the Attorney General contends that in setting ROEs, regulatory commissions evaluate capital market data such as dividend yields, expected growth rates, interest rates, as well as rate-case-specific regulatory information (Attorney General Brief at 67 (electric), citing Exh. AG-JRW-1, at 79-80). Further, the Attorney General argues that the Company's analysis overstates the risk premium because Unitil estimates the risk premium using historical interest rate data, and then applies this data to forecasted interest rates (Attorney General Brief at 67 (electric), citing Exh. AG-JRW-1, at 79-80).

The Attorney General contends that a comparison of the Company's risk premium results to actual authorized ROEs for electric utility and gas distribution companies confirms the errors in the Company's approach (Attorney General Brief at 67-68 (electric)). Finally, the Attorney General claims that Unitil's long-term projected Treasury bond yield of 5.0 percent is 200 basis points above current yields and, therefore, is not reasonable (Attorney General Brief at 67 (electric), citing Exh. AG-JRW-1, at 78-79).

ii. Company

Unitil disputes the Attorney General's argument that the Company's bond yield plus risk premium approach gauges regulatory commission behavior rather than investor behavior

(Company Brief at 103). The Company argues that regulatory decisions reflect market-based analyses (Company Brief at 103, citing Exh. Unitil-RBH-Rebuttal-1, at 46). Further, the Company maintains that because authorized returns are publicly available, such data are to some degree reflected in investors' return expectations and requirements. For these reasons, the Company argues that authorized returns are a reasonable measure of investor-required returns (Company Brief at 103, citing Exh. Unitil-RBH-Rebuttal-1, at 46).

Finally, Unitil disputes the Attorney General's assertion that (1) it has not taken into consideration the specific aspects of the various cases from which the authorized ROEs were taken, and (2) the distinction between litigated and settled cases somehow invalidates the risk premium analysis (Company Brief at 103-104, citing Attorney General Brief at 67). The Company points out that it has reviewed over 1,000 cases that took place over many economic cycles, which should mitigate the Attorney General's concern (Company Brief at 103-104, citing Exh. Unitil-RBH-Rebuttal-1, at 47). Unitil maintains that of the 2,474 rate cases in the risk premium analysis, nearly three-quarters of these proceedings were fully litigated (Company Brief at 104). The Company further notes that based on more recent data (i.e., from 2012 through 2015), the difference in average authorized returns between fully-litigated proceedings and cases that were ultimately settled was only four to seven basis points (Company Brief at 104, citing Exh. Unitil-RBH-Rebuttal-1, at 47-48). Consequently, the Company argues that the same inverse relationship between interest rates and the equity risk premium is present whether the analysis includes fully litigated rate cases, settled rate cases, or

both (Company Brief at 103, citing Exhs. Unitil-RBH-Rebuttal-1, at 48; Unitil-RBH-Rebuttal-1, Schs. Unitil-RBH-Rebuttal-7, Unitil-RBH-Rebuttal-10).

c. Analysis and Findings

The Department has repeatedly found that an equity risk premium analysis can overstate the amount of company-specific risk and, therefore, the cost of equity. See D.P.U. 10-114, at 322; D.P.U. 88-67 (Phase I) at 182-184. More specifically, the Department has found that the return on long-term corporate or public utility bonds may have risks that could be diversified with the addition of common stock in investors' portfolios and, therefore, the risk premium model overstates the risk accounted for in the resulting cost of equity. D.P.U. 10-114, at 322; D.P.U. 90-121, at 171; D.P.U. 88-67 (Phase I) at 182-183. Nonetheless, the Department has acknowledged the value of the risk premium model as a supplemental approach to other ROE models. D.P.U. 10-114, at 322; D.P.U. 07-71, at 137; D.T.E. 99-118, at 85-86.

In the instant case, the Company's risk premium analysis is flawed. First, the Department has recognized the circularity inherent in the use of authorized utility returns to derive the risk premium. D.P.U. 13-75, at 319; D.P.U. 90-121, at 171; D.P.U. 88-67 (Phase I) at 182-183. In addition, the Department has criticized the use of corporate bond yields in determining the base component of the risk premium analysis, and we are not convinced that the Company's substitution of projected Treasury debt yields is a better approach. D.P.U. 09-39, at 388-389; D.P.U. 08-35, at 202; D.P.U. 90-121, at 171. The Company suggests that the risk premium approach is forward-looking and, therefore, using the

projected cost of Treasury debt in this model is appropriate (see Company Brief at 103). The Department disagrees. The risk premium model is not a forward-looking approach, and is, instead, based on current market conditions. See D.P.U. 13-75, at 319; D.P.U. 12-25, at 433. Accordingly, the Department finds that current treasury yields are more appropriate than projected yields for use in a risk premium analysis. For these reasons, the Department finds that Unitil's bond yield plus risk premium model overstates the required ROE for the Company.

7. Flotation Costs

a. Company's Proposal

The Company factors flotation costs into its proposed ROE, asserting that such costs must be considered part of capital costs that are properly reflected on the balance sheet under "paid in capital" rather than current expenses (Exh. Unitil-RBH-1, at 37). Unitil used the equity issuing costs incurred in the two most recent issuances for the Company and its proxy group to develop a flotation cost estimate of 0.12 percent (Exh. Unitil-RBH-1, at 37). The Company states, however, that it did not simply increase its proposed ROE by twelve basis points to reflect the effect of the flotation costs (Exh. Unitil-RBH-1, at 37). Instead, the Company considered the effect of flotation costs in addition to applicable business risks when determining the appropriate ROE within the range of results produced by the various cost of equity models (Exh. Unitil-RBH-1, at 37).

b. Positions of the Parties

i. Attorney General

The Attorney General argues that the Department has consistently rejected the inclusion of flotation costs in the cost of equity because investors already consider issuance costs in their decision to purchase the stock at a given price (Attorney General Brief at 68 (electric), citing D.P.U. 90-121, at 180; D.P.U. 88-67 (Phase I) at 193; D.P.U. 86-280-A at 112; AT&T Communications of New England, Inc., D.P.U. 85-137, at 100 (1985); Attorney General Reply Brief at 36-37). The Attorney General argues that flotation costs do not constitute out-of-pocket costs for the Company, and claims that if Unitil had properly included these brokerage fees or transaction costs in its DCF analysis, the higher effective prices paid for stocks would lead to lower dividend yields and equity cost rates, resulting in a downward adjustment to the results of its DCF equity cost analyses (Attorney General Reply Brief at 36). Moreover, the Attorney General contends that utilities that are part of a holding company structure do not have flotation costs and only negligible issuance costs, because all stock is issued to the parent company (Attorney General Brief at 68 (electric), citing Massachusetts Electric Company, D.P.U. 800, at 51 (1982); Western Massachusetts Electric Company, D.P.U. 20279, at 37 (1980); Massachusetts Electric Company, D.P.U. 19376, at 7-13 (1979)). The Attorney General further argues that flotation costs are unnecessary because when market-to-book ratios exceed one, common stockholders actually experience a net increase in the book value of their investment with the issuance of new shares (Attorney General Reply Brief at 36).

ii. Company

The Company argues that flotation costs are recognized on the balance sheet, and represent reduction to paid-in capital and, therefore, flotation costs incurred prior to the test year remain part of the cost structure during the test year and beyond (Company Brief at 105, citing Exh. Unitil-RBH-1, at 37). Nevertheless, the Company emphasizes that it did not make a specific flotation adjustment to its proposed ROE (Company Brief at 105, citing Exh. Unitil-RBH-1, at 37).

c. Analysis and Findings

Unitil did not make a specific adjustment to its proposed ROE for flotation costs (Exh. Unitil-RBH-1, at 37). Similarly, the Department will not factor flotation costs into determining the Company's ROE. The Department has rejected issuance cost adjustments for the purpose of determining ROE. D.P.U. 90-121, at 180; D.P.U. 88-67 (Phase I) at 193; D.P.U. 86-280-A at 112; D.P.U. 85-137, at 100. We are not persuaded to depart from our precedent.

The Company's proposal to weigh flotation costs when establishing its ROE relies on issuance costs that investors are well aware of when they enter the market for publicly traded stocks. Therefore, the proposal to compensate for flotation costs in setting the ROE would result in double counting those costs. D.P.U. 14-150, at 358; D.P.U. 10-70, at 259; D.P.U. 88-67 (Phase I) at 193; D.P.U. 85-137, at 100.

Further, the Department allows companies to recover issuance costs associated with common stock by amortizing those costs over a period of time. USOA-Gas, Income Accounts,

Miscellaneous Income Deductions, Account 425. Because the Company is a wholly owned subsidiary of Unitil Corporation, it has no publicly-traded stock on which to incur flotation costs (Exh. Unitil-RBH-1, at 10-11).¹⁵⁰ For these reasons, the Department will not take flotation costs into consideration when determining the Company's ROE.

E. Conclusion

The standard for determining the allowed ROE is set forth in Bluefield at 692-693 and Hope at 603. The allowed ROE should preserve a company's financial integrity, allow it to attract capital on reasonable terms, and be comparable to returns on investments of similar risk. See Bluefield at 692-693; Hope at 603, 605. The allowed ROE should be determined "having regard to all relevant facts." Bluefield at 692.

The Company recommends that the Department approve an ROE of 10.25 percent (Exhs. Unitil-RBH-1, at 2; Unitil-RBH-Rebuttal-1, at 2-3). The Attorney General recommends an ROE of 8.75 percent (Exh. AG-JRW-1, at 4; AG-JRW-1a). The Department has found that both quantitative and qualitative factors must be taken into account in determining an allowed ROE. See, e.g., Boston Edison Company v. Department of Public Utilities, 375 Mass. 1, 11, cert. denied, 439 U.S. 921 (1978); Boston Gas Company v. Department of Public Utilities, 359 Mass. 292, 305-306 (1971); D.P.U. 11-01/D.P.U. 11-02,

¹⁵⁰ The Company's last stock issue was approved in Fitchburg Gas and Electric Light Company, D.P.U. 1603 (1983). The Company's equity needs are not externally financed, but are currently being met by capital contributions from Unitil Corporation (Exh. Unitil-MHC-1, at 6 (electric)). Thus, even if the Department were to consider a flotation cost adjustment, there would be no flotation costs for the Company as a basis for driving the adjustment.

at 424; D.P.U. 08-27, at 134-138; D.T.E. 02-24/25, at 229-231; D.P.U. 92-78, at 115; D.P.U. 89-114/90-331/91-80 (Phase I) at 224-225. Thus, in determining an appropriate ROE for Unitil, the Department first evaluates the quantitative factors presented in this case.

In support of its recommended ROE, Unitil has presented quantitative analyses using the DCF model, the CAPM, and a bond yield plus risk premium approach, each incorporating the financial data of its proxy group. The Attorney General has presented her analyses using the DCF model and the CAPM, incorporating the financial data of her electric and gas proxy groups. The use of empirical analyses in this context is not an exact science. A number of judgments are required in conducting a model-based rate of return analysis. Even in studies that purport to be mathematically sound and highly objective, crucial subjective judgments are made along the way and necessarily influence the end result. Western Massachusetts Electric Company, D.P.U 18731, at 59 (1977). Each level of judgment to be made in these models contains the possibility of inherent bias and other limitations. D.T.E. 01-56, at 117; see also D.P.U. 18731, at 59.

As discussed above, the evidence demonstrates that each equity cost model used by the Company and the Attorney General suffers from a number of simplifying and restrictive assumptions. Applying them to the financial data of a proxy group of companies could provide results that may not be reliable for the purpose of setting the Company's ROE.

In addition, we note that a portion of the revenues of the companies in both proxy groups is derived from unregulated and competitive lines of business (Exhs. AG 8-16, Att. 1; AG-JRW-4, at 1; AUS Utilities Reports, passim). All else equal, this mix of regulated and

unregulated operations would tend to overstate the proxy groups' risk profiles relative to that of Unitil. Therefore, in applying a comparability standard, we will consider such risk differentials when weighing the results of the models used to estimate the Company's allowed ROE.

While the results of analytical models are useful, the Department must ultimately apply its own judgment to the evidence to determine an appropriate rate of return. We must apply to the record evidence and argument considerable judgment and agency expertise to determine the appropriate use of the empirical results. Our task is not a mechanical or model-driven exercise. D.P.U. 08-35, at 219-220; D.P.U. 07-71, at 139; D.T.E. 01-56, at 118; D.P.U. 18731, at 59; see also 375 Mass. 1, 15.¹⁵¹ The Department must account for additional factors specific to a company that may not be reflected in the results of the models.

In determining the allowed ROE, the Department has also considered Unitil's use of reconciling mechanisms to recover certain costs, dollar-for-dollar, outside of base rates. The Company presently has in place fully reconciling mechanisms for a range of expenses, such as gas costs, energy efficiency costs, pension/PBOP expense, Attorney General consultant costs, supply-related bad debt, a GSEP as a capital tracking mechanism to recover on a prospective

¹⁵¹ As the Department stated in New England Telephone and Telegraph Company, D.P.U. 17441, at 9 (1973):

Advances in data gathering and statistical theory have yet to achieve precise prediction of future events or elimination of the bias of the witnesses in their selection of data. Thus, there is no irrefutable testimony, no witness who has not made significant subjective judgments along the way to his conclusion, and no number that emerges from the welter of evidence as an indisputable "cost" of equity.

basis investments in cast iron and unprotected steel infrastructure, which will reduce regulatory lag in recovery. As a result of this Order, Unitil will retain these reconciling mechanisms. In addition, the Department granted in this Order a capital tracker, i.e., CCAM, which allows recovery related to capital expenditures for electric infrastructure. See Section III., above.

The use of the types of reconciling mechanisms produces a more timely and predictable recovery of costs compared to traditional ratemaking. By shortening the time between when Unitil incurs costs and when it recovers those costs in rates, the reconciling mechanisms reduce the possibility of earnings volatility. These financial benefits will lower the business risk for Unitil, which would tend to reduce the risk premium that prospective investors place on the Company. In addition, we recognize that the RDM employed by Unitil reduces the variability of the Company's revenues and, accordingly, reduce its risks and its investors' return requirement. See D.P.U. 09-30, at 371-372; D.P.U. 07-50-A at 72-73.

Finally, there are qualitative factors that the Department will consider in determining a company's allowed ROE. It is both the Department's long-standing precedent and accepted regulatory practice to consider qualitative factors such as management performance and customer service in setting a fair and reasonable ROE. With respect to a company's performance, the Department has determined that where a company's actions have had the potential to affect ratepayers or have actually done so, the Department may take such actions into consideration in setting the ROE. D.P.U. 11-01/D.P.U. 11-02, at 424; D.T.E. 02-24/25, at 231; D.P.U. 85-266-A/271-A at 6-14. Thus, the Department may set ROEs that are at the higher-end or lower-end of the reasonable range based on above-average or subpar

management performance and customer service. See, e.g., Milford Water Company, D.P.U. 12-86, at 274-276 & n. 181 (2013); D.P.U. 11-01/D.P.U. 11-02, at 424, 427.

