

**STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION**

**ENERGYNORTH NATURAL GAS, INC.
d/b/a NATIONAL GRID NH**

DG 08-009

BRIEF OF NATIONAL GRID NH

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I. Introduction

This proceeding arises from the first request for a base rate increase by EnergyNorth Natural Gas, Inc. d/b/a National Grid NH ("the Company" or "National Grid NH") in 16 years.¹ During that time, customers have benefited from an extended period of delivery rate stability as a result of the Company's cost-effective operation of the utility. In particular, the Company's rate base has doubled since its last base rate case, while at the same time its operating expenses have decreased substantially in real terms, a record of which the Company is justifiably proud and which provides significant support for the Company's request for a reasonable allowed rate of return on the capital it has invested. Ex. 40 at 3-4.

The sole remaining litigated issue before the Commission at this stage of the case is return on equity.² Therefore, this brief will focus primarily on that subject and will only briefly address the settlement agreement reached by the Commission staff ("Staff") and the parties.

While return on equity often appears to be a highly technical issue that is primarily the domain of academic experts using highly refined technical models, the issue is far more important. The Commission's determination of ROE is a signal to National Grid NH regarding whether New Hampshire wants to encourage a continued substantial commitment to invest in the State. The importance of this issue cannot be overstated. The ROE recommended by the Staff in this case is so woefully inadequate that, if adopted, it would effectively tell the Company that its commitment to investment in New Hampshire is not a priority. At a time when infrastructure investment is critical to the economic future of the State, the Staff's position must be rejected.

¹ The Company's last base rate case filing was made on January 31, 1992 in Docket DR 91-212.

² In this brief, the terms return on equity, cost of equity, ROE and COE are all used to refer to the same concept, the rate of return on capital invested by shareholders that the Commission is charged with setting as an allowed rate of return on equity.

As is discussed below, the evidence presented in this case undeniably supports the conclusion that the cost of capital for all companies, including utilities, is increasing during a period that the witnesses described as a "global meltdown in stocks," Ex. 27 at 17, and one of "unprecedented turmoil," Ex. 33 at 3. During a time when capital is difficult to obtain but infrastructure improvements nevertheless must be made, an ROE that is less than that being provided on average to other gas utilities simply is not reasonable.

A. Return on equity is of singular significance to the Company and its relationship to the investment community.

The ROE allowed by the Commission plays a critical role in determining the extent to which the investment community perceives regulatory support for the utility's investments in a particular state. As the Company's expert, Paul Moul, observed:

In the reporting of rate case outcomes, the ROE is always prominently discussed. And, the reason that is so is because it's a number that's widely understood by all types of investors. It is a number that can be compared from one company to another, or from one industry to another. It's commonly used. Everybody understands rates of return....It's the fundamental benchmark that can be objectively assessed to compare one investment opportunity to another.

Transcript ("Tr.") Day 1 at 70-71. It is the singular nature and importance of this issue that prompted the Company to request that the Commission set a return on equity only after hearing testimony from the Company and Staff, rather than as part of a comprehensive settlement agreement.

Because of the impact of the Company's authorized ROE on investor perceptions, the Commission's ruling will be viewed as a clear statement of whether National Grid NH should continue to invest significant levels of discretionary capital in New Hampshire. The Staff's proposed ROE of 9.33%, at a time when the average ROE for gas utilities is 10.4% (Ex. 55 at 1), is simply inadequate to attract capital for this purpose and would send an unmistakable message

that New Hampshire is not the place for the Company to make investments that are not absolutely required. It is fundamental that investors expect company management, consistent with its other legal obligations, to invest capital where it will earn the most beneficial return. A regulatory relationship that puts management's obligation to investors at odds with the goals of the Commission would not be constructive, and is contrary to how the Company has conducted itself in the past and expects to conduct itself in the future.

B. The Commission should use its own judgment to consider all of the factors affecting the Company's cost of equity and set an ROE that reflects the return investors expect to earn elsewhere, rather than adopting the unreasonably low ROE calculated by the Staff's witness.

Staff's proposed ROE in this case gave no consideration whatsoever to the policy question of encouraging investment. Instead, it was based almost entirely on a rote mathematical calculation conducted in a vacuum, rather than with reference to any industry or Company knowledge that would have enabled the Staff witness, Dr. Chattopadhyay, to make fully informed judgments regarding the reasonableness of the inputs and outputs of his models. Such an approach is inconsistent with the task with which this Commission is charged in determining ROE. *New England Tel. & Tel. Co. v. State*, 113 N.H. 92, 95 (1973) ("Rate-making cannot be reduced to an exact science by which a mathematically precise rate of return can be produced by a competently programmed computer.")

As is discussed below, in a period of economic turmoil and market volatility such as the one that exists today, the potential for such a process to result in an unreasonably low ROE is substantial, and that appears to be just what occurred. Staff's direct testimony (filed in October 2008) recommended an ROE of 9.01%. Simply comparing that recommendation to the most recent allowed returns on equity for Dr. Chattopadhyay's peer group demonstrates that Staff's

position is completely unreasonable.³

Atmos Energy	10.7
Laclede Group	10.0
Nicor	none reported
Northwest	10.1
Piedmont	10.6
Southwest	10.0-10.5
WGL (Washington Gas)	10.0

Although Staff increased its recommended ROE slightly just prior to the hearing, the same economic forces that caused Staff's recommendation to increase are likely to affect ROEs for other companies. As a result, Staff's most recent recommendation continues to fall well short of the returns that investors can expect to earn in other jurisdictions.

Rather than simply performing a purely mathematical calculation as Staff's witness appears to have done, the Commission should instead apply its considerable judgment, based on the evidence presented, and establish an allowed ROE that not only reflects information from several models or sources and is more in line with other external indicators of cost of equity and the actual opportunity cost of capital for National Grid NH, but also takes into account the need to encourage infrastructure in New Hampshire. *New England Tel. & Tel. Co. v. State*, 104 N.H. 229, 234 (1962)(cost of capital should "be determined and considered by the commission in 'the exercise of a fair and enlightened judgment, having regard to all the relevant facts.'")

