STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Docket No. DE 13-063
Granite State Electric Company d/b/a Liberty Utilities
Distribution Service Rate Case

DIRECT TESTIMONY
OF
AL-AZAD IQBAL

Date: November 15, 2013

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Q. Please state your name, current position and business address.

A. My name is Al-Azad Iqbal and I am employed by the New Hampshire Public Utilities Commission (Commission) as a Utility Analyst. My business address is 21 S. Fruit Street, Suite 10, Concord New Hampshire, 03301.

Q. Please summarize your educational and professional background.

A. My educational and professional background is summarized in Appendix A.

Q. What is the purpose of your testimony?

A. My testimony will address the issues raised by the testimony on cost of service and rate design filed by Mr. Howard Gorman of HSG Group, Inc. on behalf of Granite State Electric Company d/b/a Liberty Utilities (Granite State). I will also address issues related to Granite State's proposed tariff filed in the current docket.

Q. How is your testimony organized?

A. In section one, I address cost of service and rate design issues and in section two tariff issues are discussed.

Section I

Q. What are the major components of Mr. Gorman's cost of service/rate design testimony?

A. Mr. Gorman presented the following three components in his testimony to demonstrate how his proposed rate design was developed: 1) Marginal Cost Study ("MCS"), 2)

proposed revenue allocation of the total rate year[1] distribution revenue requirement, and 3) proposed rate design for each service classification under the Tariff.

Q. Please explain what is meant by the term "marginal cost."

A. Marginal cost is the change in total cost of delivering a small change in output. The purpose of the MCS is to compute the incremental, or marginal, cost to the utility to provide the next unit of service, *i.e.*, the next kW of demand served or the next customer connected to the system. Unlike average cost, marginal cost is not influenced by fixed costs. Marginal cost is affected only by variable costs.

Q. How did Mr. Gorman calculate marginal costs in his testimony?

A. Mr. Gorman calculated marginal demand-related costs and marginal customer-related costs for each rate class which he used as the basis for revenue allocation to the various rate classes. After target revenue is determined through the revenue allocation process, rate design is performed to establish the monthly, volumetric, demand-based and other rates for each rate class to produce target revenue.

Q. Do you have any comments on Mr. Gorman's approach?

A. Mr. Gorman used typical approach for rate design using a MCS. He explained the details in his testimony and in his schedules clearly. While in general I believe his approach is appropriate, I do have a couple of concerns.

Q. What are your concerns about particular aspects of Mr. Gorman's MCS?

A. I have concerns with respect to how Mr. Gorman estimated the marginal cost when the regression results are not robust or data is not available, particularly his use of average cost and proxy.

[1] Twelve consecutive months the rate would be applied to meet the revenue requirement.

Q. Please explain the first issue.

A. Mr. Gorman used historical multiple years data (1997-2012) for each cost component to determine the marginal cost. To do so, regression analysis was used. When the result of regression analysis is not robust[2], an alternative approach is taken. Usually an average of most recent years is used in such cases. Individual cost components could fluctuate for a variety of reasons in particular years. To normalize any such variation of costs, an average cost of most recent five years is reasonable. In Schedule 6A, the historic (1997-2012) metering, billing and collections costs were regressed with numbers of customers, but the result was not robust (R sq. 46.45%)[3]. Mr. Gorman chose to use only 2012 data to determine cost per customer. To calculate operations and maintenance cost (O&M) (Schedule 9), Mr. Gorman again used only one year of data instead of multiple years of data. Using his choice to use 2012 data for O&M as a rationale, he used 2012 data to calculate an A&G (Administrative & General cost) adder[4] which is the ratio of A&G costs to Distribution O&M and Customer records costs and used to add A&G cost as a percentage to O&M and Customer records costs. In his testimony, Mr. Gorman mentioned the stability of A&G as percentage of O&M cost, but he did not explain why he chose to use only 2012 data for customer cost and O&M instead of multiple years' data.

Q. What is your recommendation?

[2] Two important measures of robustness are 'the goodness of fit' of the model and the 'statistical significance' of the estimated parameters. Commonly used checks of 'goodness of fit' include the R-squared, analyses of the pattern of residuals and hypothesis testing. Statistical significance can be checked by an F-test of the overall fit, followed by t-tests of individual parameters.