Based on a review of the evidence presented in this case, the arguments of the parties, and the considerations set forth above, the Department finds that an allowed ROE of 9.8 percent is within a reasonable range of rates that will preserve the Company's financial integrity, will allow it to attract capital on reasonable terms and for the proper discharge of its public duties, will be comparable to earnings of companies of similar risk and, therefore, is appropriate in this case. In making these findings, the Department has considered both qualitative and quantitative aspects of the parties' various methods for determining the Company's proposed ROE, as well as the arguments of and evidence presented by the parties in this proceeding.

IX. RATE STRUCTURE

A. Rate Structure Goals

Rate structure defines the level and pattern of prices charged to each customer class for its use of utility service. The rate structure for each rate class is a function of the cost of serving that rate class and how rates are designed to recover the cost to serve that rate class. The Department has determined that the goals of designing utility rate structures are to achieve efficiency and simplicity as well as to ensure continuity of rates, fairness between rate classes, and corporate earnings stability. D.P.U. 13-75, at 330; D.P.U. 12-25, at 444; D.P.U. 10-114, at 341; D.P.U. 09-39, at 401; D.T.E. 03-40, at 365; D.T.E. 02-24/25, at 252; D.T.E. 01-56, at 134; D.T.E. 01-50, at 28.

Efficiency means that the rate structure should allow a company to recover the cost of providing the service and should provide an accurate basis for consumers' decisions about how to best fulfill their needs. The lowest-cost method of fulfilling consumers' needs should also be the lowest cost means for society as a whole. Thus, efficiency in rate structure means that it is cost based and recovers the cost to society of the consumption of resources to produce the utility service. D.P.U. 13-75, at 330; D.P.U. 12-25, at 445; D.P.U. 10-114, at 342; D.P.U. 09-39, at 401; D.T.E. 03-40, at 365-366; D.T.E. 02-24/25, at 252; D.T.E. 01-56, at 135. In practice, meeting the goal of efficiency should involve rate structures that provide strong signals to consumers to decrease energy consumption in consideration of price and non-price social, resource, and environmental factors. D.P.U. 12-25, at 445.¹⁵²

The Department has determined that a rate structure achieves the goal of simplicity if it is easily understood by consumers. Rate continuity means that changes to rate structure should be gradual to allow consumers to adjust their consumption patterns in response to a change in structure. Fairness means that no class of consumers should pay more than the costs of serving that class. Earnings stability means that the amount a company earns from its rates should not vary significantly over a period of one or two years. D.P.U. 13-75, at 331; D.P.U. 12-25, at 444-445; D.P.U. 10-114, at 342; D.P.U. 09-39, at 402; D.T.E. 03-40, at 366; D.T.E. 02-24/25, at 252-253; D.T.E. 01-56, at 135.

¹⁵² Effective use of energy resources means reducing the total amount of energy consumed without compromising service reliability through the use of more efficient technologies and practices, with clear and timely pricing information, as part of a sustainable energy policy. See An Act Relative to Green Communities, St. 2008, c. 169; An Act Establishing the Global Warming Solutions Act, St. 2008, c. 298.

There are two steps in determining rate structure: cost allocation and rate design. Cost allocation assigns a portion of a company's total costs to each rate class through an embedded allocated cost of service study ("COSS"). The allocated cost of service represents the cost of serving each rate class at equalized rates of return given the company's level of total costs.

D.P.U. 13-75, at 331; D.P.U. 12-25, at 446; D.P.U. 10-114, at 342; D.P.U. 09-39, at 402-403; D.T.E. 03-40, at 366; D.T.E. 02-24/25, at 253; D.T.E. 01-56, at 135; D.T.E. 01-50, at 29.

There are four steps to develop a COSS. The first step is to functionalize costs. In this step, costs are associated with the production, transmission, or distribution function of providing service. The second step is to classify expenses in each functional category according to the factors underlying their causation. Thus, the expenses are classified as demand-, energy-, or customer-related. The third step is to identify an allocator that is most appropriate for costs in each classification within each function. The fourth step is to allocate all of a company's costs to each rate class based on the cost groupings and allocators chosen and then to sum for each rate class the costs allocated in order to determine the total costs of serving each rate class at equalized rates of return. D.P.U. 13-75, at 332; D.P.U. 12-25, at 446-447; D.P.U. 09-39, at 402-403; D.T.E. 03-40, at 366-367; D.T.E. 02-24/25, at 253; D.T.E. 01-56, at 136; D.T.E. 98-51, at 131-132; D.P.U. 96-50 (Phase I) at 133-134.

The results of the COSS are compared to the revenues collected from each rate class in the test year. If these amounts are reasonably comparable, then the revenue increase or decrease may be allocated among the rate classes so as to equalize the rates of the return and

ensure that each rate class pays the cost of serving it. If, however, the differences between the allocated costs and the test-year revenues are significant, then, for reasons of continuity, the revenue increase or decrease may be allocated so as to reduce the difference in rates of return, but not to equalize the rates of return in a single step. D.P.U. 13-75, at 332; D.P.U. 12-25, at 446; D.P.U. 09-39, at 403; D.T.E. 02-24/25, at 253-254; D.T.E. 01-56, at 136; D.T.E. 01-50, at 29.

As the previous discussion indicates, the Department does not determine rates based solely on the results of a COSS, but also explicitly considers the effect of its rate structure decisions on the amount customers are billed. For instance, the pace at which fully cost-based rates are implemented depends, in part, on the effect of the changes on customers. In addition, considering the goals of efficiency and fairness, the Department has also ordered the establishment of special rate classes for certain low-income customers and considers the effect of such rates and rate changes on low-income customers. D.P.U. 13-75, at 332; D.P.U. 12-25, at 447; D.P.U. 09-39, at 403-404; D.T.E. 03-40, at 367; D.T.E. 02-24/25, at 254; D.T.E. 01-56, at 137; D.T.E. 01-50, at 29-30. To reach fair decisions that encourage efficient utility and consumer actions, the Department's rate structure goals must balance the often divergent interests of various customer classes and prevent any class from subsidizing another class unless a clear record exists to support such subsidies — or unless such subsidies are required by statute, e.g., G.L. c. 164, § 1F(4)(i). In addition, G.L. c. 164, § 94I requires the Department, in each base distribution rate proceeding, to design rates based on equalized rates of return by customer class as long as the resulting impact for any one customer class is

not more than ten percent.¹⁵³ The Department reaffirms its rate structure goals that are designed to result in rates that are fair and cost-based and enable customers to adjust to changes. D.P.U. 13-75, at 333; D.P.U. 12-25, at 447; D.P.U. 09-39, at 404; D.T.E. 02-24/25, at 254; D.T.E. 01-56, at 137; D.T.E. 01-50, at 30.

The second step in determining the rate structure is rate design. The level of the revenues to be generated by a given rate structure is governed by the cost allocated to each rate class in the cost allocation process. The pattern of prices in the rate structure, which produces the given level of revenues, is a function of the rate design. The overarching requirement for rate design is that a given rate class should produce sufficient revenues to cover the cost of serving the given rate class and, to the extent possible, meet the Department's rate structure goals discussed above. D.P.U. 13-75, at 333; D.P.U. 12-25, at 447; D.P.U. 09-39, at 404; D.T.E. 03-40, at 368; D.T.E. 02-24/25, at 254-255; D.T.E. 01-56, at 136-137; D.T.E. 01-50, at 30.

¹⁵³ An Act Relative to Competitively Priced Electricity in the Commonwealth, St. 2012, c. 209, Section 20, inserted G.L. c. 164, § 94I:

In each base distribution rate proceeding conducted by the [D]epartment under Section 94, the [D]epartment shall design base distribution rates using a cost-allocation method that is based on equalized rates of return for each customer class; provided, however, that if the resulting impact of employing this cost-allocation method for any [one] customer class would be more than [ten] percent, the [D]epartment shall phase in the elimination of any cross subsidies between rate classes on a revenue neutral basis phased in over a reasonable period as determined by the [D]epartment.

B. Electric Cost Allocation

1. Introduction

Unitil performed an allocated COSS for its electric division in order to assign to each of its rate classes the proper cost for each component of the Company's overall cost of service (Exh. Unitil-PMN-2, at 3-4 (electric)). Unitil's COSS reflects those costs incurred to serve the distribution function only (Exh. Unitil-PMN-2, at 7 (electric)).

The Company assigned costs to each rate class based on one of the following four methods: (1) direct assignment (e.g., test-year revenues); (2) a special study designed to replicate the intended use of a specific plant investment or expense and then assigning that cost based on the specific use of that asset in the test year; (3) an external allocator that assigns costs using an allocation factor that is developed outside of the COSS (e.g., number of bills produced for each customer class in the test year); and (4) an internal allocator, which involves using some combination of costs previously allocated in the COSS to allocate remaining costs that have not yet been allocated (e.g., property taxes were allocated based on the internal PLANT allocator, which is composed of the sum of each individual item of plant in service, each of which has been allocated previously) (Exh. Unitil-PMN-2, at 6 (electric)).

Certain distribution asset costs were allocated based on a combination of factors that reflect load diversity across the Company's distribution system (Exh. Unitil-PMN-2, at 7 (electric)). Substations were allocated based on the average of the twelve-month coincident

peak demands and class peak demands (Exh. Unitil-PMN-2, at 7 (electric)).¹⁵⁴ The costs for line transformers were allocated based on the average of the class peaks and sum of the individual customer maximum demands (Exh. Unitil-PMN-2, at 7 (electric)).

Unitil proposes to cap the rate increase for any one rate class at 110 percent of the overall average base rate increase (Exh. Unitil-PMN-2, at 20 (electric)).¹⁵⁵ The Company states that using this approach, only the company-owned outdoor lighting rate classes' rates increased in excess of the ten-percent rate cap (Exh. Unitil-PMN-2, at 20 (electric)). Unitil proposes to allocate the revenue shortfall caused by the ten-percent rate cap of \$46,004 from the company-owned outdoor lighting rate classes to all remaining rate classes based on their current base test-year revenue levels (Exh. Unitil-PMN-2, at 20 (electric)). This reallocation of the shortfall resulted in no additional capped classes (Exh. Unitil-PMN-2, at 20 & Sch. Unitil-PMN-1E-6, at 5, columns (E) through (I) (electric)).

For the purpose of the COSS, no costs were allocated to those customers who are served under special contracts (Exh. Unitil-PMN-2, at 12 (electric)). Instead, Unitil credited the special contract revenues to each rate class's revenue requirement on the basis of class substation and meter costs (Exh. Unitil-PMN-2, at 21 (electric)). The Company determined a

¹⁵⁴ Coincident peak is commonly defined as the energy demand by a rate class during periods of peak system demand, i.e., when electricity demand systemwide is the highest.

¹⁵⁵ G.L. c. 164, § 94I requires that distribution rates be designed using a cost allocation method that is based on equalized rates of return for each class, unless the resulting impact for any class is greater than ten percent. See also D.P.U. 13-90, at 244.

total distribution revenue requirement for its electric division of \$28,174,888

(Exh. Unitil-PMN-2, at 19 (electric)).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Company's proposed allocation of the revenue requirement exceeding the ten percent rate cap to other rate classes inappropriately uses test-year base revenues as an allocator test-year base revenues (Attorney General Brief at 74-75 (electric)). The Attorney General contends that it is more appropriate to use an allocator based on the revenue requirements at equalized rates of return (Attorney General Brief at 74 (electric)). The Attorney General asserts the Company's own witness stated a preference for allocating amounts over the ten-percent rate cap based on the revenue requirements at equalized rates of return (Attorney General Brief at 74-75 & n.18 (electric), citing Tr. 4, at 237). The Attorney General maintains that Unitil's proposal to allocate the revenue requirement that is over the ten-percent rate cap based on test-year revenues would perpetuate the unequal returns currently in place with Unitil's existing base rates (Attorney General Brief at 75 (electric)). The Attorney General argues that allocating the revenue requirement that is over the ten-percent rate cap based on the revenue requirements at equalized rates of return more effectively advances the Department's rate goals of fairness and efficiency (Attorney General Brief at 74 (electric)). Therefore, the Attorney General requests that the Department order Unitil to use class revenue requirements at equalized rates of return, as generated by the

COSS, to allocate revenue requirements that exceed the ten-percent rate cap (Attorney General Brief at 75 (electric)).

b. Company

Unitil argues that it prepared its COSS for the electric division consistent with the method approved in the Company's most recent base rate proceedings (Company Brief at 107, citing D.P.U. 13-90, at 240-241; D.P.U. 11-01/D.P.U. 11-02, at 434-437). For the electric division, the Company did not address the Attorney General's arguments regarding the ten-percent cap. The Company simply asserts that the Department should accept its proposed COSS (Company Brief at 107).

3. Analysis and Findings

The Attorney General has requested an alternate method for allocating to other rate classes the revenue requirement that exceeds the ten percent rate cap for any one or more rate classes. The Attorney General maintains that an allocation based on revenue requirements at equalized rates of return improves upon an allocation based on test-year base revenues. The Department agrees with the Attorney General that revenue requirement in excess of the ten-percent rate cap that is allocated to other rate classes should be based on revenues at equalized rates of return. The record evidence shows that such an allocation shifts the revenue requirement burden noticeably from the residential and small commercial rate classes (RR-AG-6, Att. (electric)). Additionally, the Company's own witness responsible for the COSS stated a preference for basing the allocation of the revenue requirement that exceeds the ten-percent rate cap on revenue requirements at equalized rates of return because it treats every

rate class fairly, and Unitil offered nothing to rebut this preference other than the fact it relied on the outputs of its COSS (Tr. 4, at 237-239). The Department's long-standing policy regarding the allocation of class revenue requirements is that a company's total distribution costs should be allocated on the basis of equalized rates of return. See D.T.E. 03-40, at 384; D.T.E. 02-24/25, at 256; D.T.E. 01-56, at 139; D.P.U. 92-210, at 214.

General Laws c. 164, § 94I, directs the Department in each base distribution rate proceeding to design rates based on equalized rates of return by customer class as long as the resulting impact for any one customer class is not more than ten percent. In the instant electric division case, the Department finds that Unitil's proposal to cap the rate increase for any one rate class at 110 percent of the overall average base rate increase complies with G.L. c. 164, § 94I (Exh. Unitil-PMN-2, at 20 (electric)). For these reasons, and to advance the rate goals of fairness and efficiency, the Department directs the Company to allocate the revenue requirement that exceeds the ten percent rate cap based on revenue requirements at equalized rates of return.

Apart from this change to the ten percent rate cap allocation method, the Department has reviewed Unitil's COSS for its electric division and finds that it is reasonable and consistent with Department precedent. D.P.U. 13-90, at 240-241; D.P.U. 11-01/D.P.U. 11-02, at 434-437; D.P.U. 10-70, at 296-297. Accordingly, we accept Unitil's electric COSS as proposed and with the aforementioned change. The Department directs the Company to rerun its COSS in its compliance filing to allocate its costs and expenses in excess of the ten-percent cap as approved in this Order.