II. Position of the Parties

A. National Grid NH's Position on ROE

At the hearing, the Company's expert recommended that the Company be authorized to earn a return on equity of 12.25%. Mr. Moul's recommendation was updated from his original

³ All of the listed ROEs are from the January 12, 2009 Regulatory Research Associates report admitted into evidence as Exhibit 55.

recommendation of 11.5% filed in February 2008 to reflect more current data and market conditions. In making his recommendation, Mr. Moul relied on three widely recognized methods for determining ROE—the discounted cash flow method ("DCF"), the capital asset pricing model ("CAPM") and the risk premium method ("RP"). (Each of these methodologies is discussed in detail in Mr. Moul's prefiled testimony, Exhibits 9 and 33, and therefore that discussion will not be repeated here.) The results of each method and Mr. Moul's recommended ROE are set forth below:

<u>Method</u>	<u>Original</u>	<u>Update</u>
RP	11.44%	12.71%
CAPM	13.45%	13.91%
DCF	9.84%	10.55%
Recommendation	11.50%	12.25%

To arrive at his recommended ROE, Mr. Moul gave equal weight to all three methods in recognition that "each of these methods has simplifying assumptions, which do not necessarily conform with the way investors behave in the capital markets when they purchase stocks." Tr. Day 1 at 65-66. Mr. Moul's use of three methodologies, rather than one alone, provides a more thorough analysis to establish a reasonable range for the return on equity, given the flaws inherent in the DCF and all other methods used to calculate ROE. Ex. 9 at 6.

[T]he cost of equity is not directly observable. That's why we need to use models..., but the models themselves have simplifying assumptions or omissions that bear on what investors perceive to be important in their decision to buy, hold or sell a stock, and what the models themselves attempt to deal with. And, because of the limitations and infirmities in each of the models, I feel it's important to look at a variety of models to try to get a handle on the cost of equity. Because the methods we use to measure the cost of equity, they seem very scientific, there are specific inputs. But, when push comes to shove, the cost of equity is more of an art than it is a science. Even though we have a lot of empirical data to look at, there is a considerable amount of judgment that goes into

coming up with the final recommendation that may or may not be reflected in the results of the models.

Tr. Day 1 at 66-67. Mr. Moul noted that the DCF model produced a result that was somewhat of an outlier, but he nevertheless gave equal weight to that result in light of the Commission's past reliance on that methodology.

[I]f one looks at the results of the four methodologies,⁴ it is apparent that the DCF model produces a result that is significantly different than the other methodologies. The relationship of the DCF results to the other methods should raise questions about the reliability of the DCF method in this environment and the emphasis that should be placed on it in selecting an allowed rate of return on equity in this case.

Ex. 9 at 6.

Mr. Moul also included a leverage adjustment and a flotation cost adjustment in deriving his recommended ROE. As Mr. Moul explained, the leverage adjustment is required to reflect the fact that "investors can only realize their returns on the market value. They can't purchase the book value of a company." Tr. Day 1 at 129. Mr. Moul summarized his calculation of the leverage adjustment as follows:

....When you inject fixed cost capital into a firm's capital structure over top the ownership interest in the Company, which is the common equity, it increases the financial risk to the firm....What it says is that your cost of equity is equal to the cost of capital as if you had 100 percent equity, you had no borrowed funds in your capital structure, plus compensation for the additional risk for debt, compensation for the additional risk of preferred stock. And, you solve for that with the book value capital structure to come up with the cost of equity that you'll set in this case, being mindful of the fact that there's a totally different set of ratios out there that investors look at when they price a stock using market values. And, it's a rather simple process. It's essentially unlevering the cost of equity and relevering the cost of equity for the actual debt and equity we use to set the weighted average cost of capita in a rate case.

⁴ Although he also calculated an ROE based on a comparable earnings approach, Mr. Moul used the comparable earnings result only as a check on his overall range of results because, unlike the other three methods that are based on market data, the comparable earnings method is driven more by the business cycle. Tr. Day 1 at 68. (The comparable earnings method yielded a recommended ROE of 13.90% in Mr. Moul's initial analysis and 13.10% in the updated analysis, which was near or within the range established by the three methods he relied on.)

Tr. Day 1 at 77-78. Mr. Moul's flotation adjustment, which added only minimally to his recommended ROE, was described in detail in Attachments PRM-6 and 17 to his direct testimony. As Mr. Moul explained, a flotation adjustment is required "to provide recognition of market pressure, issuance and selling expenses which reduce the net proceeds realized from the sale of new shares of common stock." Ex. 9 at 68.⁵

B. Staff's Position on ROE

Staff, through the testimony of Dr. Pradip Chattopadhyay, initially recommended an ROE of 9.01%, relying solely on a DCF analysis. Dr. Chattopadhyay subsequently updated his calculations just prior to the hearing based on more current data, which caused his recommendation to increase to 9.33%. In his updated recommendation, Dr. Chattopadhyay again relied exclusively on the DCF method.

In addition to performing his DCF calculation, Dr. Chattopadhyay also calculated an ROE based on a CAPM analysis. Using two different CAPM methods, Dr. Chattopadhyay originally arrived at a recommended ROE of either 9.28% or 10.64% (depending on the method used) and, after updating his calculations at the time of hearing, arrived at a result of either 7.08% or 8.48%. Dr. Chattopadhyay did not directly rely on his CAPM results to recommend an ROE, but rather indicated that he had used the method as a "check" on his DCF results. In addition, Dr. Chattopadhyay calculated another DCF-based result, what he called a "market to book ratio ROE estimate," which he initially determined to be 8.76% and later increased to 9.08%, but also did not use in arriving at his recommended ROE.

⁵ In addition, as noted by Dr. Chattopadhyay, the gas industry is forecast to issue new common stock (i.e., his "s x v" term shown on Attachment VIII of his testimony), which have flotation costs associated with them. See, e.g., Ex. 27 at 22 (where Dr. Chattopadhyay discusses his use of a growth estimate that includes "growth in the number of outstanding shares.")