[3] R sq provides a measure of how well observed outcomes are replicated by the model as the proportion of total variation of outcomes explained by the model. So in this case, number of customers could explain only 46.45% of cost variation. To be useful as a predictor in a simple model like this, we expect high level of R sq value (i.e in schedule 3A, R sq was in high 80s and considered robust) .

[4] Gorman Testimony p.7, line 10-17

A. I recommend that an average of the most recent 5 years cost data be used for Schedules 5 (Services and Meters Capital Costs), 6A and 9 for the reasons explained earlier.

Q. How would that change the calculation?

A. The outputs of O&M cost, A&G adder, and customer cost are used for calculating a Long-Term Carrying Charge Rate ("LCCR")[5]. A comparative analysis of changes is shown in the following table.

Account Description	Ref.	Primary / Secondary	Line Transformers	Services	Meters	Street Lights
As Filed- Using 2012 Data						
O&M Rates as % of Plant Cost	HSG-9	4.15%	0.13%	0.72%	0.99%	0.50%
Included in LCCR calculations		8.15%	0.25%	1.42%	1.94%	0.99%
Staff Recommendation						
Using 2008-2012 Data (5 years)						
O&M Rates as % of Plant Cost		3.01%	0.18%	0.66%	4.87%	1.49%
Included in LCCR calculations		5.52%	0.33%	1.21%	8.93%	3.28%

Depending on adjustments and allocation principle/assumptions, these changes might not alter the rates for individual rate classes significantly, but I believe that my recommended changes provide a better basis for the purpose of the MCS.

Q. **Please explain the second issue.**

A. In Schedule 5, Mr. Gorman used proxy data (2009 and 2012) obtained from other utilities in the Northeast (three affiliate companies of National Grid, the former owner of Granite State) to calculate capital costs for services and meters for each rate class. Mr. Gorman

[5] Mr. Gorman calculated LCCRs for each asset type (distribution plant, line transformers, services, meters, and street lights) to determine revenue requirements for each of those assets. The LCCR is the constant (or level) rate, stated as a percent of initial capital cost that provides for the costs to be recovered by the utility including: initial capital cost, after-tax return on initial capital cost; ongoing costs for operations and maintenance ("O&M"), etc.

first used a weighted average to calculate the cost for each rate class for each company, and then used a simple average of the three companies to determine the proxy cost for each rate class for Granite State. I believe Granite State should be able to track these costs or estimate the costs reasonably by engineering and economic analysis using the most recent data available.

Q. Do you have any comments related to rate design?

A. Although I don't have any issue with the principles and methodology used for rate design, I have a comment about tiered approach for domestic rate (Rate D). The company retained the long-standing current block rates for Rate D where the first block (250 kWh) is priced lower than the second block (above 250 kWh). The rationale is to encourage conservation through rate design. Classical price elasticity dictates that consumption for electricity will decrease as price increases. Therefore, it is true that increasing the tail block rate would provide an incentive for customers to conserve. On the other hand, low-use residential customers exhibit lower load factors and therefore have a higher cost to serve than average or larger customers. Thus, if rates were designed to match costs to serve, a declining block rate structure could be justified. According to economic theory, the most efficient outcome occurs when prices are equal to marginal costs, resulting in the maximum societal benefit. Since energy service constitutes about half of residential bill, energy prices would continue to provide a strong market based incentive for conservation. Given that there are several programs (CORE Energy Efficiency Program, State and Federal Efficiency program) for conservation, it raises the question whether we need to advance the same goal through inefficient rate making in distribution rates.

Q. Do you have a recommendation at this point?

A. At this point I do not have enough information to recommend abolishing the block price system, but I raise certain issues for future consideration: whether block pricing advances the objectives; whether current block size optimizes the outcome and achieves the goal; whether energy price and demand-side management is a better approach for conservation etc.

Q. When do you recommend those issues be explored?

A. I recommend that Granite State fully review its existing rate structure as part of its next distribution rate case which is expected to be filed within a reasonable time as suggested in Mr. Mullen's testimony. Absent such a case, I would recommend that a separate case be opened to examine Granite State's rate design in detail.