C. Gas Cost Allocation

1. Introduction

Unitil performed an allocated COSS for its gas division in order to assign to each of its rate classes the proper cost for each component of the Company's overall cost of service (Exh. Unitil-PMN-2, at 7 (gas)). The Company ran three separate allocated COSS (Exh. Unitil-PMN-2, at 2-3 (gas)). The first COSS allocates total company costs (Exhs. Unitil-PMN-2, at 2 (gas); Sch. PMN-1G-2 (gas)). The second COSS allocates costs related solely to the delivery function (Exhs. Unitil-PMN-2, at 2 (gas); Sch. PMN-1G-3 (gas)). The third COSS allocates costs related solely to supply (Exhs. Unitil-PMN-2, at 2 (gas); Sch. PMN-1G-4 (gas)).

Similar to the electric COSS, the Company assigned costs to each rate class based on one of the following four methods: (1) direct assignment (e.g., test-year revenues); (2) a special study designed to replicate the intended use of a specific plant investment or expense and then assigning that cost based on the specific use of that asset in the test year; (3) an external allocator that assigns costs using an allocation factor that is developed outside of the COSS (e.g., number of bills produced for each customer class in the test year); and (4) an internal allocator, which involves using some combination of costs previously allocated in the COSS to allocate remaining costs that have not yet been allocated (e.g., property taxes were allocated based on the internal PLANT allocator, which is composed of the sum of each individual item of plant in service, each of which has been previously allocated) (Exh. Unitil-PMN-2, at 9-10 (gas)).

The Company based its allocation of revenues to each rate class on several considerations (Exh. Unitil-PMN-2, at 27-28 (gas)). First, Unitil attempted to reflect the results of the COSS as closely as possible by setting rate class revenue requirements at the Company's equalized rate of return (Exh. Unitil-PMN-2, at 27 (gas)). Second, the Company considered rate continuity to temper rate class or individual customer bill impacts where an equalized rate of return would result in unacceptably large bill impacts, particularly as they relate to any individual rate class versus other rate classes (Exh. Unitil-PMN-2, at 28 (gas)).

Unitil proposes to increase the distribution component of bills by 20.40 percent, to achieve its proposed rate of return of 8.72 percent (Exh. Unitil-PMN-2, at 27 & Sch. Unitil-PMN-1G-8, at 1 (gas)). The Company examined the increase or decrease in base distribution revenues necessary to produce the allocated cost of service at the equalized rate of return for each rate class (Exh. Unitil-PMN-2, at 28 (gas)). For those rate classes for which the equalized rate of return is substantially below the Company's average rate of return, Unitil proposes a distribution rate increase cap equal to 110 percent of the total existing revenues (Exh. Unitil-PMN-2, at 28 & Sch. Unitil-PMN-1G-8, at 1 (gas)). Based on the Company's proposal, Rate R-1, Rate R-2, Rate R-3, Rate R-4, Rate G-41, and Rate G-42 would receive the maximum distribution rate increase permitted under the ten-percent rate cap (Exh. Unitil-PMN-2, at 28 & Sch. Unitil-PMN-1G-8, at 1 (gas)). The revenue deficiency that resulted from capping the increase for these rate classes was allocated to the remaining rate classes that were below the cap based on test-year base revenues (Exh. Unitil-PMN-2, at 28

(gas)). The Company determined a total distribution revenue requirement of \$18,638,547 (Exh. Unitil-PMN-2, at 27 (gas)).

2. Position of the Parties

a. Attorney General

Consistent with arguments raised for Unitil's electric division, the Attorney General asserts that any of the Company's gas division revenue requirement in excess of the ten-percent rate cap should be allocated using the revenue requirements at equalized rates of return (Attorney General Brief at 70 (gas)). Similarly, the Attorney General asserts for the gas division that the Company's proposed use of test-year revenues to base reallocation of the revenue requirement over the ten-percent rate cap perpetuates the unequal returns in place with the Company's existing base rates (Attorney General Brief at 70 (gas), citing Sch. PMN-1G-2, at 1-2, line 20 (gas)).

The Attorney General also argues that the Company's calculation of the individual rate class increases that are used to implement the ten-percent rate cap, should include rate changes from its local distribution adjustment clause ("LDAC") and CGAC (Attorney General Brief at 69 (gas)). She contends that the \$173,624 that the Company proposes to decrease its CGAC by should be included in the calculations of the rate class increases that are used to implement the ten percent rate cap, consistent with the Department's decision in D.P.U. 14-150 (Attorney General Brief at 69).¹⁵⁶ The Attorney General argues additionally that incorporating the LDAC

¹⁵⁶ The Attorney General asserts that Company collects certain production and storage related costs at test-year levels through its CGAC (Attorney General Brief at 69, citing RR-DPU-7 (gas)). The \$173,623 proposed decrease is an adjustment of the production

and CGAC rate changes into the ten-percent rate cap provides a potential opportunity to further realign rates under the cap, while consistently applying the principle the Department articulated in its decision on a similar issue in D.P.U. 14-150 (Attorney General Reply Brief at 41, citing D.P.U. 14-150, at 397-398).

b. Company

The Company did not address the Attorney General's argument for allocating revenue requirements in excess of the ten-percent rate cap based on equalized rates of return for the gas division. In response to the Attorney General's assertion that Unitil should include LDAC and CGAC rate changes in its calculation of the ten-percent rate cap, the Company states that because its proposed decrease in indirect gas costs of \$173,623 represents less than 5.8 percent of the company's overall \$3,158,656 requested increase in distribution revenues, a change to the application of the ten-percent rate cap incorporating such a small adjustment is unnecessary (Company Brief at 110).¹⁵⁷ Rather, the Company asserts that the Attorney General's reliance on D.P.U. 14-150 is inappropriate because the facts of that case are distinguishable from the circumstances here (Company Brief at 109-110). According to Unitil, in D.P.U. 14-150, the Department required NSTAR Gas to reflect costs from certain items adjusted in a base distribution rate case but recovered in reconciling mechanisms in terms of applying the cap

component of revenues that impacts the rate increase (sales revenues at existing rates subtracted from sales revenues at the claimed rate of return) (Sch. PMN-1G-5, at 21 (gas); Tr. 4, at 232-234).

¹⁵⁷ Further, the Company states that its LDAC does not include any cost components that are set at test-year levels in the instant case (Company Brief at 110 n.37).

(Company Brief at 110). Moreover, the Company asserts that the increases in reconciling mechanisms sought by NSTAR Gas consisted of approximately 34 percent of the overall increase in NSTAR Gas's base distribution rate case (Company Brief at 110). In light of this difference in magnitude, and the fact that Unitil's adjustment in indirect gas costs is not an increase, the Company asserts that it should not have to apply the decrease in CGAC costs of \$173,623 to calculations for the ten-percent rate cap (Company Brief at 110).

3. Analysis and Findings

The Department agrees with the Attorney General's arguments on both issues related to the ten-percent rate cap for the gas division. The Department's long-standing policy regarding the allocation of class revenue requirements is that a company's total distribution costs should be allocated on the basis of equalized rates of return. See D.T.E. 03-40, at 384; D.T.E. 02-24/25, at 256; D.T.E. 01-56, at 139; D.P.U. 92-210, at 214. General Laws c. 164, § 94I directs the Department in each base distribution rate proceeding to design rates based on equalized rates of return by customer class as long as the resulting impact for any one customer class is not more than ten percent. In the instant gas division case, the Department finds that Unitil's proposal to cap the rate increase for any one rate class at 110 percent of the overall average base rate increase complies with Section 94I (Exh. Unitil-PMN-2, at 28 (gas)). The Department first directs the Company to allocate the revenue requirement that exceeds the ten percent rate cap to those rate classes that would receive a rate decrease, at equalized rates of return, but only up to the amount that would eliminate such decreases. The allocation will be based on the ratio of each rate class's decrease to the total decrease for these

rate classes. Second, any remaining revenue requirement shall be recovered from those rate classes whose revenue requirement is below the ten percent rate cap based on the ratio of the class's revenue requirement to the total revenue requirement at equalized rates of return for the same reasons discussed for the electric division in Section IX.B.3., above.

On the second issue regarding the inclusion of rate changes associated with the LDAC and the CGAC, the Department finds that, despite the Company's view that the de minimis nature of the CGAC cost decrease does not warrant inclusion in calculation of the ten percent rate cap, it is necessary to follow the decision articulated in D.P.U. 14-150, which strives for consistency with G.L. c. 164 § 94I. There is no clearly articulated reason or authority to warrant a deviation from this precedent. Therefore, the Department directs the Company to include the production cost decrease associated with costs collected through the LDAC and CGAC in the application of the ten percent rate cap.

No other issues were raised by any parties regarding the Company's gas division COSS. The Department has reviewed Unitil's gas division COSS and finds it to be reasonable and consistent with Department precedent. D.P.U. 10-70, at 291-292; D.P.U. 09-39, at 413. Accordingly, after the Company incorporates the two changes discussed above, we accept Unitil's gas COSS. The Department directs the Company to re-run its COSS in its compliance filing to allocate its costs and expenses as approved in this Order.

D. Marginal Cost Study

1. Introduction

The use of a marginal cost study facilitates the development of rates that provide consumers with price signals that accurately represent the costs associated with consumption decisions. D.P.U. 11-01/D.P.U. 11-02, at 438; D.P.U. 10-55, at 524; D.P.U. 09-30, at 377; D.P.U. 08-35, at 227; D.T.E. 03-40, at 372. Rates based on a marginal cost study allow consumers to make informed decisions regarding their use of utility services, promoting efficient allocation of societal resources. D.P.U. 11-10/D.P.U. 11-02, at 438; D.P.U. 10-55, at 524; D.T.E. 03-40, at 372.

In support of its rate case filing, Unitil prepared a marginal cost study for its gas operations (Exh. Unitil-PMN-2, at 25-26 & Schs. PMN-2G-S, PMN-2G-1 (gas)).¹⁵⁸ The Company excluded from the study all production, transmission, and customer costs, and the Company relied on econometric methods where possible (Exh. Unitil-PMN-2, at 25 (gas)). Unitil developed its current marginal cost study from the compliance filing in the Company's last base distribution rate case for its gas division, D.P.U. 11-02, and relied on data from 1978 to 2009 (Exh. Unitil-PMN-2, at 25 & Schs. PMN-2G-2, PMN-2G-3, PMN-2G-4, PMN-2G-6 (gas)). The Company then updated specific parameters in the models created for D.P.U. 11-02 (i.e., inflation, rate of return) and recalculated the results to produce marginal costs to reflect

¹⁵⁸ Unitil also prepared a marginal cost study for its electric division (Exh. Unitil-PMN-2, at 16-18 & Schs. PMN-2E-S; PMN-2E-1 (electric)). No party raised any issues with respect to that filing, and the Department has no concerns with the marginal cost study as proposed for the electric division.

the current test year (Exh. Unitil-PMN-2, at 25-26 & Sch. PMN-2G-S (gas)). During the proceeding, the Company updated its filing to include data from 2010 through 2014 (RR-DPU-8 (gas)).

To develop the marginal cost study, the Company first estimated the investment necessary for manufactured gas facilities to provide pressure support on the distribution system (Exh. Unitil-PMN-2, Sch. PMN-2G-1 (gas); RR-DPU-8, Att. 1, at 10 (gas)). Next, the Company addressed the capacity-related distribution plant investments, excluding customer-related investments to serve growth (Exh. Unitil-PMN-2, Sch. PMN-2G-2 (gas); RR-DPU-8, Att. 1, at 13 (gas)). Unitil applied regression techniques to estimate the hypothetical capacity-related distribution costs of serving an increment of customer load, including the unit costs of adding distribution plant facilities as well as the additional costs for O&M (Exh. Unitil-PMN-2, Schs. PMN-2G-2, PMN-2G-3, PMN-2G-4 (gas); RR-DPU-8, Att. 1, at 13-21 (gas)). Third, Unitil derived O&M expenses related to the production facilities used for distribution pressure support and calculated the marginal distribution capacity-related O&M expenses (Exh. Unitil-PMN-2, Schs. PMN-2G-3, PMN-2G-4 (gas); RR-DPU-8, Att. 1, at 17-21 (gas)). Fourth, the Company identified the delivery-related uncollectible levels for each rate class taken from the accounting cost study (Exh. Unitil-PMN-2, Sch. PMN-2G-5 (gas); RR-DPU-8, Att. 1, at 22 (gas)). Fifth, Unitil developed loading factors from marginal costs that were not individually estimated, translated a one-time capital investment into annual revenue requirements, and quantified the system's marginal distribution capacity costs per dekatherm ("Dth") of design day demand

(Exh. Unitil-PMN-2, Schs. PMN-2G-6, PMN-2G-7, PMN-2G-8 (gas); RR-DPU-8, Att. 1, at 23-32 (gas)). To measure capacity costs, the Company chose the design day as it represents the load on the coldest day for which the Company must provide reliable firm service (Exh. Unitil-PMN-2, Sch. PMN-2G-9 (gas); RR-DPU-8, Att. 1, at 33 (gas)). Finally, Unitil converted the unit capacity costs into total marginal costs to serve each class, which it then divided by billing units to derive marginal cost-based prices (Exh. Unitil-PMN-2, Sch. PMN-2G-9 (gas); RR-DPU-8, Att. 1, at 33 (gas)).

2. Positions of the Parties

The Company asserts that its marginal cost study was conducted properly and represents a reasonable level of costs for reference purposes (Company Brief at 107-108). The Company expressed concern at the added cost for completing a marginal cost study with more updated information (Company Brief at 108, citing Exh. Unitil-PMN-1(E) at 18 (gas)). In addition, the Company asserts that given the recent vintage of the marginal cost study and its narrow use, it represents a reasonable level of costs for reference purposes (Company Brief at 108, citing Exh. Unitil-PMN-1(E) at 18 (gas)). No other party addressed this issue on brief.

3. Analysis and Findings

We find that the marginal cost study developed by Unitil incorporates sufficient detail to allow a full understanding of the methods used to determine the marginal cost estimates. Consistent with the directives in D.T.E. 05-27, at 322 & n.170, the Company has excluded from its marginal cost study all production, transmission, and customer costs (Exh. Unitil-PMN-2, at 25 (gas); RR-DPU-8, Att. 1 (gas)). In addition, we find that the

Company used proper econometric techniques to provide a statistically reliable estimate of the marginal plant-related costs, O&M expenses, and the marginal loading factors (Exh. Unitil-PMN-2, Schs. PMN-2G-1, PMN-2G-2, PMN-2G-3, PMN-2G-4, PMN-2G-5, PMN-2G-6, PMN-2G-7, PMN-2G-8 (gas); RR-DPU-8, Att. 1 (gas)). The Company also used multi-variate regression techniques and performed appropriate diagnostic tests to ensure the appropriateness of the regressions in its marginal cost study (Exh. Unitil-PMN-2, Schs. PMN-2G-2, PMN-2G-4 (gas); RR-DPU-8, Att. 1 (gas)).

As initially filed, the marginal cost study relied on data from 1978 to 2009 (Exh. Unitil-PMN-2, Schs. PMN-2G-2, PMN-2G-3, PMN-2G-4, PMN-2G-6 (gas)). The Department is sympathetic to the Company's efforts to control rate case costs by reducing the financial burden of the marginal cost study. Nonetheless, the Department finds that the data used by the Company in its initial development of the marginal cost study is too far out of date. If a marginal cost study is to facilitate the development of rates that provide consumers with price signals that accurately represent the costs associated with consumption decisions, the estimated marginal cost needs to be meaningful, that is the latest and most accurate that the utility can reasonably provide. Therefore, the Department finds the marginal cost study as initially filed unacceptable.