C. Both ROE experts agree on a number of facts and principles that provide important guidance in setting the Company's allowed return.

Despite their differing recommendations, both Dr. Chattopadhyay and Mr. Moul agreed on a number of important facts and principles that should provide significant guidance to the Commission in setting an ROE in this case. Specifically, the two experts agreed that:

- All three methods used to determine ROE are flawed because the assumptions on which they are based do not bear out in the real world. (Tr. Day 1 at 65-70; Tr. Day 2 at 119.)
- Because of the flaws that exist in each ROE model, it is useful to consider more than one model. (Tr. Day 1 at 66; Tr. Day 2 at 119-20.)
- The financial markets are experiencing an unprecedented level of turmoil and disruption, which Dr. Chattopadhyay referred to as a "meltdown" (Ex. 27 at 17; Ex. 33 at 3-4.)
- A high level of volatility exists in the financial markets, especially the markets for common stocks. (Tr. Day 1 at 73; Ex. 62.)
- The cost of equity for utilities is increasing in the current market. (Tr. Day 1 at 73-74; Ex. 64, Att. 1 at 1 and Att. 2 at 1.)
- The determination of the cost of equity is not a precise science, but rather requires the use of informed judgment. (Ex. 9 at 15A; Tr. Day 2 at 108.)

These areas of agreement are significant and provide a common foundation to assist the Commission in determining the cost of equity for National Grid NH.

III. Legal Standard

In addition, to the areas of agreement shared by the two cost of equity witnesses, the Commission's determination of an authorized return on equity for National Grid NH should be governed by a number of well settled principles. In particular, the Commission is charged with setting a return that is "comparable to a return on investments in other enterprises having similar risks." Ex. 27 at 3; *Appeal of Conservation Law Foundation*, 127 N.H. 606, 635 (1986); *New England Tel. & Tel. Co. v. State*, 113 N.H. 92, 95 (1973). The comparable return concept is

equivalent to determining the opportunity cost faced by an investor choosing to invest in National Grid NH. "The cost of capital...is thus an opportunity cost, which is defined as the highest alternative return on an investment of similar risk." D. Parcell, *The Cost of Capital—A Practitioner's Guide* (1997 ed.) ("Parcell") at 1; Tr. Day 2 at 116-17. Implicit in the opportunity cost concept is the recognition that a failure to authorize a sufficient return on equity will ultimately result in a utility being unable to attract sufficient levels of capital. *See* Ex. 27 at 3 (where Dr. Chattopadhyay noted that the "standard set forth by the Supreme Court is that a public utility be allowed to earn a return comparable to a return on investments in other enterprises having similar risks that allows the utility the opportunity to attract capital and to maintain its credit.")

In setting an authorized return on equity, the Commission is not required to use a specific methodology. Rather, the test is one of reasonableness. *Re Kearsarge Telephone Co.*, 73 NH PUC 320, 325-26 (1988)("Neither *Hope*, *Bluefield* nor any of the New Hampshire cases require the commission to use any specific formula to make this [return on equity] determination.") Nor is there a single correct return on equity in a given case. "[T]here is more than one rate that may be a just and reasonable rate of return. The area between the lowest rate that is not confiscatory and the highest rate that is not excessive and extortionate has been referred to as a zone of reasonableness." *New England Tel. & Tel. Co. v. State*, *supra*, 104 N.H. at 232-33.

A utility's return on equity should not be set in a vacuum, without regard to the very real risks and market forces faced by the company and its investors. Although it may appear at times that determining cost of equity is a purely academic or mathematical exercise, setting an appropriate return requires judgment and knowledge of the particular risks and market forces that the utility faces in its local market as well as the broader economy. In *Appeal of Conservation*

Law Foundation, supra, 127 N.H. at 635, the New Hampshire Supreme Court observed that the Commission should consider not only capital costs and comparable risks, but their relationship to the actual circumstances of a utility whose rates are under consideration. Thus, in exercising its judgment in determining return on equity, the Commission has in a number of cases considered specific risk factors that influence the return. For example, in *Re Exeter and Hampton Electric Co.*, 65 NH PUC 209, 214-16 (1980) the Commission noted that on occasion it had recognized risk factors such as equity ratios, coverage ratios, quality of earnings and the existence or absence of a utility's major construction program. In *Re Pennichuck Water Works*, 64 NH PUC 206, 211(1979) the Commission took account of the risks associated with a significant construction program upon which the utility was embarking. In *Re New England Tel. & Tel. Co.*, 61 NH PUC 74, 83 (1976) the Commission based its finding on return on equity in part on the stability of the utility's dividends, which had produced certainty for investors, as well as revenue stability and its impact on the ability to maintain stable dividends, and consistency in operations and the ability to plan for the future. In *Re Pennichuck Water Works*, 78 NH PUC 621, 624-25 (1993), the Commission adjusted the utility's return on equity by 25 basis points to take into account the greater business risks faced by the company. And in *Re Public Serv. Co. of N.H.*, 90 NH PUC 230, 249 (2005), affirmed in part and denied in part on rehearing *Re Public Serv. Co. of N.H.*, 90 NH PUC 542 (2005), the Commission approved a risk premium adjustment for the utility's generation risk because the Commission determined that that portion of the utility's business had more risk than did transmission and distribution. Thus, the Commission has a long history of taking these types of factors into account when setting an authorized return on equity.

IV. Discussion

- A. The Company's expert demonstrated an in-depth knowledge of the industry and the specific circumstances facing the Company, while Staff's ROE witness was generally unfamiliar with these factors and their impact on risk. The ROE recommended by Staff's witness therefore should be given little or no weight.**

The Company's cost of equity witness, Mr. Moul, has over thirty-five years of utility industry experience, including, in particular, extensive experience and knowledge in the natural gas industry. *See* Tr. Day 1 at 61-63; Ex. 9, Attachment PRM-1. He has submitted testimony in over 200 rate cases before thirty-five regulatory commissions, Tr. Day 1 at 62, and has worked for the staff of a public utilities commission and municipal entities as well as investor owned utilities. Tr. Day 1 at 63.