Tariff Issues

Q. Please address the tariff issues?

A. I have two specific issues – issues related to certain tariff charges and how those are determined and issues related to line extensions.

Q. Please address the tariff charge issues?

A. Fees for Optional Interval Data Service, Optional Billing and Data Service, Off Cycle Meter Read for Switch of Supplier, Energy Service Cost Reclassification Adjustment (Tariff Original Pages 71-75) are based on their Optional Services Proposal under DE 03-157. Liberty explained that updating the analysis would most likely increase the charges, but the increase would likely result in an immaterial amount of incremental revenue. In view of this, the Company decided not to expend the effort to gather the data necessary to

update the charges (Attachment 1). Given that the analysis is a decade old, conforming to cost-based rate making principles in a rate case is the most appropriate time to revisit those charges which should be a part of detailed cost of service study.

Q. Do have similar concerns about any other fees?

A. Yes, I do. Under section 11, the Company substantially increased the charges for service connection, reconnection, and after-hours service to establish or reestablish service. The Company also introduced a new fee for a 'Collection field visit'. In his testimony, Mr. Sherry stated "these fees and charges are being updated to reflect the Company's current cost to provide the particular services to customers which have increased as a result of inflation over the many years since they were last updated. It is appropriate to bring these fees and charges into line with the Company's current costs so that the Company is adequately compensated for the services it provides, as well as to send the proper price signals to customers who seek to use these services".[6] I agree with his assertion that it is appropriate to bring these fees and charges into line with the Company's current costs, and such increases may bring the charges more in line with costs, but the Company only used a survey of similar charges by other utilities to establish the new charges. I believe those charges need to be cost-based as stated by Mr. Sherry.

Q. What is your recommendation regarding these tariff charges?

A. I recommend that the Company update all charges discussed in this section with recent actual cost data. Anticipating that the next rate case will be filed within a reasonable time as suggested in Mr. Mullen's testimony, I believe the proposed charges are acceptable for the interim period.

[6] Testimony of William T. Sherry, Page 3, Line 3-11

Q. Please explain the issues related to the proposed line extension tariffs.

A. The Company introduced four line extension policies for different customer groups: individual residential customers, residential developments, individual commercial and industrial customers, and commercial and industrial developments. Section II(1)(1A) of each policy states: "No distinction shall be made between line extensions on public ways or private property except where specifically noted." However, RSA 370:12 states:

> **Installation of Power Line Extensions. –** Any New Hampshire utility customer that requires a power line extension located on private property may hire a contractor who is licensed in the state of New Hampshire and is approved by the utility. Such contractor shall supply and install materials specified by the local utility for underground and overhead line extensions, the cost of which shall be borne by the utility customer.

So by law, the Company has to treat line extensions on private property differently. I recommend that the company revise its line extension policies so that they clearly inform customers and developers of their options pursuant to RSA 370:12.

Q. Do you have any other issue to discuss?

A. Yes, the Company used survey of other utility fees and charges to determine fees for line extensions and the Company stated that it would update its cost per foot rates at the time of its next rate case. The cost and fees for line extensions (Policy 1 and 2) are based on one New Hampshire utility (Public Service Company of New Hampshire, Tariff NHPUC No. 8, Article 34. Line Extensions). The current fees of that utility are for interim period, and currently under review. The charges were set to be reviewed based on three years of actual data[7] and may be increasing. So, I have some concerns with the use of interim fees from another utility to set fees for Granite State. However, the proposed rate of $11.40

[7] The methodology is also described in PSNH's tariff NHPUC No. 8, Article 34. Line Extensions, Average Cost per Foot Effective From April 1, 2013 - Forward

per foot, while imperfect, should provide a better measure of actual cost recovery than the current $2.40 per foot[8]. Anticipating that the next rate case will be filed within a reasonable time as suggested in Mr. Mullen's testimony, I recommend that the company update these fees based on actual costs in the next rate case and, for purposes of this case, the use of the proposed rate as a proxy is an acceptable interim rate.

Q. Does that complete your testimony?

A. Yes, it does, thank you.

[8]Calculated based on a monthly surcharge of $.04 per foot for five years