As noted above, Unitil updated its marginal cost study during this proceeding to include data from 2010 through 2014 (RR-DPU-8 (gas)). Based on the use of this more recent data, we find that the Company has used reliable data to develop the marginal cost study, as required by Department precedent. Based on the foregoing, we conclude that the marginal cost study

provided to the Department in response to RR-DPU-8 (gas) used the most robust marginal cost model available. Accordingly, we accept the Company's updated marginal costs as outlined in RR-DPU-8 (gas).

E. Electric Rate Design

1. Introduction

The Company designed rates to produce a target revenue requirement for distribution service of \$28,174,888, which includes a rate of return of 8.72 percent (Exh. Unitil-PMN-2, at 19 (electric)). Unitil set its initial revenue requirement target for each rate class to generate equalized rates of return (Exh. Unitil-PMN-2, at 20 (electric)). This step resulted in an overall percentage increase to existing base rates of 15.65 percent (Exh. Unitil-PMN-2, at 20 (electric)).

When designing rates for each rate class, the Company used a four-step process (Exh. Unitil-PMN-2, at 22 (electric)). First, the class revenue requirement target was established based on the results of the COSS, which generates equalized rates of return for each rate class, and then subtracting the allocated special contract revenues (Exh. Unitil-PMN-2, at 21 (electric)).¹⁵⁹ Second, the rate structure for each rate class was determined (Exh. Unitil-PMN-2, at 21 (electric)). Third, customer charges were established (Exh. Unitil-PMN-2, at 22 (electric)). Fourth, Unitil derived the kW and kWh charges to collect the remaining target revenue requirement and increased each charge by an equal

¹⁵⁹ The cost to serve special contract customers were not identified in the COSS; instead the revenue collected from these customers was credited to each rate class on the basis of the allocated class substation and meter costs (Exh. Unitil-PMN-2, at 21 (electric)).

percentage (Exh. Unitil-PMN-2, at 22 (electric)). Unitil chose a flat rate structure for all rate classes, eliminating the inclining block rates pursuant to its last electric base distribution rate case (Exh. Unitil-PMN-2, Sch. PMN-1E 6, at 2, column (Y) (electric)). D.P.U. 13-90, at 250. The Company proposed to keep customer charges for all rate classes unchanged (Exh. Unitil-PMN-2, at 22 (electric)).¹⁶⁰ In addition, Unitil proposed no change to its 25-percent discount for the low-income Rate RD-2. M.D.P.U. No. 259. The Company's rate design proposal for each rate class is discussed in further detail below.

2. Positions of the Parties

a. Low-Income Network

The Low-Income Network asserts that low-income customers subsidize on-site generation incentives, and, thus, the Department should adjust discount rates to offset this subsidization (Low-Income Network Brief at 7 (electric)). The Low-Income Network asserts that such an adjustment is required by Massachusetts law (Low-Income Network Brief at 7 (electric), citing G.L. c. 164, § 141). In addition, the Low-Income Network contends that low-income customers lack the discretionary income to invest in on-site generation or benefit from subsidies supporting the on-site generation investments (Low-Income Network Brief at 7-8) (electric)). The Low-Income Network asserts that low-income customers receive a disproportionately small share of the subsidy benefit, and, thus, the Department should direct

¹⁶⁰ The Company stated that it initially considered increases to electric division customer charges to more properly recover the level of fixed charges associated with delivery revenue and to reduce the existing high level of subsidy for the average and below kWh usage, but decided to maintain existing customer charges over concern of impacts on small users (Exh. AG 13-1 (electric)).

Unitil to adjust its low-income rates to fully compensate low-income customers for their portion of the cost to subsidize net metering and solar renewable energy credits (Low-Income Network Brief at 7-8 (electric)).

b. Company

The Company opposes the Low-Income Network's request, and asserts that if such a request is addressed, it should be done in a generic ratemaking proceeding involving all electric distribution companies in the Commonwealth (Company Brief at 112). The Company also asserts that low-income customers have opportunities to access the benefits of the incentives and subsidies for on-site generation, since solar developers often solicit and enroll customers in third-party agreements for purchase of a customer's solar generated electricity (Company Brief at 112).¹⁶¹

3. Analysis and Findings

The Department recognizes the Low-Income Network's concern for protecting low-income customers from the rising costs of Unitil's charges for on-site generation and its associated incentives. Nevertheless, the Low-Income Network failed to adequately define and provide evidence of the alleged unaffordability gap associated with the deployment of on-site generation create for low-income customers.¹⁶² To consider a change to the discount level, the

¹⁶¹ No other party commented on the Low-Income Network's proposal.

¹⁶² Although the Low-Income Network issued one record request at hearings regarding low-income customers and renewable portfolio standards, the specific issue that the Low-Income Network would raise was not evident until it submitted its initial brief (see RR-LI-1). As such, there is not a sufficient record before the Department to address this issue.

Department requires additional due process to allow parties to confirm and augment preliminary data (see RR-LI-1, Att. (electric)). Finally, the issue also creates potential legal questions with regard to definitions of on-site generation “scale” and “affordability” under G.L. c. 164, § 141, that have not been fully developed on the record of this proceeding. Accordingly, the Department denies the Low-Income Network’s request to direct Until to adjust its low-income rates’ discount level.

We note that in Section IX.B.3., above, the Department has directed Until to allocate revenues exceeding the ten percent rate cap based on revenues at equalized rates of return and not based on test-year base revenues as proposed. Otherwise, the Company’s four-step allocation method discussed above satisfies the Department’s rate structure goals of fairness and continuity. The Department also finds that the Company’s proposed flat rate structure for all rate classes is consistent with the rate design policy developed in previous base distribution rate cases. See D.P.U. 14-150, at 400; D.P.U. 13-90, at 250; D.P.U. 13-75, at 358-361; D.P.U. 12-25, at 468-469. Regarding the proper level to set the customer charge and volumetric rates for each residential and C&I rate class, the Department will make this determination on a rate class by rate class basis based to balance our rate design goals.

F. Electric Rate-by-Rate Analysis

1. Introduction

Until’s rate structure for its electric division consists of two residential rate classes, four C&I rate classes and a C&I rider rate, and two outdoor lighting classes. The residential rate classes are differentiated based on whether the customer receives a subsidized rate. The

C&I rate classes are set based on the size of the customers' load and the C&I rider is for water and space heating load. The outdoor lighting rate classes are differentiated based on whether Unitil or the customer owns the lighting equipment. The rate design for each rate class is discussed in detail below.

2. Rates RD-1 and RD-2

a. Company Proposal

Rates RD-1 and RD-2 are available for all domestic purposes in individual private dwellings and in individual apartments. M.D.P.U. Nos. 258, 259. Rate RD-2 is a subsidized rate available to customers who are recipients of any means-tested public benefit program, the low-income home energy assistance program, or its successor program, for which eligibility does not exceed 60 percent of the median income in Massachusetts based on a household's gross income, or other criteria approved by the Department. M.D.P.U. No. 259. Customers who qualify for this subsidy are required each year to certify their continuing eligibility. M.D.P.U. No. 259.

Unitil proposes to maintain the current customer charge of \$7.00 for both Rate RD-1 and Rate RD-2 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 2 (electric)). See also proposed M.D.P.U. No. 284 (Sch. SR) (electric). The Company proposes to collect the remaining class revenue requirement through a flat volumetric charge for both Rate RD-1 and Rate RD-2 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). For Rate RD-1 and Rate RD-2, Unitil proposed a volumetric charge of \$0.08205 per kWh (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). No party addressed this issue on brief.

b. Analysis and Findings

According to the Company's COSS, the embedded customer charge for Rate RD-1 and Rate RD-2 is \$14.89 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E 6, at 3 (electric)). Based on a review of the embedded costs and the bill impacts on customers, the Department finds that Unitil's proposed monthly customer charge of \$7.00 for Rate RD-1 and Rate RD-2 is reasonable. The Department directs the Company to set its volumetric charges for Rate RD-1 and Rate RD-2 so that these rate classes are charged based on a flat rate structure. Such rate design satisfies our simplicity goal, as well as our continuity goal because it produces bill impacts that are moderate and reasonable, considering the size of the increase. Therefore, the Department directs the Company to set the volumetric charges for Rate RD-1 and Rate RD-2 to collect the remaining class revenue requirement approved in this Order.

3. Rate GD-1

a. Company Proposal

Rate GD-1 is available to all customers with non-residential loads consistently under four kW and energy consumption less than 850 kWh per month. M.D.P.U. No. 260. The Company proposes to maintain the current monthly customer charge of \$10.00 and to collect the remaining class revenue requirement through a flat volumetric charge (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). Unitil proposes a flat charge of \$0.08002 per kWh (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). No party addressed this issue on brief.

b. Analysis and Findings

According to the Company's COSS, the embedded customer charge for Rate GD-1 is \$15.12 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). Based on a review of the embedded costs and the bill impacts on customers, the Department finds that Unitil's proposed monthly customer charge of \$10.00 for Rate GD-1 is reasonable. The Department directs the Company to set its volumetric charge for Rate GD-1 so that the rate class is charged based on a flat rate structure. Such rate design satisfies our simplicity goal, as well as our continuity goal because it produces bill impacts that are moderate and reasonable, considering the size of the increase. Therefore, the Department directs the Company to set the energy charge for Rate GD-1 to collect the remaining class revenue requirement approved in this Order.

4. Rates GD-2, GD-4, and GD-5

a. Company Proposal

Rate GD-2 is available to commercial customers with demands (excluding space heating and water heating loads eligible under Rate GD-5) consistently greater than or equal to four kW or energy consumption consistently greater than or equal to 850 kWh per month and generally less than 120,000 kWh per month. M.D.P.U. No. 260. Rate GD-4 is an optional general delivery time of use ("TOU") rate. M.D.P.U. No. 260. Rate GD-5 is a water and space heating delivery rider rate. M.D.P.U. No. 260.

The Company proposes to maintain the monthly customer charge of \$10.00 for rates GD-2 and GD-4 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). M.D.P.U. No. 260. For Rate GD-2, the Company proposes to increase the energy charge from \$0.02065

per kWh to \$0.02458 per kWh (Exhs. Unitil-PMN-1, Sch. Unitil-PMN-1E-6, at 3 (electric); DPU-FGE 10-30, Att. at 4 (electric); AG 1-1 Normand (electric)). In addition, Unitil proposes to increase the demand rate for Rate GD-2 from \$8.58 per kW to \$10.06 per kW (Exhs. Unitil-PMN-1, Sch. Unitil-PMN-1E-6, at 3 (electric); DPU-FGE 10-30, Att. at 4 (electric)). For Rate GD-4, the Company proposes to increase the on-peak hours energy charge from \$0.00920 per kWh to \$0.01077 per kWh and increase the off-peak hours energy charge from \$0.00202 per kWh to \$0.00236 per kWh (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)).¹⁶³ In addition, the Company proposes to increase the demand charge for Rate GD-4 from \$3.56 per kW to \$4.16 per kW (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). For Rates GD-2 and GD-4, Unitil also proposes to increase the transformer ownership credit from \$0.17 per kW to \$0.19 per kW (Exh. DPU-FGE 10-30, Att. 1 (electric)).

For Rate GD-5, which is a rider for Rate GD-2, the Company proposes to continue with no customer charge (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). M.D.P.U. No. 260. In addition, for Rate GD-5, the Company proposes to increase the flat rate volumetric charge from \$0.05305 per kWh to \$0.06231 per kWh (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). M.D.P.U. No. 260. No party addressed this issue on brief.

¹⁶³ For Rate GD-3 and Rate GD-4, “on-peak” is defined to be between the hours of 10:00 A.M. and 10:00 P.M. (local time) for all non-holiday weekdays, and “off-peak” is defined to be (1) between the hours of 10:00 P.M. and 10:00 A.M. (local time) during non-holiday weekdays, and (2) all-day for weekends and for official federal and Massachusetts holidays that occur on a weekday (M.D.P.U. No. 260).

b. Analysis and Findings

According to the Company's COSS, the embedded customer charge for Rate GD-2 and Rate GD-4 is \$43.07 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). Based on a review of the embedded costs and the bill impacts on customers, the Department finds that Unitil's proposed monthly customer charge of \$10.00 for Rate GD-2 and Rate GD-4 is reasonable. In addition, no party objected to the Company's proposal to: (1) increase the Rate GD-2 demand charge to \$10.06; (2) increase the Rate GD-4 demand charge to \$4.16; and (3) increase the transformer ownership credit to \$0.19 per kW for Rates GD-2 and GD-4. The Department finds that the Company's Rates GD-2 and GD-4 proposals are reasonable. The Department has reviewed Unitil's embedded costs, bill impacts, and analysis of its system peaks for the year 2014 and is satisfied that the proposed TOU energy rates for the on-peak hours and off-peak hours are reasonable based on the Company's proposed revenue requirement (Exh. Unitil-DJD-1, Sch. Unitil-DJD-2 (electric)). Therefore, the Department approves the Company's proposed transformer ownership credits of \$0.19 per kW for Rate GD-2 and Rate GD-4. Last, the Department directs Unitil to collect the remaining class revenue requirement approved in this Order through its energy and demand charges by increasing each charge by an equal percentage from those currently in effect.

The Company proposed to continue to not employ a customer charge for Rate GD-5. Because Rate GD-5 is a rider to Rate GD-2 that charges a monthly customer charge, we find that it is appropriate to continue with not charging a customer charge for Rate GD-5. The Department also finds that Unitil's proposal to set the energy charge to collect the revenue

requirement for Rate GD-5 is reasonable (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). Therefore, the Department directs the Company to set the energy charge for Rate GD-5 to collect the class revenue requirement approved in this Order.

5. Rate GD-3

a. Company Proposal

Rate GD-3 is available to industrial and large commercial customers who have monthly usage greater than or equal to 120,000 kWh. M.D.P.U. No. 260. Rate GD-3 is a TOU rate. M.D.P.U. No. 260. The Company proposed to maintain the existing customer charge for Rate GD-3 and to increase the demand charge by 38 percent (see Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)).

Unitil proposes to maintain the current monthly customer charge of \$300.00 for Rate GD-3 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). For Rate GD-3, Unitil proposes to increase the on-peak hours energy charge from \$0.01589 per kWh to \$0.02186 per kWh and increase the off-peak hours energy charge from \$0.00356 per kWh to \$0.00489 per kWh (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). In addition, the Company proposes to increase the demand charge for Rate GD-3 from \$5.73 per kW to \$7.88 per kW (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1E-6, at 3 (electric)). No party addressed this issue on brief.

b. Analysis and Findings

As stated above, the Department must balance economic efficiency with price signals that promote end-use efficiency. The Department has reviewed Unitil's embedded costs, bill

impacts, and analysis of its system peaks for the year 2014 and is satisfied that the proposed demand charge and TOU energy rates for the on-peak hours and off-peak hours are reasonable (Exh. Unitil-DJD-1, Sch. Unitil-DJD-2 (electric)). Based on this review, the Department finds that the Company's proposal to maintain its customer charge of \$300.00 for Rate GD-3 is reasonable. Additionally, the Department approves a demand charge of \$7.88 per kW and directs the Company to collect the remaining class revenue requirement approved in this Order through the on-peak and off-peak hours energy charges, increasing each by an equal percentage.