Before arriving at his recommended return on equity, Mr. Moul reviewed the specific circumstances faced by National Grid NH and the natural gas industry more generally. His testimony demonstrated his knowledge of the specific risks to which the Company's capital will be exposed, including, among other things:

- The fact that the Company's thirteen largest customers represent 22 million decatherms of throughput, increasing the risk to the Company from bypass of its system or loss of load from the downturn in the economy (Ex. 9 at 8-9);
- The fact that the Company has undertaken a substantial capital investment program to replace aging infrastructure (approximately 179 miles of its distribution mains and 10,316 services that are constructed of cast iron and unprotected steel), the replacement of which represents a non-revenue producing use of capital. The Company also projects its construction expenditures at \$135 million during the period 2007-11 (Ex. 9 at 9); and
- The likelihood of more intense regulatory scrutiny and increased risk of disallowances resulting from high gas supply costs, without a countervailing opportunity to earn a profit on gas costs. (Ex. 9 at 7-8).

The need for the Commission to recognize the magnitude of the Company's ongoing capital program in determining an appropriate ROE in this case was also addressed by the

Company's Chief Operating Officer, Nickolas Stavropoulos, in the context of the special emphasis that the investment community places on a utility's authorized ROE.

I believe that return on equity is the signal that this Commission sends to the capital markets regarding the ability of those markets to earn a fair return on the investments that they make in utility assets. So, it's important for National Grid New Hampshire, because we continue to make significant investments in the infrastructure. Since our last rate case, I think we've doubled the size of our rate base investment. We plan on spending north of \$51 million in 2008 and 2009 alone. We've got about 170 miles of leak-prone pipe that needs to be replaced....We're going to have to increase that rate of capital spending significantly in the years ahead....

Tr. Day 2 at 69-70.

Unlike Mr. Moul, Dr. Chattopadhyay had never previously testified regarding cost of equity for a gas utility. Tr. Day 2 at 99. Nor did Dr. Chattopadhyay have any meaningful knowledge of the Company's operating circumstances or risk factors it faces in operating in New Hampshire. As a result, he was unable to take those risks into account in selecting an appropriate ROE model, determining the inputs into the model or in reaching his recommendation. Specifically, he was unfamiliar with the number of customers served by the Company, the location of the Company's service territory (other than that it is somewhere in New Hampshire), the level of customer saturation for natural gas in the Company's service territory versus competing fuels (*i.e.*, the extent to which potential customers use competing fuel sources), the number of interstate gas pipelines that provide service to the Company, where on the interstate pipeline the Company is located, the gas supply and operational challenges created by the Company's location on that pipeline, or the risks created by the Company's need to utilize supplemental or non-pipeline supplies to meet its winter load. Tr. Day 2 at 99-107.

Dr. Chattopadhyay did express some awareness of the highly weather sensitive nature of the Company's load and the increased risk of disallowances that that created. Tr. Day 2 at 104-106. However, he demonstrated little understanding of the relative risk that investors face as a

result of potential gas cost disallowances resulting from regulatory oversight of gas procurement and dispatch decisions when compared to the benefit they might receive from an incremental increase in the Company's allowed return on equity.

Q. [By Mr. Camerino] By the way, do you know if the – for [a] 100 basis point swing in the return on equity, do you know how many dollars that is in this case approximately?

A. [By Dr. Chattopadhyay] Again, I had discussed this with the folks in the Gas Division, and they gave me a sense, somewhere around \$750,000.

Q. And that compares to the millions of dollars that we discussed before that could be lost through a gas supply disallowance?

A. Again, because I'm not sure what that amount is, if that is what you're stating, then I'll agree.

Tr. Day 2 at 107. Similarly, Dr. Chattopadhyay demonstrated no meaningful awareness of the facts and circumstances facing the peer group of companies to which he compared National Grid NH, despite comparisons he appeared to have drawn in his written testimony. *See, e.g.*, Tr. Day 2 at 173-75.

Without any relevant knowledge of the Company, the territory it serves, and the risks faced by National Grid NH or the peer group he used in establishing a recommended return on equity, Dr. Chattopadhyay was in no position to exercise the informed judgment required to arrive at a reasonable result. While Dr. Chattopadhyay may have general expertise in the field of economics, in order to conduct a reliable analysis of the appropriate level of return on equity he necessarily needs a sophisticated understanding of the type of utility on which he opining, as well as the environment in which it operates. Dr. Chattopadhyay's failing in that regard is significant and should cause the Commission to give little or no weight to his recommendation.

B. Dr. Chattopadhyay's recommendation relies on a single methodology for which he used questionable inputs from a single analyst and then "checked" the results of that method against CAPM results that were similarly unreliable.

In addition to arriving at a recommended ROE based on a lack of knowledge of the Company and its industry, Staff's ROE recommendation was based on a process that contains fundamental methodological flaws. Those flaws were compounded by unreliable outputs from Dr. Chattopadhyay's CAPM approach. These problems with Staff's approach provide further reason for the Commission to reject Staff's proposed ROE because they leave the Commission with insufficient evidence to conclude that Staff's proposal is reliable or reasonable.

Most significantly, Staff's DCF model relied on a projection of dividend growth and book value growth that came from a single analyst. Tr. Day 1 at 109. By comparison, Mr. Moul's DCF model relied on growth rates obtained from multiple analysts for each member of the peer group. *See, e.g.*, Tr. Day 2 at 144-45. Given the highly uncertain nature of estimated future growth rates, projections based on data from numerous analysts are likely to be far more robust and have more integrity than those from a single individual. Even Dr. Chattopadhyay had to agree that forecasts from multiple analysts are superior to a forecast from a single individual. *See* Tr. Day 2 at 159-60. Dr. Chattopadhyay's failure to obtain data based on a range of professional opinions or draw more heavily from other ROE methodologies reflects the extremely narrow and unreliable quality of his ROE analysis in this case.

Staff's reliance on data from a single analyst is particularly suspect given the fact that one of the growth rates from that source, the rate for dividend per share growth, is clearly an outlier. Dr. Chattopadhyay failed to consider whether other, extraneous factors might be causing such a low figure, rather than something that would be likely to affect the actual long term growth rate or stock price. As Mr. Moul explained, the dividend growth rate relied on by Staff reflects a

change in dividend payout ratios, not a change in actual projected growth of the relevant companies.

And if you look at the Staff numbers, DPS growth, dividend per share growth, is clearly an outlier. It is so much different to all of the other indicators, and then we need to answer the question “Well, why is that?” And, the reason that it’s so much lower is that—it is there’s a forecast of declining dividend payout ratios. So, what’s going to happen is, with declining dividend payout ratios, earnings are going to grow, and hence stock price is going to grow, at the higher rate than dividend per share growth, because the forecast is for a declining payout ratio.

Tr. Day 1 at 75.

The only growth projection that either witness used in the DCF method that was based on multiple analysts was the earnings per share data. In addition to being derived from information from multiple analysts, “earnings per share growth by analysts has been shown to be the best measure of growth.” Tr. Day 1 at 142. As Mr. Moul noted, “the basic assumptions of DCF indicate that earnings per share is the right measure. Because, with a constant price earnings multiple, the price of your share of stock is going to go up at the same rate as earnings.” Tr. Day 1 at 74. Dr. Chattopadhyay’s answers on cross examination amply demonstrated why this is so.

Q. [By Mr. Camerino] [W]hatever level of dividend growth [investors] expect, is dependent ultimately on whether there are earnings to support that, correct?

A. [By Dr. Chattopadhyay] That is correct.

Q. And, if dividends during shorter or longer periods of time grow at a rate different from earnings, it’s just because the payout ratio or the retention ratio is going up or down, right? If they grow—if dividends grow at a different rate from earnings—

A. That is correct.

Q. --it’s simply reflecting that the company is paying out more or less of the dividends in any given point in time?

A. That is correct.

Q. That change in the retention rate or payout ratio, that's a discretionary determination by management, isn't it? By the board?

A. Sure. Yes.

Q. It's based on lots of factors. Capital, the need to invest new capital, the concern that how the market—the concern about retaining cash or being able to dividend up cash to shareholders. There are lots of discretionary judgments that go into that?

A. That's correct.

Q. But ultimately, the Board cannot grow dividends at a rate that's higher than the earnings per share increase, correct?

A. That's correct.

Tr. Day 2 at 157-58. The Commission's decision on ROE should not hinge on estimates provided by a single analyst, when far more robust data is available from other, multiple reliable sources that are widely used in the industry.

A second methodological flaw in Staff's approach is its failure to use a model that more fully accounts for the effect of the current high level of market volatility on the cost of equity.

As Mr. Moul testified, the DCF model is incapable of fully reflecting volatility because it is always based on data from a single point in time.

Q. ...The next question I want to ask you relates to Dr. Chattopadhyay's statement that "the stock prices already reflect the volatility that's in the marketplace." Do you recall that testimony?

A. Yes, I do.

Q. And what is your response to that?

A. Well, I don't see how they can. He's provided us with two sets of stock prices. One in his original exhibit...and also in Exhibit 51. And, over a relatively short time frame of a couple months, we see that the average stock price for six out of the seven companies in his group declined. And, in fact, the dividend yields went up because of that. And, both with regard to the decline in the stock prices for public utility stocks, in particular, the companies that comprise his proxy group, as well as a lack of any

recognition of volatility in the other components of the DCF, namely the growth components, I don't see how the DCF model deals with volatility.”

Tr. Day 2 at 141-42. If Dr. Chattopadhyay were correct in his view that stock prices already reflect the volatility of the market then, as Mr. Moul's testimony suggests, they would not swing as rapidly as happened here. This change in stock prices in such a short period of time is the very volatility that Mr. Moul is concerned with. A single stock price can't and doesn't adequately reflect this risk, which is amply evidenced by the fact that the prices change over relatively short periods of time. In other words, volatility is the change in price over time, it is not reflected in any single price.

Third, although Dr. Chattopadhyay claimed to use his CAPM method as a check on his DCF result, in fact he merely rationalized his approach so that the CAPM would confirm his DCF results regardless of whether the CAPM figures were higher or lower than the DCF. Ex. 27 at 10-11. Notably, his CAPM results swung wildly over a mere three months—plummeting from 9.28% and 10.64% (depending on his methodology) on October 31, 2008 to 7.08% to 8.48% on January 29, 2009. Dr. Chattopadhyay's results raise questions about either the reliability of his methodology or the quality of the judgments he made in determining the inputs he used for that method. The results from Mr. Moul's CAPM, on the other hand, showed far more consistency, while also showing the upward trend that one would expect under current market conditions.

- C. Staff's approach to ROE in this case has not previously been adopted by the Commission and is not due any special deference. Given its infirmities, the Commission should apply more than one method to determine ROE in this case.**

The ROE approach used by Dr. Chattopadhyay to arrive at his recommendation is one that has only recently been proposed by the Commission Staff and reflects an ongoing and substantial evolution in Staff's recommended approach to determining ROE. Exhibit 52

summarizes the numerous changes that Staff has proposed in the DCF model over just the last ten years. What Exhibit 52 does not reflect is that, in addition to proposing constant changes to the data to be input into the DCF model (ranging from a mix of historic and projected growth rates for dividends and earnings, then relying only on projected growth rates and then including book value as well) and the manner in which the growth factor should be determined (switching from a single stage model to a three stage model and back again), Staff itself supported the use of *three* ROE methods for consideration by the Commission as recently as 2007, arguing in DW 06-073 that the three methods established a range of reasonableness and that Commission should adopt the midpoint of the range. *Re Pennichuck Water Works*, Order 24,751 (May 25, 2007); Tr. Day 2 at 127-28. If such an approach were adopted in this case, the result using the figures derived by Mr. Moul, the only witness to perform all three measures would be 12.52%, or 12.19% if Mr. Moul's adjustments for leverage and flotation were removed as proposed by Staff.