6. Rates SD and SDC

a. Company Proposal

Rate SD is available to all customers for outdoor lighting delivery service with the Company's standard lighting fixtures mounted on existing poles. M.D.P.U. No. 261. The rate SDC is for customer-owned outdoor lighting delivery service, which is available to customers such as cities or towns, government entities, or other public authorities that purchase outdoor lighting equipment from the Company. M.D.P.U. No. 262. For rate SD, Unitil proposes to increase the fixed rate components for each fixture charge by an equal percentage (16.85 percent) based on the class target revenue requirement (Exh. Unitil-PMN-2, at 23 & Sch. Unitil-PMN-1E-6, at 1, 6 (electric)). For rate SDC, the Company developed a per kWh charge based on the target revenue requirement for the outdoor lighting rate class (Exh. Unitil-PMN-2, at 23 & Sch. Unitil-PMN-1E-6, at 1, 6 (electric)). Unitil derived the overall \$0.06667 per kWh energy charge by dividing the capacity-related portion of the total

outdoor lighting revenue requirement at equalized rates of return by the total outdoor lighting kWhs (Exh. Unitil-PMN-2, at 23 & Sch. Unitil-PMN-1E-6, at 1, 6 (electric)). No party addressed this issue on brief.

b. Analysis and Findings

The Company's proposal to increase all fixture rates for rate SD by an equal percentage based on the class target revenue requirement is identical to the rate design that was approved by the Department in D.P.U. 13-90, at 257-258, and in D.P.U. 11-01/D.P.U. 11-02, at 470. Based on a review of the embedded costs and bill impacts, the Department finds that Unitil's proposed rate design for rate SD continues to be reasonable. In addition, the Department has reviewed the rate design method, embedded costs, and bill impacts for the outdoor lighting class for customer-owned equipment, rate SDC, and finds it reasonable. Therefore, the Department directs Unitil to use the methods proposed by the Company to collect the rate class SD and rate class SDC revenue requirement approved in this Order.

G. Gas Rate Design

1. Company Proposal

The Company proposes to increase the customer charges for all rate classes (Exh. Unitil-PMN-2, at 29 & Sch. Unitil-PMN-1G-8, at 3 (gas)). These increases include a 17.65 percent increase in all residential rate classes and a 25.00 percent increase for all C&I rate classes (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). Customer charges are discussed further below in the individual rate class section (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)).

The Company proposes flat rates for all rate classes, which is a departure from the inclining block rate structure of its most recent gas base distribution rate case (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). See D.P.U. 11-01/D.P.U. 11-02, at 479. Unitil also proposes to continue the 25-percent discount that low-income customers on rates R-2 and R-4 receive off the total charges for rates R-1 and R-3, respectively (proposed M.D.P.U Nos. 191, 193).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Company's proposed customer charges are excessive, and urges the Department to adopt the Attorney General's recommendations for lowering them (Attorney General Brief at 71 (gas)). The Attorney General recommends the Department direct the Company to: (1) limit all residential customer charge increases to 15 percent, or \$1.25 above the current charge of \$8.50; (2) freeze small G-41 and G-51 C&I customer charges at their current level of \$24.00; and (3) limit medium G-42 and G-52 C&I customer charge increases to 15 percent, or \$18.00 above the current charge of \$120.00 (Attorney General Brief at 71 (gas), citing Exh. AG-RSB-1, at 3-4 (gas)).

Focusing on the consequences for small and medium usage C&I rate classes, the Attorney General maintains that the Company's proposed increases may result in substantial impacts to the budgets of small businesses, for whom the customer charge is a larger portion of their bill (Attorney General Brief at 72-73 (gas)). The Attorney General also asserts that Unitil's customer charges already are among the highest in the Commonwealth for small and

medium C&I rate classes and are not aligned with rates charged by other companies (Attorney General Brief at 72 (gas), citing Exh. AG-RSB-1, at 7-8 (gas); Attorney General Reply Brief at 42). Moreover, the Attorney General contends that proposed increases would do more to limit small and medium usage C&I customers' ability to control their bills through energy efficiency or demand response since such efforts to control their bills are not influenced by the fixed customer charges (Attorney General Brief at 73 (gas); Attorney General Reply Brief at 42). The Attorney General argues that limiting the customer charge encourages end-user energy efficiency by shifting the recovery of a higher proportion of the revenue requirement to the volumetric portion of the rate, which customers do have a greater ability to control (Attorney General Brief at 73).

The Attorney General argues that limiting the customer charges according to her proposal would result in multiple benefits that include promoting rate continuity in line with the Department's goals for appropriate customer charges and encouraging energy efficiency by end users (Attorney General Brief at 71-72 (gas), citing D.P.U. 10-55, at 561). For these reasons, the Attorney General requests that the Department adopt her recommendations.

b. Company

The Company disagrees with the Attorney General's recommendation for limiting customer charges, arguing that her proposal to set prices based on understated customer charges balanced by higher volumetric charges will result in inefficient pricing, customer confusion, and potentially poor decision-making by customers (Company Reply Brief at 26). Unitil also disputes the Attorney General's suggestions that Unitil's proposed customer charges

are not aligned with customer charges of comparable gas LDCs in the Commonwealth and nearby states (Company Reply Brief at 26, citing Exh. Unitil-PMN-Rebuttal-1 & Sch. Unitil-PMN-1-R-G (gas)).

Unitil asserts that the proposed customer charges reflect only a small portion of the true cost to serve customers (Company Reply Brief at 26, citing Exh. Unitil-PMN-Rebuttal-1, at 2 (gas)). The Company maintains that it sought to balance several goals in setting customer charges, including alignment with COSS indicators, customer impacts, and promotion of conservation (Company Brief at 109). The Company states that it considered bill impacts for smaller use customers in its rate design, and contends that the proposed customer charges reflect a sound move towards the full cost of providing customer-related services (Company Brief at 110, citing Exh. Unitil-PMN-Rebuttal-1, at 2 (gas)). The Company disagrees with the Attorney General's suggestions that Unitil's proposed increases undermine rate continuity goals, and, therefore, requests that the Department reject the Attorney General's arguments and recommendations and approve Unitil's customer charges as proposed (Company Brief at 110; Company Reply Brief at 26).

3. Analysis and Findings

In setting customer charges, the Department must balance the competing rate structure goals of: (1) efficiency (i.e., setting the customer charge to recover its cost to serve); and (2) rate continuity. D.P.U. 10-55, at 561. The Department acknowledges the arguments raised by the Attorney General with respect to the Company's proposed customer charges. We decline, however, to adopt the Attorney General's recommendation to limit the customer

charges to a specific percentage increase. Rather, the Department finds that it is appropriate to evaluate the proposed customer charges on a rate class by rate class basis. See D.P.U. 13-90, at 250; D.P.U. 13-75, at 363; D.P.U. 10-114, at 363; D.P.U. 10-55, at 562.

We note that in Section IX.C.3. above, the Department directed the Company to allocate revenues exceeding the ten-percent rate cap based on revenues at equalized rates of return and not based on test-year base revenues as proposed. Otherwise, Unitil's allocation method discussed above satisfies the Department's rate structure goals of fairness and continuity. The Department also finds that the Company's proposed flat rate structure for all rate classes is consistent with rate design policy developed in previous base distribution rate cases. See D.P.U. 14-150, at 400; D.P.U. 13-90, at 250; D.P.U. 13-75, at 358-361; D.P.U. 12-25, at 468-469. Regarding the proper level to set the volumetric rates for each residential and C&I rate class, the Department evaluates the Company's proposals on a rate class by rate class basis below.

H. Gas Rate-by-Rate Analysis

1. Introduction

The Company's rate structure for its gas division consists of four residential rate classes and six C&I rate classes. The residential rate classes are differentiated based on whether the customer's gas use includes gas space heating equipment and whether the customer receives a subsidized rate. The C&I rate classes are set based on whether the customer has a high- or low-load factor and whether the customer's gas consumption is high, medium, or low in amount. The rate design for each rate class is discussed below.

2. Rates R-1, R-2, R-3, and R-4

a. Company Proposal

Rate R-1 is available for all domestic purposes in individual private dwellings and in individual apartments other than those for which Rate R-3 applies (proposed M.D.P.U. No. 190). Rate R-3 is available for all domestic purposes in individual private dwellings and in individual apartments where such residences are heated exclusively by means of permanently installed space heating equipment (proposed M.D.P.U. No. 192). Rates R-1 and R-3 are available only to residential customers taking service in master metered buildings containing no more than four units with gas supplied through one meter (proposed M.D.P.U. Nos. 190, 192).

Subsidized rates are available for all domestic purposes in individual private dwellings or individual apartments (proposed M.D.P.U. Nos. 191, 193). Rate R-2 is available for all domestic purposes in individual private dwellings and in individual apartments other than those for which Rate R-4 applies (proposed M.D.P.U. No. 191). Rate R-4 is available for all domestic purposes in individual private dwellings and in individual apartments where such residences are heated exclusively by means of permanently installed space heating equipment (proposed M.D.P.U. No. 193). Eligibility for the R-2 and R-4 rates is established on verification of a customer's receipt of any means-tested public benefit program or verification of eligibility for the low-income home energy assistance program, or its successor program, for which eligibility does not exceed 60 percent of the Massachusetts median income based on a household's gross income, or other criteria approved by the Department (proposed

M.D.P.U. Nos. 191, 193). Customers who qualify for this subsidy are required each year to certify their continuing eligibility (proposed M.D.P.U. Nos. 191, 193).

Beginning February 1, 2011, the Company modified the application of the low-income discount pursuant to Fitchburg Gas and Electric Light Company, D.P.U. 10-41 (2010).

Consequently, Rate R-2 was reset so that it is the same as Rate R-1 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). Customers on Rate R-2 currently receive a 25-percent discount off of their entire bill pursuant to D.P.U. 11-01/D.P.U. 11-02, at 480. M.D.P.U. No. 166. In addition, Rate R-4 was reset so that it is the same as Rate R-3 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). Customers on Rate R-4 currently receive a 25-percent discount off of their entire bill pursuant to D.P.U. 11-01/D.P.U. 11-02, at 480. M.D.P.U. No. 168.

Unitil proposes to increase the customer charge from \$8.50 to \$10.00 for Rates R-1, R-2, R-3, and R-4 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. Nos. 190, 192). Unitil proposes to collect the remaining class revenue requirement through a flat rate volumetric charge (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). For rates R-1 and R-2, the Company proposes a volumetric charge of \$1.0461 per therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. Nos. 190, 191). For rates R-3 and R-4, Unitil proposed a volumetric charge of \$0.8563 per therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. Nos. 192, 193). No party addressed this issue on brief.

b. Analysis and Findings

Regarding the customer charges for rates R-1, R-2, R-3, and R-4, the Company has proposed to increase the customer charge from \$8.50 to \$10.00. As stated above, the Department must balance economic efficiency with price signals that promote end-use efficiency. Based on a review of the embedded costs and the seasonal and annual bill impacts on customers, the Department finds that a monthly customer charge of \$10.00 for rates R-1, R-2, R-3, and R-4, is reasonable. Additionally, the Department finds that Unitol's proposed method for establishing the flat volumetric charges for rates R-1 through R-4 is reasonable and complies with the Department's directives in D.P.U. 09-30, at 389; D.P.U. 08-35, at 249, and D.P.U. 07-50-A at 25-28. The Department directs the Company to set the volumetric charge for rates R-1 and R-2 to collect the remaining R-1 and R-2 total class revenue requirement approved in this Order, and to set the volumetric charge for rates R-3 and R-4 to collect the remaining R-3 and R-4 total class revenue requirement approved in this Order.

The Department also finds that the Company's proposed 25-percent discount for rates R-2 and R-4 is consistent with the low-income discount level that the Department has approved for other distribution companies. See D.P.U. 14-150, at 402; D.P.U. 12-25, at 473-474; D.P.U. 11-01/D.P.U. 11-02, at 462; D.P.U. 10-114, at 366-367; D.P.U. 10-55, at 564. In those instances, the Department found that it was appropriate to establish a low-income discount of 25 percent of the total bill because it provided a significant benefit to low-income customers as compared to a modest increase in the bill impacts of non-low-income customers and will result in administrative efficiencies. D.P.U. 14-150, at 402; D.P.U. 12-25, at 473-474; D.P.U. 11-01/D.P.U. 11-02, at 462; D.P.U. 10-114, at 366-367; D.P.U. 10-55, at 564. In the

instant case, we have reviewed the effects of maintaining the low-income discount at 25 percent and have determined that the overall bill impacts demonstrate a significant benefit to low-income customers as compared to the bill impacts of non-low-income customers. Accordingly, the Department approves the Company's proposal to maintain the low-income discount for rates R-2 and R-4 at 25 percent of the total bill.

3. Rates G-41 and G-51

a. Company Proposal

Rates G-41 and G-51 are available to C&I and institutional customers with annual usage of less than 8,000 therms for all purposes when gas is for their exclusive use and not for resale (proposed M.D.P.U. No. 194). The Company proposes to increase the current customer charge from \$24.00 to \$30.00 for rates G-41 and G-51 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 194). Unitil proposes to collect the remaining class revenue requirement through a flat volumetric charge for Rates G-41 and G-51 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). For Rate G-41, Unitil proposes a volumetric charge of \$0.8026 per therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 194). For Rate G-51, Unitil proposes a volumetric charge of \$0.6858 per therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 194). No party addressed this issue on brief.

b. Analysis and Findings

Regarding the customer charges for rates G-41 and G-51, the Company proposes to increase the customer charge for both classes from \$24.00 to \$30.00. As stated above, the

Department must balance economic efficiency with price signals that promote end-use efficiency. The Department finds that increasing the customer charge to \$28.00 for rates G-41 and G-51 strikes a proper balance between economic efficiency and the promotion of end-use efficiency. All remaining revenues should be recovered through the volumetric per therm charge for rates G-41 and G-51.

The Department finds that Unitil's proposed method for establishing the flat volumetric charges for Rate G-41 and Rate G-51 is reasonable and complies with the Department's directives in D.P.U. 09-30, at 389, D.P.U. 08-35, at 249, and D.P.U. 07-50-A at 25-8. Therefore, the Department directs the Company to collect the remaining class revenue requirement approved in this Order through the volumetric charge for Rates G-41 and G-51.