While there may be many reasons for the repeated changes in Staff's recommended approach to determining cost of equity, the constant flux plainly reflects the highly imperfect nature of the endeavor and should strongly counsel the Commission against placing excessive reliance on any single method or any single point estimate. Mr. Moul made precisely this point in discussing use of the DCF approach.

On DCF, and again, I go back to the point I made earlier with the simplifying assumptions, there's a variety of simplifying assumptions related to the DCF. One is that there's a constant dividend payout ratio. There's an assumption that the price earnings multiple will remain constant and not change. There's the assumption of a constant return on book equity. There's issues of whether you should give greater emphasis to historical or forecast data developed by financial analysts. There the issue of what variables we should give greatest weight to: Earnings per share, dividends per share, book value per share, retention growth.

Tr. Day 1 at 69. Even the Commission, which has relied primarily on the DCF formula for a number of years to determine return on equity, has indicated a willingness to consider other

methodologies as well when appropriate. *See, e.g., Re Verizon New Hampshire*, 89 NH PUC 17, 36 (2004)("neither the DCF nor any other method is conclusive"). Staff's repeated changes to its own methodology over a relatively short period of time are ample demonstration of the flaws inherent in the DCF method.

In fact, it is clear from Dr. Chattopadhyay's own testimony that he has significant concerns about how best to perform his own DCF method. He calculated no less than four results based on different DCF-type approaches—averaging earnings per share, dividends per share and book value per share to derive the growth factor; using what he called a "br and sv" method; using only earnings per share to derive the growth factor; and his "market to book ratio" method. To arrive at his recommended ROE, he averaged three of the four, which put his initial result at the *low end* of what he called a range of reasonableness and put his updated result at the *extreme high end* of his revised range. See Ex. 64. There simply is no consistency to his methodology or claimed adherence to DCF, which further shows the lack of a sound theoretical basis for his recommendation. This, added to the failure of his CAPM to confirm his DCF results, make it clear that the Commission should rely on Mr. Moul's recommendation and consider other cost of equity approaches in this case.

D. Staff's recommended ROE reflects a downward bias which is inappropriate during a period of significant market turmoil and generally increased risk, particularly in light of the Company's significant ongoing capital investment program.

An equally notable failing in Staff's ROE methodology and recommendation was the apparent downward bias it exhibited. Exhibits 57 through 61 demonstrated that in recent years Staff ROE witnesses have consistently viewed the prevailing economic conditions, whatever they may be, as a justification for arguing that utilities are low risk investments and that the then

current economic conditions counseled in favor of a lower ROE. Whether the economy has been characterized as “recovering from the 2001 recession” (Ex. 57 filed in May 2004 and again in Ex. 58 filed in January 2005) or “recovering from the recession, which started in March 2001 and ended in March 2002” (Ex. 59 filed April 2005) or “growing at a steady pace” (Ex. 60 filed in June 2005) or “expect[ing] an economic slowdown” (Ex. 61 filed in December 2006) or undergoing “times of enormous economic stress” and a “global meltdown in stocks” (Ex. 27 filed in October 2008 in this proceeding), Staff’s conclusion as to the cost of equity has consistently been the same—*i.e.*, it is lower because utility stocks are an attractive investment. The explanation for this phenomenon appears to be that Staff has failed to distinguish between a company or industry that is experiencing an absolute reduction in risk and, consequently, its cost of equity and an industry that, while lower in risk than other available investments, nevertheless is experiencing an *increase* in cost of equity because it is affected by a general increase in perceived risk for all equity investments. The Company does not dispute that utility stocks generally have lower risk and therefore a lower cost of capital when compared to the rest of the market. But in the current market, utilities face substantially *higher* risk and a *higher* cost of capital than they do in a stable financial market. *See, e.g.*, Ex. 33 at 3-4, 8. Staff’s testimony and ROE recommendation simply give this consideration inadequate weight.

Even Dr. Chattopadhyay agrees that financial markets are experiencing a global meltdown. This period of unprecedented turmoil has affected all stocks, including utility stocks. While some might argue that a downward bias may have been appropriate during periods of steady or stronger markets in the past, in today’s highly volatile markets with generally declining stock prices it is clear that the cost of equity is heading upward and thus using a method with a downward bias is inappropriate. The evidence in this case clearly supports the conclusion that

the global financial meltdown has increased investors' perception of risk in all equities. *See, e.g.*, Tr. Day 2 at 72. Thus, while utility stocks may be perceived as less risky than many other equity investments—something that is true in almost all periods of economic activity—their risk nevertheless has *increased* relative to prior periods.

The generally declining stock prices that members of both Mr. Moul's and Dr. Chattopadhyay's peer groups have experienced are a sign of a higher cost of equity, not lower. While Dr. Chattopadhyay argues in his prefiled testimony that the economic slowdown that is underway has caused investors to shift their resources to less risky assets, thereby increasing the demand for those assets and putting upward pressure on their prices, Ex. 27 at 18, what he fails to note is that the flight to safety he describes has largely benefited *Treasury bonds* (Tr. Day 1 at 144), not utility stocks. Prices for utility stocks have trended *downward*, not upward as his testimony appears to indicate. One need only compare the stock prices in Attachment V to Dr. Chattopadhyay's direct testimony submitted as Exhibit 27 to those in his updated Attachment V filed as part of Exhibit 51 to see that this is the case.⁶ Thus, while utility investments may be lower risk than other available investments, their risk relative to what it has been in the recent past and during normal economic conditions is *higher* now, not lower. This distinction is critical, and Dr. Chattopadhyay's failure to focus on it and the significance of current market conditions undermines his analysis.

The downward bias reflected in Dr. Chattopadhyay's recommended ROE is reflected in other areas of his testimony as well. For example, he argues that National Grid NH is less risky than its peer group because of its proposed rate design, but, as noted above, he apparently is

⁶ The prices of six of the seven companies in Staff's gas peer group have declined since Staff first filed its testimony and Staff's calculated cost of equity for almost all of the companies has risen as well. See Attachments V and XI to Exhibits 27 and 51.

unfamiliar with the rate design of the members of the peer group as well as the rate design that was ultimately agreed upon in this docket, as opposed to what was originally proposed. Tr. Day 2 at 173-75. He also argues that the Company's 56.9% equity ratio makes it less risky, even though the stipulated capital structure for rate of return purposes in this case is 50%, a figure that is consistent with the companies in the peer group. It would be manifestly inequitable to benefit customers by using a stipulated capital structure for purposes of determining the Company's weighted average cost of capital (which in turn reduces the Company's revenue requirement), but then assume a higher equity ratio for purposes of analyzing the Company's relative risk versus other utilities. In addition, while Dr. Chattopadhyay claimed that New Hampshire's economy was a local factor that made National Grid NH less risky than members of the peer group, it became clear on cross examination that he had failed to balance that factor with any of the operational and other Company-specific risks that National Grid NH faces or how those risks compare to the peer group. *See supra*.

In addition to failing to adequately consider the effect of falling stock prices on cost of equity, Staff's testimony also appears to fall victim to the common misperception that during periods of economic downturn a utility should be awarded a lower return on equity. As Mr. Moul's testimony demonstrates, National Grid NH has significant exposure to the effects of a weakening economy, particularly because of the concentration of its load in a small number of large commercial and industrial customers. The result of this exposure is increased risk.

As both Mr. Moul and Mr. Stavropoulos noted in their testimony, the Company has embarked on a period of significant capital spending on non-revenue producing infrastructure needs, amounting to \$51 million over a two year period and approximately \$135 million over five years. The Company's investment requirements and earnings exposure are highly relevant

because, unlike other businesses, utilities must continue to invest significant capital in their systems even during periods of weakened or diminishing sales and constrained capital markets. Tr. Day 1 at 136. While they can seek rate relief if they fail to earn their allowed rate of return, there is frequently a considerable lag between the time when earnings begin to fall short of their allowed level and when a utility files for and receives rate relief. As a result, periods of depressed economic activity pose particular risk to utilities and their investors. During good economic times, on the other hand, utilities' returns are constrained by the same regulatory formula. As a result, they operate in a much narrower band of returns. Tr. Day 1 at 136-37. That is the essence of the regulatory compact under which the Company operates. It is therefore critical that the allowed return on equity not be artificially depressed or be affected by any downward bias during periods of weakened economic activity.

The testimony gives no indication that Dr. Chattopadhyay gave any consideration to these factors and, in fact, it indicates that he was unaware of the Company's particular circumstances. His failure to take them into account undermines any weight that the Commission should afford his testimony.

E. The Commission should consider other measures of ROE, all of which lead to returns that are substantially higher than Staff's recommendation.

By almost any comparison, Staff's recommended ROE is simply too low and does not satisfy the opportunity cost and capital attraction tests the Commission must apply. Under the opportunity cost test, the Commission is charged with setting a return that is comparable to that for companies of similar risk. In weighing those risks, regulators must also consider that investors and the utilities in which they invest make their decisions in a world with multiple investments options, all competing for the same capital. Thus, returns available in other

jurisdictions and in other companies are highly relevant in determining the cost of equity for a given utility.

A simple and highly instructive check for the Commission is to compare the ROE that it sets in this case to those set by other Commissions—not simply to mimic what other Commissions have done, but because those returns present very real opportunities for investors, opportunities that compete directly with the opportunity to invest in National Grid NH. *See* Tr. Day 1 at 72. While each jurisdiction must conduct its own cost of equity analysis in order to avoid circularity and to ensure that the outcome has integrity, that does not mean that Commissions can simply ignore the impact on investment decisions of returns authorized in other jurisdictions. Even where a utility is not in the market seeking new capital, relative levels of allowed returns in different jurisdictions matter because the various jurisdictions plainly compete for discretionary capital investments (*i.e.*, those that are not required to meet a utility's basic legal requirements) made by utility holding companies doing business in multiple jurisdictions.

Exhibit 55 provides a survey of return on equity decisions for the period January 2007 through December 2008, and shows that "[t]he average ROE authorized gas utilities approximated 10.4% in 2008, compared to 10.2% in 2007." Ex. 55 at 1. As noted earlier, the most recent reported ROEs for all of the companies in Dr. Chattopadhyay's peer group are at or above 10%, even before the latest drop in stock prices and increase in cost of equity.⁷ In addition, as Mr. Stavropoulos testified, the Company's Rhode Island affiliate was just recently awarded an authorized ROE of 10.5%. Tr. Day 2 at 73; Ex. 56.

⁷ While the Staff used a draft order from a Connecticut hearing examiner to try to support the reasonableness of its own ROE recommendation, there was no testimony of any kind presented that would equate the risks facing an electric utility with those facing a gas distribution company such as National Grid NH.

Other benchmarks similarly indicate that Staff's recommended ROE is unreasonably low. As Mr. Moul testified, a survey of prior PUC orders reveals that this Commission's authorized returns have been on average 3.64% above A-rated utility bond yields. A similar approach in this case, given current A-rated utility bond rates of 6.52% (Tr. Day 2 at 141) would result in an ROE of 10.16%. As a rough check on reasonableness, such an approach makes sense since, as Mr. Stavropoulos testified, equity investors require a meaningful premium over the returns they can achieve through bond investments in similar companies. *See* Ex. 40 at 6; Tr. Day 2 at 71-72. Similarly, Dr. Chattopadhyay's testimony demonstrates that the expected returns for his peer group average in the high 10% to low 11% range. *See* Ex. 51, Attachment IX (where Dr. Chattopadhyay provides data for different time periods, as well as an overall average for the period 2008-13). Simply put, if the Commission is to fulfill its obligation to apply its judgment in determining an appropriate return on equity, it should ask whether there is a reason that so many indicators point toward a return that is substantially in excess of Staff's recommendation and whether the Staff's proposed return is adequate to meet the opportunity cost standard that the Commission is charged with applying.

V. Conclusion on ROE

As Mr. Moul and Mr. Stavropoulos both noted, a regulatory commission's determination of return on equity is perhaps the single most important factor in terms of the investment community's perception of regulatory support for a utility and, therefore, its ability to attract capital. Staff would have the Commission rely exclusively on the DCF method for determining ROE—without regard to its considerable flaws, without regard to the extraordinary financial circumstances facing the Company and the gas industry at this time, and without regard to

whether the output of Staff's model is in line with other external indicators of cost of equity and the true opportunity cost of capital for National Grid NH.