4. Rates G-42 and G-52

a. Company Proposal

Rates G-42 and G-52 are available to C&I and institutional customers with annual usage between 8,000 and 80,000 therms for all purposes when gas is for their exclusive use and not for resale (proposed M.D.P.U. No. 195). The Company proposes to increase the current customer charge from \$120.00 to \$150.00 for both rates G-42 and G-52 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 195). The Company proposes to collect the remaining class revenue requirement through flat rate volumetric charges for rates G-42 and G-52 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 195). For Rate G-42, Unitil proposes a volumetric charge of \$0.4984 per therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 195). For

Rate G-52, Unitil proposes a volumetric charge of \$0.4471 per therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 195). No party addressed this issue on brief.

b. Analysis and Findings

Regarding the customer charges for Rate G-42 and Rate G-52, Unitil proposes to increase the customer charge for both classes to \$150.00. As stated above, the Department must balance economic efficiency with price signals that promote end-use efficiency. The Department finds that increasing the customer charge to \$140.00 for rates G-42 and G-52 strikes a proper balance between economic efficiency and the promotion of end-use efficiency. All remaining revenues shall be recovered through the volumetric per therm charge for rates G-42 and G-52.

The Department finds that the Company's proposed method for establishing the flat volumetric charges for rates G-42 and G-52 is reasonable and complies with the Department's directives in D.P.U. 09-30, at 389, D.P.U. 08-35, at 249, and D.P.U. 07-50-A at 25-28. Therefore, the Department directs Unitil to collect the remaining class revenue requirement approved in this Order through the volumetric charge for rates G-42 and G-52.

5. Rates G-43 and G-53

a. Company Proposal

Rates G-43 and G-53 are available to C&I and institutional customers with annual usage greater than 80,000 therms for all purposes when gas is for their exclusive use and not for resale (proposed M.D.P.U. No. 196). The Company designed rates for rates G-43 and G-53

to include a demand charge in addition to the customer charge and volumetric charge (Exh. Unitil-PMN-2, at 29-30 (gas)). The demand charge for each rate was then increased by the overall class percentage increase (Exh. Unitil-PMN-2, at 30 & Sch. Unitil-PMN-1G-8, at 3 (gas)). Finally, the volumetric charge for each rate was calculated to recover the remaining class revenue requirement (Exh. Unitil-PMN-2, at 30 (gas)).

Unitil proposes to increase the monthly customer charge from \$500.00 to \$625.00 for both rates G-43 and G-53 (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 196). The current volumetric charges for rates G-43 and G-53 are \$0.2749 per therm and \$0.2429 per therm, respectively (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas)). M.D.P.U. No. 171. The current demand charge for Rate G-43 is \$1.56 per maximum daily demand (“MDD”) therm, and the current demand charge for Rate G-53 is \$1.97 per MDD therm (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); M.D.P.U. No. 171). The proposed volumetric charge and demand charge for Rate G-43 are \$0.3009 per therm and \$1.73 per MDD therm, respectively (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 196). The proposed volumetric charge and demand charge for Rate G-53 are \$0.2468 per therm and \$2.04 per MDD therm, respectively (Exh. Unitil-PMN-2, Sch. Unitil-PMN-1G-8, at 3 (gas); proposed M.D.P.U. No. 196). No party addressed this issue on brief.

b. Analysis and Findings

Regarding the customer charge for Rates G-43 and G-53, the Company proposes to increase the current customer charge for both classes from \$500.00 to \$625.00. As stated

above, the Department must balance economic efficiency with price signals that promote end-use efficiency. The Department finds that Rates G-43 and G-53, designed with a \$625.00 customer charge satisfy continuity goals, and produce bill impacts that are moderate and reasonable, considering the size of the rate increase. Consistent with the method proposed by the Company, the demand charges shall be increased by the overall class percentage increase, and the remaining class revenue requirement approved in this Order shall be recovered through the volumetric charge for rates G-43 and G-53.

I. Reconciliation Tariffs

1. Introduction

The Company proposes to delay updating class-based allocators determined in the instant case for eleven reconciliation mechanism tariffs for its electric division and four reconciliation mechanism tariffs for its gas division until the next scheduled rate changes after issuance of the Department's final Order in these proceedings (Exhs. Unitil-DJD-1, at 3-4, 7 & Sch. Unitil-DJD-4 (electric); Unitil-DJD-1, at 2-3, 5-7 & Sch. Unitil-DJD-3 (gas)).¹⁶⁴ The eleven reconciliation mechanism tariffs for the electric division are: (1) pension/PBOP adjustment factor; (2) energy efficiency reconciliation factor; (3) net metering recovery surcharge; (4) Attorney General consultant expense factor; (5) long-term renewable contract adjustment factor; (6) transition charge; (7) basic service adjustment; (8) internal transmission charge; (9) internal transmission service cost adjustment; (10) external transmission charge;

¹⁶⁴ Changes to other tariffs are discussed in the specific sections. See Sections II., III., VII.O., above.

and (11) renewable resource charge (Exh. Unitil-DJD-1, at 4, 7 & Sch. Unitil-DJD-4

(electric)). The four reconciliation mechanism tariffs for the gas division are:

(1) pension/PBOP adjustment factor; (2) RAAF; (3) Attorney General consultant expense factor; and (4) LDAC (Exh. Unitil-DJD-1, at 2-3, 6-7 (gas) & Sch. Unitil-DJD-3). In addition, the Company states it will include language for the gas system enhancement adjustment factor related to the GSEP in the compliance tariffs at the conclusion of these proceedings (Exh. Unitil-DJD-1, at 2 (gas)).¹⁶⁵

2. Positions of the Parties

a. Attorney General

The Attorney General argues that the Department should direct Unitil to provide in its compliance filings modifications to all electric division and gas division tariffs impacted by these base distribution rate proceedings, including the reconciliation mechanism tariffs the Company proposes to delay updating until after issuance of the Department's final Order (Attorney General Brief at 72 (electric)). The Attorney General contends that Unitil should include clean and redlined versions of all affected tariffs in its compliance filing to allow review by the Department and intervenors for accuracy and to prevent any confusion caused by outdated tariffs remaining posted as "currently effective" (Attorney General Brief at 72-73

¹⁶⁵ Unitil states that rate schedules in D.P.U. 15-81 do not include language for the GSEP factor because the GSEP was not approved at the time of the preparation of rate schedules for this proceeding (Exh. Unitil-DJD-1, at 2 (gas)). See D.P.U. 14-130.

(electric)).¹⁶⁶ The Attorney General notes that although the Company waited to update certain tariffs until scheduled reconciliation filings following the conclusion of Unitil's last base distribution rate case, D.P.U. 13-90, she questions the practice as "arguably in violation of the Department's directives" (Attorney General Reply Brief at 41 n.19).

b. Company

Unitil argues that its proposal to file revised reconciliation mechanism tariffs at the time of the next scheduled rate change or adjustment after issuance of the final Order is consistent with how similar compliance tariffs were developed in D.P.U. 13-90 (Company Brief at 109, citing Tr. 6, at 497-498). The Company contends that this approach has the benefit of avoiding customer confusion and any perceived mismatch between what would be the effective reconciling charge and a purportedly effective and filed tariff indicating an allocator that is not yet in effect (Company Reply Brief at 25).

c. Analysis and Findings

The Department acknowledges the Attorney General's concern for accuracy and clarity. Nevertheless, we note that, other than changes to percentages for the costs allocated to each rate class, no substantive changes are to be made to the tariffs in question (RR-AG-19, Att. 1 (gas); Tr. 6, at 497-503). Given that the changes to the allocators are relatively small, we find that the accuracy gained by changing the allocators on the effective date of the instant rate case

¹⁶⁶ The Attorney General asserts that the Department should direct all distribution companies submitting base distribution rate cases to file affected tariffs in clean and redline formats in initial filings and again in compliance filings (Attorney General Brief at 72 (electric)).

is outweighed by the administrative burden and confusion that would be caused by changing the reconciling factors in the middle of the reconciliation period. Accordingly, we are not persuaded that changing the reconciling tariffs in this proceeding would reduce customer confusion, as the Attorney General contends. Accordingly, the Department declines to accept the Attorney General's request for submitting all of the electric division and gas division reconciliation mechanism tariffs at the time of the Company's compliance filing in this case.

Nonetheless, for the gas division, the LDAC states that the distribution revenue allocator and the remediation adjustment factor changes May 1 each year; its costs are allocated to each rate class using the distribution revenue allocator; and it is collected through the local distribution adjustment factor. Therefore, the LDAC tariff must be updated in the Company's compliance filing for rates effective May 1, 2016. Further, for the gas division, the RAAF and the Attorney General consultant expense factor recover their allowed costs from each rate class based on the distribution revenue allocator, and as a component of the local distribution adjustment factor. Therefore, the Company must also update in its compliance filing the RAAC tariff and Attorney General consultant expense tariff for rates effective May 1, 2016.

X. JUST AND REASONABLE RATES

A. Introduction

On brief, Fitchburg raised concerns regarding the appropriateness of any rate increase (Fitchburg Brief at 11-12). Fitchburg asserts that the propriety of a rate increase depends on whether the rates are just and reasonable (Fitchburg Brief at 6). Fitchburg asserts that any

consideration of what is just and reasonable depends on two factors: (1) the needs of Unitil to achieve a reasonable rate of return; and (2) the effect of the rate increase on the public (Fitchburg Brief at 6). Fitchburg contends that the effect of the rate increase on the public must be taken into consideration because public utilities are monopolies (Fitchburg Brief at 6).

Fitchburg contends that a rate increase at this time will have a disproportionate effect on residential and commercial ratepayers (Fitchburg Brief at 7). Fitchburg maintains that the City and neighboring communities served by Unitil are suffering as businesses relocate or close due to high energy costs, which results in layoffs (Fitchburg Brief at 7-8, 11, citing Exhs. City-LAW-Direct at 4; City-MJB-Direct at 3). Based on these factors, Fitchburg concludes that weighing the public interest against the petition for the rate increase, the needs of the consumers and municipalities outweigh the need of Unitil for a rate increase (Fitchburg Brief at 5). Thus, Fitchburg urges the Department to reject the Company's proposed increase because a rate increase at this time is not in the public interest (Fitchburg Brief at 12). No other party addressed this issue on brief.

B. Analysis and Findings

Fitchburg has raised concerns regarding whether granting any rate increase in this proceeding is just and reasonable. As Fitchburg asserts, pursuant to G.L. c. 164, § 94, the Department is charged with ensuring that any rates are just and reasonable. Attorney General v. Department of Telecommunications and Energy, 438 Mass. 256, 264 n.13 (2002); Attorney General v. Department of Public Utilities, 392 Mass. 262, 265 (1984); Fitchburg Gas and Electric Light Company v. Department of Public Utilities, 371 Mass. 881, 882 (1977);

D.P.U. 10-114, at 22; D.P.U. 93-60, at 212. In setting just and reasonable rates, the Department follows the directives of the United States Supreme Court set out in Hope at 603 and Bluefield at 692-693. In this context, just and reasonable rates enable a utility to meet its cost of service, including a fair and reasonable return on honestly and prudently invested capital. See Boston Gas Company v. Department of Public Utilities, 367 Mass. 92, 97 (1975); Lowell Gas Company v. Department of Public Utilities, 324 Mass. 80, 94, cert. denied, 338 U.S. 825 (1949); Donham v. Public Service Commissioners, 232 Mass. 309, 312-313 (1919).

For the reasons stated in the Order and given the Department's authority we find Fitchburg's arguments are without basis. Further, based on our review of the various aspects of the Company's proposal, the Department has determined that the rates established by this Order are just and reasonable and are consistent with our rate setting goals.

XI. SCHEDULES

A. Schedule 1 (Electric Division) – Revenue Requirements and Calculation of Revenue Increase

	COMPANY			
	PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
COST OF SERVICE				
Total O&M Expense	11,591,808	13,946	(1,029,407)	10,576,347
Depreciation & Amortization	8,968,430	(306,627)	0	8,661,803
Taxes Other Than Income Taxes	1,757,901	(96,514)	(2,826)	1,658,561
Income Taxes	2,007,390	(228)	(98,854)	1,908,308
Return on Rate Base	4,992,399	(568)	(156,191)	4,835,641
<hr/>				
Total Cost of Service	29,317,928	(389,991)	(1,287,277)	27,640,659
<hr/>				
OPERATING REVENUES				
Total Distribution Base Revenues	25,294,420	0	0	25,294,420
Other Operating Revenues	1,514,087	0	0	1,514,087
Less:				
Transition Charge	3,156	0	0	3,156
Energy Efficiency	483,099	0	0	483,099
Water Heater Rental	50,547	0	0	50,547
Net Metering	134,998	0	0	134,998
	671,800	0	0	671,800
Other Operating Revenues	842,287	0	0	842,287
Less:				
Internal Transmission	630,900	0	0	630,900
Other Operating Revenues	211,387	0	0	211,387
<hr/>				
Total Operating Revenues	25,505,807	0	0	25,505,807
<hr/>				
Total Base Revenue Deficiency	3,812,121	(389,991)	(1,287,277)	2,134,853

B. Schedule 2 (Electric Division) – Operations and Maintenance Expenses

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Test Year O&M Expense	52,758,869	0	0	52,758,869
Less:				
Energy Efficiency	4,745,771	0	0	4,745,771
External Transmission	7,007,902	0	0	7,007,902
Transition Charge	200,237	0	0	200,237
Pension/PBOP Adjustment Factor	832,395	0	0	832,395
Rental Water Heaters	50,388	0	0	50,388
Default Service	22,128,195	0	0	22,128,195
Residential Assistance Adjustment Factor	129,713	0	0	129,713
Attorney General Consultant	86,284	0	0	86,284
Revenue Decoupling	(142,000)	0	0	(142,000)
Long-Term Renewable Contract	(518,401)	0	0	(518,401)
Internal Transmission & Distribution O&M Expense	18,238,387	0	0	18,238,387
ADJUSTMENTS TO O&M EXPENSE:				
Sales for Resale O&M Expense	(6,938,917)	0	0	(6,938,917)
Non-Distribution Bad Debt	21,528	0	0	21,528
DPU 13-90 Storm Resiliency Program	205,450	0	0	205,450
DPU 13-90 Protected Receivables	72,299	0	0	72,299
Payroll	98,764	872	(194,866)	(95,230)
Medical & Dental Insurance	3,434	(9,364)	(63,861)	(69,790)
Severance Expense	0	0	(74,693)	(74,693)
401(K) Costs	30,048	30	(1,885)	28,193
Property & Liability Insurance	39,287	2,442	(41,729)	0
Distribution Bad Debt	64,487	(6,946)	(22,928)	34,613
Rate Case Expense	16,777	(60,599)	0	(43,822)
Shareholder Expenses	(22,389)	0	0	(22,389)
RAAF Expenses	129,713	0	(276,817)	(147,104)
Unallowed Storm Costs	(252,637)	0	0	(252,637)
Self Insurance Normalization	2,644	0	0	2,644
Protected Receivables Expense	115,544	0	0	115,544
Prior Year Business Development Expense	(185,864)	0	0	(185,864)
Inflation Allowance	157,506	(1,489)	(16,388)	139,629
Vegetation Management Program	288,579	0	0	288,579
Sub-Transmission Vegetation Management	0	89,000	(89,000)	0
Transmission Vegetation Management Expense	(25,746)	0	0	(25,746)
Prior Year Verizon Expense	(21,444)	0	0	(21,444)
Verizon Related Vegetation Management	0	0	(247,240)	(247,240)
Total O&M Expense Adjustments	(6,200,936)	13,946	(1,029,407)	(7,216,397)
Pro-Forma O&M Expense	12,037,451	13,946	(1,029,407)	11,021,990
Less:				0
Internal Transmission	445,643	0	0	445,643
Total O&M Expense	11,591,808	13,946	(1,029,407)	10,576,347