Dr. Chattopadhyay's lack of familiarity with and failure to inquire into or investigate the broad array of critical risk factors affecting the Company as well as his inexperience in conducting cost of equity analyses in the gas industry is reflected in the mechanical nature of his analysis and significantly undermines the weight the Commission should give his testimony. Although Staff is quick to criticize the other methods of determining ROE that Mr. Moul used, it fails to address the considerable failings of its own methodology. A statement quoted by David Parcell in the cost of capital handbook relied on by Dr. Chattopadhyay in his testimony applies equally well to all of the ROE methodologies that the Commission has been presented with in this case and should give the Commission pause before relying exclusively on any one method.

[I]t is useful to recall an observation by Rhyne (1982, 23) "many opponents of the CAPM are demanding a greater degree of empirical and theoretical verification for the model than can be provided from the other alternatives that are available for estimating the cost of equity".

Parcell at 6-11-12; Tr. Day 2 at 129-30.

Rather than simply using the DCF method to establish a point estimate for return on equity—an exercise that provides a false sense of certainty and accuracy in an enterprise that requires considerable judgment and is ultimately adjudicated based on a standard of reasonableness—the Commission should first determine a range of reasonable returns by reference to more than one ROE methodology. Within that range, it has broad discretion to select an appropriate return, which it can do based on the particular economic circumstances facing the Company at this time as well as the specific risk factors and level of capital investment the Company faces.

As the Commission is well aware, it need not simply adopt the specific recommendation of any one witness. The Commission has a long history of adopting the mid-point in the range of reasonable returns on equity. *See Re Public Service Co. of N.H.*, 70 NH PUC 164, 228 (1985)(adopting 15.4% return on equity because it was “the approximate mid-point of a reasonable range”); *New England Tel. & Tel. Co.*, 68 NH PUC 503 (1983)(Commission approved return on equity of 15.75% which reflected mid-point in the range of 15% to 16.5%); *Re New England Tel. & Tel. Co.*, 67 NH PUC 469, 471-72 (1982) (Commission stated that it “would normally opt for the middle of this range [15.25% to 17.0%]” but instead adopted a return on equity of 16.125% based on an incremental addition for superior management in controlling costs and minimizing expenses to consumers and the uncertainty caused by the AT&T settlement with the U. S. Department of Justice that placed local telephone companies in a riskier position); *see also Re Pennichuck Water Works*, Order 24,751 (May 25, 2007) discussed *supra*.

The return on equity that National Grid NH has requested in this case is just and reasonable and, based on the Partial Settlement Agreement, will result in rates that are just and reasonable.⁸ A return at or near the level recommended by Staff would be inappropriate, inequitable and would send the wrong signal to investors considering investing in New Hampshire utilities. The recommendations of the cost of equity experts in this case provide a wide range of possible outcomes, ranging from 9.33% to 12.25%. The middle of that range is consistent with returns being granted in other jurisdictions. The particular circumstances facing

⁸ Appendix 2, page 1 of the Partial Settlement Agreement shows that the revenue increase resulting from an ROE of 12.25% would be approximately \$8.8 million in total, of which approximately \$6.4 million would be recovered through base rates (based on a comparison to the rates in effect prior to the filing of this case). This compares to temporary rates that are currently in place which are recovering an increase of approximately \$6.6 million, all of which is currently being recovered through base rates. See Tr. Day 1 at 26-27. As Ms. Leary testified at the hearing, each 0.5% (*i.e.*, 50 basis points) change in ROE results in a change of approximately 1.4% change in the distribution rate. Tr. Day 1 at 26.

the Company at this time dictate that a figure at the upper end of the range would be more reasonable and the evidence in this case supports such an outcome. In light of the Company's record of maintaining rate stability for its customers over a period of 16 or more years and its cost-effective operation of the utility during a period in which rate base has doubled, a return on equity in the high end of the range of reasonableness will provide an appropriate signal of regulatory support for the Company's efforts and will continue to allow National Grid NH to attract the capital needed to implement the Company's infrastructure replacement plans.

VI. The Commission should approve the Partial Settlement Agreement as being consistent with the public interest.

Given the unusually long period of time since the Company's last base rate case, this case involved the review of a large number of issues relating to both the Company's rate base and its operating expenses. Initially, the positions of Staff and the parties were quite far apart, as was reflected in their written testimony. As a result of extensive settlement discussions, Staff and the parties were ultimately able to resolve all of their differences but one—a notable achievement and a testament to their good faith and willingness to be creative in resolving complex issues.

The Commission has long made clear that it favors negotiated resolutions of cases, rather than litigated ones because they lead to more creative results and conserve scarce regulatory resources. *See, e.g., National Grid plc* (DG 06-107), slip op. at 68 (2007) "the Commission encourages parties to attempt to reach a settlement of issues through negotiation and compromise 'as it is an opportunity for creative problem-solving, allows the parties to reach a result more in line with their expectations, and is often a more expedient alternative to litigation.'" In this case, Staff and the parties were able to settle not just the pending base rate case, but two other complex and long-standing dockets as well.

The Company and Staff presented testimony summarizing the Partial Settlement Agreement at the hearing on January 28, 2008, and therefore the Company will not restate those issues here. Given that the agreement resolves numerous areas of disagreement through compromise and creative approaches, the Company urges the Commission to approve the agreement as presented and without modification. The Company believes, and therefore requests, that the Commission find upon establishing a reasonable allowed return on equity, that the rates resulting from the Partial Settlement Agreement will be just and reasonable.

Respectfully submitted,

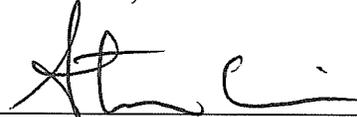
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Certificate of Service

I hereby certify that a copy of this Brief has been served on the persons on the service list this 20th day of February, 2009.



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