C. Schedule 3 (Electric Division) – Depreciation and Amortization Expenses

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Test Year Depreciation Expense	5,686,047	0	0	5,686,047
Test Year Amortization Expense	3,044,193	0	0	3,044,193
Test Year Depreciation and Amortization Expense	8,730,239	0	0	8,730,239
Depreciation Adjustment	(152,864)	(5,529)	0	(158,393)
Amortization Adjustment	936,560	(301,098)	0	635,462
Subtotal	9,513,935	(306,627)	0	9,207,308
Less:				
Water Heater Rentals	24,307	0	0	24,307
Internal Transmission	521,199	0	0	521,199
Total Distribution Depreciation and Amortization Expense	8,968,430	(306,627)	0	8,661,803

D. Schedule 4 (Electric Division) – Rate Base and Return on Rate Base

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Utility Plant in Service	133,513,483	0	0	133,513,483
LESS:				
Internal Transmission	12,850,160	0	0	12,850,160
Total	120,663,322	0	0	120,663,322
Reserve for Depreciation	54,275,791	0	0	54,275,791
LESS:				
Internal Transmission	4,609,185	0	0	4,609,185
Total	49,666,606	0	0	49,666,606
Net Utility Plant in Service	70,996,716	0	0	70,996,716
ADDITIONS TO PLANT:				
Cash Working Capital	1,071,850	(6,511)	(86,901)	978,438
Materials and Supplies	1,108,792	0	0	1,108,792
Total	2,180,642	(6,511)	(86,901)	2,087,230
LESS:				
Internal Transmission M&S	119,796	0	0	119,796
Total Additions to Plant	2,060,846	(6,511)	(86,901)	1,967,434
DEDUCTIONS FROM PLANT:				
Reserve for Deferred Income Tax	17,115,486	0	0	17,115,486
Customer Advances	196,986	0	0	196,986
Customer Deposits	318,662	0	0	318,662
Unclaimed Funds	3,447	0	0	3,447
Total	17,634,581	0	0	17,634,581
LESS:				
Internal Transmission (reserve for deferred income tax)	1,829,303	0	0	1,829,303
Total Deductions from Plant	15,805,278	0	0	15,805,278
RATE BASE	57,252,284	(6,511)	(86,901)	57,158,872
COST OF CAPITAL	8.72%	8.72%	-0.26%	8.46%
RETURN ON RATE BASE	4,992,399	(568)	(156,191)	4,835,641

E. Schedule 5 (Electric Division) – Cost of Capital

PER COMPANY				
	PRINCIPAL	PERCENTAGE	COST	RATE OF RETURN
Long-Term Debt	\$62,400,000	47.08 %	7.02 %	3.30 %
Common Equity	\$70,141,263	52.92 %	10.25 %	5.42 %
Total Capital	\$132,541,263	100.00 %		8.72 %
Weighted Cost of Debt				3.30 %
Equity				5.42 %
Cost of Capital				8.72 %

COMPANY ADJUSTMENTS				
	PRINCIPAL	PERCENTAGE	COST	RATE OF RETURN
Long-Term Debt	\$62,400,000	47.08 %	7.02 %	3.30 %
Common Equity	\$70,141,263	52.92 %	10.25 %	5.42 %
Total Capital	\$132,541,263	100.00 %		8.72 %
Weighted Cost of Debt				3.30 %
Equity				5.42 %
Cost of Capital				8.72 %

PER ORDER				
	PRINCIPAL	PERCENTAGE	COST	RATE OF RETURN
Long-Term Debt	\$64,300,000	47.83 %	7.01 %	3.35 %
Common Equity	\$70,141,263	52.17 %	9.80 %	5.11 %
Total Capital	\$134,441,263	100.00 %		8.46 %
Weighted Cost of Debt				3.35 %
Equity				5.11 %
Cost of Capital				8.46 %

F. Schedule 6 (Electric Division) – Cash Working Capital

	COMPANY PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Total Distribution O&M Expense	11,591,808	13,946	(1,029,407)	10,576,347
Less: Uncollectibles	900,815	(6,946)	(22,928)	870,941
Subtotal	10,690,993	20,892	(1,006,479)	9,705,406
Taxes Other Than Income Taxes	1,757,901	(96,514)	(2,826)	1,658,561
Amount Subject to Cash Working Capital	12,448,893	(75,622)	(1,009,305)	11,363,966
Lead/Lag Days	31.41	31.41	31.41	31.41
CWC Factor (Lead-Lag Days / 365)	8.6055 %	8.6055 %	8.6055 %	8.6055 %
Total Cash Working Capital Allowance	1,071,850	(6,511)	(86,901)	978,437

G. Schedule 7 (Electric Division) – Taxes Other Than Income Taxes

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Property Taxes per Books	1,624,361	0	0	1,624,361
Less: Internal Transmission	173,612	0	0	173,612
Subtotal	1,450,749	0	0	1,450,749
FICA	208,587	0	0	208,587
Federal Unemployment Taxes	1,116	0	0	1,116
State Unemployment Taxes	7,811	0	0	7,811
Mass State Health	162	0	0	162
D&O Insurance Tax	1,004	0	0	1,004
Adjustment to Distribution Other Taxes - Payroll	14,688	56	(2,826)	11,918
Adjustment to Distribution Other Taxes - Property Taxes	193,777	(96,570)	0	97,207
Subtotal	427,146	(96,514)	(2,826)	327,806
Less:				
Payroll Taxes Capitalized	114,985	0	0	114,985
Internal Transmission	5,010	0	0	5,010
Total Taxes Other Than Income Taxes	1,757,901	(96,514)	(2,826)	1,658,561

H. Schedule 8 (Electric Division) – Income Taxes

	COMPANY PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Rate Base	57,252,284	(6,511)	(86,901)	57,158,872
Return on Rate Base	4,992,399	(568)	(156,191)	4,835,641
LESS:				
Interest Expense	1,889,325	(215)	(3,380)	1,885,730
Total Deductions	1,889,325	(215)	(3,380)	1,885,730
Net Income	3,103,074	(353)	(152,810)	2,949,911
Gross Up Factor	0.6072	0.6072	1.6469	1.6469
Taxable Income	5,110,465	(581)	(251,664)	4,858,220
Mass Franchise Tax 8.00 %	408,837	(46)	(20,133)	388,658
Federal Taxable Income 34.00 %	4,701,628	(535)	(231,531)	4,469,562
Federal Income Tax Calculated	1,598,553	(182)	(78,721)	1,519,651
Total Income Taxes	2,007,390	(228)	(98,854)	1,908,308

I. Schedule 9 (Electric Division) - Revenues

	COMPANY	DPU	
	PER COMPANY	ADJUSTMENT	PER ORDER
	ADJUSTMENT	ADJUSTMENT	
OPERATING REVENUES PER BOOKS	66,069,382	0	66,069,382
Less:			
Pension/PBOP Adjust. Factor	1,164,375	0	1,164,375
External Transmission	7,058,706	0	7,058,706
Transition Charge	197,081	0	197,081
Default Service	22,217,771	0	22,217,771
Energy Efficiency	4,634,925	0	4,634,925
Residential Assistance Adjustment Factor	129,713	0	129,713
Net Metering	(134,998)	0	(134,998)
Revenue Decoupling	(142,000)	0	(142,000)
Attorney General Consultant	86,284	0	86,284
Long-Term Renewable Contract	(511,165)	0	(511,165)
Total Revenue Adjustments	31,368,692	0	31,368,692
Less: Internal Transmission	1,141,767	0	1,141,767
Distribution Base Revenues	30,226,925	0	30,226,925
Adjustments to Distribution Base Revenues	(4,932,505)	0	(4,932,505)
Total Distribution Base Revenues	25,294,420	0	25,294,420
Other Operating Revenues	1,514,087	0	1,514,087
Less:			
Transition Charge	3,156	0	3,156
Energy Efficiency	483,099	0	483,099
Water Heater Rental	50,547	0	50,547
Net Metering	134,998	0	134,998
Less: Internal Transmission	630,900	0	630,900
Other Operating Revenues	211,387	0	211,387
Adjusted Total Operating Revenues	25,505,807	0	25,505,807

J. Schedule 10 (Electric Division)

Department Approved Distribution Revenue Increase												\$2,134,853
Per Cost of Service Study												
RATE CLASS	TEST YEAR BASE REVENUES	PROPOSED TARGET REVENUE INCREASE	PROPOSED PERCENT INCREASE	TOTAL REVENUES BASED ON CURRENT RATES	PER ORDER REVENUE INCREASE AT EROR	REVENUE INCREASE AT 110% CAP	PER ORDER EXCESS INCREASE TO BE REALLOCATED	PER ORDER REALLOCATION OF EXCESS INCREASE	PER ORDER % INCREASE TOTAL REVENUES	PER ORDER REVENUE INCREASE	DEPARTMENT APPROVED REVENUE REQUIREMENT	
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	
RD-1/RD-2	\$15,265,357	\$1,627,644	10.66%	\$41,827,699	\$914,892	\$4,182,770	\$0	\$611	2.19%	\$915,503	\$16,022,706	
GD-1	\$682,690	\$13,674	2.00%	\$1,431,370	\$7,686	\$143,137	\$0	\$21	0.54%	\$7,707	\$682,599	
GD-2	\$5,479,979	\$1,050,148	19.16%	\$18,599,088	\$590,284	\$1,859,909	\$0	\$274	3.18%	\$590,558	\$5,993,922	
GD-3	\$2,540,742	\$985,917	38.80%	\$11,028,366	\$554,180	\$1,102,837	\$0	\$166	5.03%	\$554,346	\$3,042,943	
GD-4	\$2,670	\$512	19.16%	\$37,588	\$288	\$3,759	\$0	\$1	0.77%	\$288	\$2,919	
GD-5	\$26,430	\$5,065	19.16%	\$90,574	\$2,847	\$9,057	\$0	\$1	3.14%	\$2,848	\$28,909	
OL - SD	\$335,803	\$102,599	30.55%	\$565,950	\$57,670	\$56,595	\$1,075	\$0	10.00%	\$56,595	\$392,398	
OL - SDC	\$43,196	\$12,463	28.85%	\$152,905	\$7,005	\$15,291	\$0	\$2	4.58%	\$7,008	\$50,204	
Net Decoupling Revenue		\$14,125										-\$14,125
					\$0							
Total	\$24,376,867	\$3,812,146	15.58%	\$73,733,540	\$2,134,853	\$7,373,354	\$1,075	\$1,075		\$2,134,853	\$26,216,601	

\$932,949 Plus: Special Contract Revenues
 \$295,119 Plus: Special Contract Increase
 \$54,677 Plus: Late Payment Charges
 \$31,277 Plus: Miscellaneous Service Revenues
 \$102,378 Plus: Pole Attachment Fees
\$21,759 Plus: Other Electric Revenues
\$27,640,634 Cost of Service Per Revenue Req

Sources:

- (A) Schedule PMN-1E-6, at 1, Column (B).
 (B) Schedule PMN-1E-6, at 1, Column (F). (GD-2 and GD-4 include transformer credits)
 (C) Column (B) / Column (A)
 (D) Test Year Billing Determinants multiplied by current rates for each rate class.
 (E) Department Approved Distribution Revenue Increase
 (F) Column (D) * 10%.
 (G) Column (E) - Column (F), 0 if difference \geq 0
 (H) For each uncapped rate class, [Column (A) uncapped rate class + (E) approved revenue increase at EROR / Column (A) total + (E) total] * Column (G) Total
 (I) Column (J) / Column (D)
 (J) Column (F) if capped rate class, otherwise Column (E) + Column (H).
 (K) Column (A) + Column (J) (values reduced to account for special contract revenue increase of \$295,119)

For illustrative purposes only

K. Schedule 1 (Gas Division) – Revenue Requirements and Calculation of Revenue Increase

	COMPANY			
	PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
COST OF SERVICE				
Total O&M Expense	7,098,581	(82,205)	(571,720)	6,444,656
Depreciation & Amortization	5,527,614	(223,297)	0	5,304,317
Taxes Other Than Income Taxes	1,863,379	(178,691)	(2,020)	1,682,668
Income Taxes	2,017,532	(13,677)	(96,126)	1,907,729
Return on Rate Base	5,017,621	(34,015)	(148,594)	4,835,012
<hr/>				
Total Cost of Service	21,524,726	(531,884)	(818,460)	20,174,382
<hr/>				
OPERATING REVENUES				
Total Distribution Base Revenues	18,513,053	(303,338)	303,338	18,513,053
Other Operating Revenues	448,801	0	0	448,801
Less:				
Water Heater Rental	422,160	0	0	422,160
Other Operating Revenues	26,641	0	0	26,641
<hr/>				
Total Operating Revenues	18,539,694	(303,338)	303,338	18,539,694
<hr/>				
Total Base Revenue Deficiency	2,985,032	(228,547)	(1,121,798)	1,634,688

L. Schedule 2 (Gas Division) – Operations and Maintenance Expenses

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Test Year O&M Expense	23,715,311	0	0	23,715,311
Less:				
Pension/PBOP Adjustment Factor	1,001,117	0	0	1,001,117
Residential Assistance Adjustment Factor	214,274	0	0	214,274
Remediation Adjustment Clause	57,025	0	0	57,025
Balancing Penalty Credit Factor	(12,403)	0	0	(12,403)
Energy Efficiency	2,328,327	0	0	2,328,327
Attorney General Consultant	314	0	0	314
	3,588,654	0	0	3,588,654
Less:				
CGA Excluding LPLNG, DAFP & PRO	13,004,389	0	0	13,004,389
Rental Water Heaters & Conversion Burners	258,850	0	0	258,850
	13,263,239	0	0	13,263,239
Test Year Distribution O&M Expense	6,863,418	0	0	6,863,418
ADJUSTMENTS TO O&M EXPENSE:				
Sales for Resale O&M Expense	(158,206)	0	0	(158,206)
Non-Distribution Bad Debt	(13,630)	0	0	(13,630)
Payroll	123,637	1,170	(139,293)	(14,485)
Medical & Dental Insurance	10,741	(10,754)	(65,868)	(65,881)
401(K) Costs	27,491	34	(1,287)	26,239
Leak Repair Expense	0	0	(256,337)	(256,337)
Severance Expense	0	0	(40,476)	(40,476)
Property & Liability Insurance	27,637	1,842	(29,479)	0
Distribution Bad Debt	6,787	(6,781)	(33,282)	(33,276)
Rate Case Expense	3,229	(68,485)	0	(65,255)
Shareholder Expenses	(16,890)	0	0	(16,890)
Self Insurance Normalization	46,675	0	0	46,675
Protected Receivables Expense	119,024	0	0	119,024
Inflation Allowance	58,666	767	(5,698)	53,735
Total O&M Expense Adjustments	235,163	(82,205)	(571,720)	(418,762)
Total O&M Expense	7,098,581	(82,205)	(571,720)	6,444,656

M. Schedule 3 (Gas Division) – Depreciation and Amortization Expenses

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Test Year Depreciation Expense	4,975,744	0	0	4,975,744
Test Year Amortization Expense	289,193	0	0	289,193
Test Year Depreciation and Amortization Expense	5,264,937	0	0	5,264,937
Depreciation Adjustment	461,706	0	0	461,706
Amortization Adjustment	198,174	(223,297)	0	(25,123)
Subtotal	5,924,817	(223,297)	0	5,701,520
Less: Water Heater Rentals	397,203	0	0	397,203
Total Distribution Depreciation and Amortization Expense	5,527,614	(223,297)	0	5,304,317

N. Schedule 4 (Gas Division) – Rate Base and Return on Rate Base

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Utility Plant in Service	117,615,689	0	0	117,615,689
LESS:				
Depreciation and Amortization Reserve	43,123,802	359,050	0	43,482,852
Net Utility Plant in Service	74,491,887	(359,050)	0	74,132,837
ADDITIONS TO PLANT:				
Cash Working Capital	1,002,706	(31,027)	0	971,679
Materials and Supplies	782,993	0	0	782,993
Total Additions to Plant	1,785,699	(31,027)	0	1,754,672
DEDUCTIONS FROM PLANT:				
Reserve for Deferred Income Tax	18,547,433	0	0	18,547,433
Customer Advances	21,532	0	0	21,532
Customer Deposits	163,998	0	0	163,998
Unclaimed Funds	3,098	0	0	3,098
Total Deductions from Plant	18,736,061	0	0	18,736,061
RATE BASE	57,541,525	(390,077)	0	57,151,448
COST OF CAPITAL	8.72%	8.72%	-0.26%	8.46%
RETURN ON RATE BASE	5,017,621	(34,015)	(148,594)	4,835,012

O. Schedule 5 (Gas Division) – Cost of Capital

PER COMPANY				
	PRINCIPAL	PERCENTAGE	COST	RATE OF RETURN
Long-Term Debt	\$62,400,000	47.08 %	7.02 %	3.30 %
Common Equity	\$70,141,263	52.92 %	10.25 %	5.42 %
Total Capital	\$132,541,263	100.00 %		8.72 %
Weighted Cost of Debt				3.30 %
Equity				5.42 %
Cost of Capital				8.72 %

COMPANY ADJUSTMENTS				
	PRINCIPAL	PERCENTAGE	COST	RATE OF RETURN
Long-Term Debt	\$62,400,000	47.08 %	7.02 %	3.30 %
Common Equity	\$70,141,263	52.92 %	10.25 %	5.42 %
Total Capital	\$132,541,263	100.00 %		8.72 %
Weighted Cost of Debt				3.30 %
Equity				5.42 %
Cost of Capital				8.72 %

PER ORDER				
	PRINCIPAL	PERCENTAGE	COST	RATE OF RETURN
Long-Term Debt	\$64,300,000	47.83 %	7.01 %	3.35 %
Common Equity	\$70,141,263	52.17 %	9.80 %	5.11 %
Total Capital	\$134,441,263	100.00 %		8.46 %
Weighted Cost of Debt				3.35 %
Equity				5.11 %
Cost of Capital				8.46 %

P. Schedule 6 (Gas Division) – Cash Working Capital

	COMPANY PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Total Distribution O&M Expense	7,098,581	(82,205)	(571,720)	6,444,656
Less: Uncollectibles	749,787	(6,781)	(33,282)	709,724
Subtotal	6,348,794	(75,424)	(538,438)	5,734,931
Taxes Other Than Income Taxes	1,863,379	(178,691)	(2,020)	1,682,668
Amount Subject to Cash Working Capital	8,212,173	(254,115)	(540,458)	7,417,599
Lead/Lag Days	44.58	44.58	44.58	44.58
CWC Factor (Lead-Lag Days / 365)	12.2100%	12.2100%	12.2100%	12.2100%
Total Cash Working Capital Allowance	1,002,706	(31,027)	(65,990)	905,689

Q. Schedule 7 (Gas Division) – Taxes Other Than Income Taxes

	PER COMPANY	COMPANY ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Property Taxes per Books	1,460,259	0	0	1,460,259
Less: Capitalized Property Taxes	125,694	0	0	125,694
Subtotal	1,334,565	0	0	1,334,565
FICA	227,971	0	0	227,971
Federal Unemployment Taxes	1,220	0	0	1,220
State Unemployment Taxes	8,537	0	0	8,537
Mass State Health	178	0	0	178
NY & WV Income Tax	250	0	0	250
D&O Insurance Tax	902	0	0	902
Adjustment to Distribution Other Taxes - Payroll	13,143	78	(2,020)	11,201
Adjustment to Distribution Other Taxes - Property Taxes	276,613	(178,769)	0	97,844
Total Taxes Other Than Income Taxes	1,863,379	(178,691)	(2,020)	1,682,668

R. Schedule 8 (Gas Division) – Income Taxes

	COMPANY PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
Rate Base	57,541,525	(390,077)	0	57,151,448
Return on Rate Base	5,017,621	(34,015)	(148,594)	4,835,012
LESS:				
Interest Expense	1,898,870	(12,873)	0	1,885,997
Total Deductions	1,898,870	(12,873)	0	1,885,997
Net Income	3,118,751	(21,142)	(148,594)	2,949,015
Gross Up Factor	0.6072	0.6072	1.6469	1.6469
Taxable Income	5,136,283	(34,819)	(244,720)	4,856,744
Mass Franchise Tax 8.00%	410,903	(2,786)	(19,578)	388,539
Federal Taxable Income 34.00%	4,725,380	(32,034)	(225,142)	4,468,205
Federal Income Tax Calculated	1,606,629	(10,891)	(76,548)	1,519,189
Total Income Taxes	2,017,532	(13,677)	(96,126)	1,907,729

S. Schedule 9 (Gas Division) - Revenues

	COMPANY PER COMPANY	ADJUSTMENT	DPU ADJUSTMENT	PER ORDER
OPERATING REVENUES PER BOOKS	35,420,382	0	0	35,420,382
Less:				
Pension/PBOP Adjust. Factor	1,371,813	0	0	1,371,813
Residential Assistance Adjustment Factor	214,274	0	0	214,274
Remediation Adjustment Clause	44,960	0	0	44,960
Balancing Penalty Credit Factor	(12,403)	0	0	(12,403)
CGA Excluding LPLNG, DAFP & PRO	13,150,011	0	0	13,150,011
Energy Efficiency	2,507,470	0	0	2,507,470
Revenue Decoupling	0	0	0	0
Attorney General Consultant	314	0	0	314
Total Revenue Adjustments	18,143,943	0	0	17,276,439
Distribution Base Revenues	18,143,943	0	0	18,143,943
Adjustments to Distribution Base Revenues	369,110	(303,338)	303,338	369,110
Total Distribution Base Revenues	18,513,053	(303,338)	303,338	18,513,053
Other Operating Revenues	448,801	0	0	448,801
Less: Water Heater Rental	422,160	0	0	422,160
Other Operating Revenues	26,641	0	0	26,641
Adjusted Total Operating Revenues	18,539,694	(303,338)	303,338	18,539,694

T. Schedule 10 (Gas Division)

REVENUE REQUIREMENTS AND CALCULATION OF REVENUE INCREASE BY SERVICE

	PER ORDER			AS FILED BY UNITIL		
	TOTAL COMPANY per Order	DISTRIBUTION SERVICE	GAS SERVICE	TOTAL COMPANY As Filed per Company	DISTRIBUTION SERVICE As Filed per Company	GAS SERVICE As Filed per Company
Cost of Gas	\$ 13,191,746	-	13,191,746	\$ 13,191,746	\$ -	\$ 13,191,746
O&M Expense	\$ 7,017,511	5,664,096	1,353,415	7,671,436	6,318,021	1,353,415
Operations Expenses	20,209,257	5,664,096	14,545,161	20,863,182	6,318,021	14,545,161
Depreciation Expense	5,040,247	4,941,057	99,190	5,040,247	4,941,057	99,190
Amortization Expense	264,070	230,505	33,565	487,367	453,802	33,565
Taxes Other Than Income Taxes	1,682,668	1,607,800	74,868	1,863,379	1,788,511	74,868
Income Taxes	1,907,729	1,838,980	68,748	2,017,532	1,948,783	68,748
Rate Base	57,151,448	55,190,695	1,960,753	57,541,525	55,580,772	\$ 1,960,753
Rate of Return	8.46%	8.46%	8.46%	8.72%	8.72%	8.72%
Return on Rate Base	4,835,012	4,669,133	165,880	5,017,621	4,846,643	170,978
Cost of Service	33,938,983	18,951,572	14,987,412	35,289,328	20,296,818	14,992,510
Revenues Credited to Cost of Service	(1,706,808)	(1,658,271)	(48,537)	(1,706,808)	(1,658,271)	(48,537)
Total Cost of Service	32,232,175	17,293,301	14,938,875	33,582,520	18,638,547	14,943,973
Operating Revenues - per books	35,869,183	21,207,971	14,661,212	\$ 35,869,183	\$ 21,207,971	\$ 14,661,212
Revenues Transferred to Cost of Service	(1,706,808)	(1,658,271)	(48,537)	(1,706,808)	(1,658,271)	(48,537)
Revenue Adjustments	(3,564,887)	(4,069,809)	504,921	(3,564,887)	(4,069,809)	504,921
Total Operating Revenues	30,597,488	15,479,891	15,117,596	30,597,488	15,479,891	15,117,596
Revenue Deficiency	1,634,688	1,813,409	(178,722)	\$ 2,985,032	\$ 3,158,656	\$ (173,624)

FOR ILLUSTRATIVE PURPOSES ONLY

U. Schedule 11 (Gas Division)

RATE CLASS	Per Cost of Service Study				Department Approved Distribution Revenue Increase				\$1,813,409			
	TEST YEAR BASE REVENUES (A)	TOTAL REVENUES BASED ON CURRENT RATES (B)	PROPOSED TARGET REVENUE INCREASE AT ERROR (C)	PROPOSED % INCREASE AT ERROR (D)	PER ORDER TARGET BASE REVENUE INCREASE AT ERROR (E)	PER ORDER REVENUE INCREASE AT 110% CAP (F)	EXCESS INCREASE TO BE REALLOCATED (G)	PER ORDER REVENUE TO BE REALLOCATED (H)	PER ORDER % INCREASE TOTAL REVENUES (I)	TARGET BASE REVENUE INCREASE (J)	TARGET BASE REVENUE REQUIREMENT (K)	
Total Residential Non Heat R-1 & R-2	\$859,426	\$1,589,326	\$857,739	99.80 %	\$492,435	\$158,933	\$333,502			10.00 %	\$158,933	\$1,018,359
Total Residential Heating R-3 & R-4	\$7,691,535	\$19,149,940	\$2,496,955	32.46 %	\$1,433,522	\$1,914,994	\$0	\$5,306		7.51 %	\$1,438,828	\$9,130,363
G-41 Small General, High Winter Use	\$1,761,314	\$4,386,936	\$285,720	16.22 %	\$164,034	\$438,694	\$0	\$1,120		3.76 %	\$165,154	\$1,926,468
G-51 Small General, Low Winter Use	\$380,675	\$969,957	\$83,000	21.80 %	\$47,651	\$96,996	\$0	\$249		4.94 %	\$47,900	\$428,575
Total Small General	\$2,141,990	\$5,356,893	\$368,720	17.21 %	\$211,685	\$535,689	\$0	\$1,369		3.98 %	\$213,054	\$2,355,044
G-42 Medium General, High Winter Use	\$2,027,653	\$6,344,100	(\$136,716)	-6.74 %	(\$78,490)	\$634,410	(\$78,490)	\$1,133		0.02 %	\$1,133	\$2,028,787
G-52 Medium General, Low Winter Use	\$517,249	\$1,513,613	(\$73,561)	-14.22 %	(\$42,232)	\$151,361	(\$42,232)	\$276		0.02 %	\$276	\$517,525
Total Medium General	\$2,544,902	\$7,857,714	(\$210,277)	-8.26 %	(\$120,722)	\$785,771	(\$120,722)	\$1,410		0.02 %	\$1,410	\$2,546,311
G-43 Large General, High Winter Use	\$1,169,391	\$3,999,541	(\$143,679)	-12.29 %	(\$82,487)	\$399,954	(\$82,487)	\$632		0.02 %	\$632	\$1,170,023
G-53 Large General, Low Winter Use	\$1,072,648	\$3,655,941	(\$210,803)	-19.65 %	(\$121,024)	\$365,594	(\$121,024)	\$553		0.02 %	\$553	\$1,073,201
Total Large General	\$2,242,039	\$7,655,482	(\$354,482)	-15.81 %	(\$203,511)	\$765,548	(\$203,511)	\$1,185		0.02 %	\$1,185	\$2,243,225
Total	\$15,479,892	\$41,609,355	\$3,158,656	20.40 %	\$1,813,409	\$4,160,936	\$9,270	\$9,270		4.36 %	\$1,813,409	\$17,293,301

Sources:

(A) Schedule PMN-1G-2, Page 5, Line 13 & Schedule PMN-1G-5, Page 29, Lines 2,4 & 5 & Schedule PMN-1G-8, Page 1, Column (B)

(B) Schedule PMN-1G-8, Page 1, Column (G)

(C) Schedule PMN-1G-8, Page 1, Column (E)

(D) Column (C) / Column (A)

(E) Department Approved Distribution Revenue Increase

(F) Column B * 10% - Compliance

(G) Column (E) - Column (F), 0 if difference >0

(H) For each uncapped rate class, [Column (A) uncapped rate class + (E) approved revenue increase at ERROR / Column (A) total + (E) total] * Column (G) Total

(I) Column (J) / Column (B)

(J) Column (F) if capped rate class, otherwise Column (E) + Column (H).

(K) Column (A) + Column (J)

XII. ORDER

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

ORDERED: That the tariffs M.D.P.U. Nos. 284 through 286 filed by Fitchburg Gas and Electric Light Company for its electric division on June 16, 2015, to become effective July 1, 2015, are DISALLOWED; and it is

FURTHER ORDERED: That the tariffs M.D.P.U. Nos. 189 through 196 filed by Fitchburg Gas and Electric Light Company for its gas division on June 16, 2015, to become effective July 1, 2015, are DISALLOWED; and it is

FURTHER ORDERED: That Fitchburg Gas and Electric Light Company shall file new schedules of rates and charges designed to increase annual electric revenues by \$2,134,853; and it is

FURTHER ORDERED: That Fitchburg Gas and Electric Light Company shall file new schedules of rates and charges designed to increase annual gas revenues by \$1,634,688; and it is

FURTHER ORDERED: That Fitchburg Gas and Electric Light Company shall file all rates and charges required by this Order and shall design all rates in compliance with this Order; and it is

FURTHER ORDERED: That Fitchburg Gas and Electric Light Company shall comply with all other directives contained in this Order; and it is

FURTHER ORDERED: That the new rates shall apply to electricity and gas consumed on or after the date of this Order, but unless otherwise ordered by the Department, shall not

become effective earlier than seven days after the rates are filed with supporting data demonstrating that such rates comply with 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.