

**STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION**

DE 11-250

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

Investigation of Scrubber Costs and Cost Recovery

Order on PSNH's Motion to Rescind TransCanada's Intervenor Status

ORDER NO. 25,687

July 2, 2014

In this order, we deny PSNH's motion to rescind TransCanada's intervenor status, but we impose alternative sanctions for TransCanada's refusal to comply with our discovery orders. We strike portions of Mr. Hachey's testimony and, where appropriate, we may draw inferences adverse to TransCanada regarding the information not produced.

I. PROCEDURAL HISTORY

This docket considers the prudence of the costs and cost recovery for the wet flue gas desulfurization system (Scrubber) installed by Public Service Company of New Hampshire (PSNH) at its coal-fired generation plant known as Merrimack Station. Relying on arguments made in its petition to intervene, the Commission granted intervenor status to TransCanada Power Marketing Ltd. and TransCanada Hydro Northeast, Inc. (TransCanada Intervenors), at the outset of this docket. In seeking intervention, the TransCanada Intervenors highlighted the broad experience of the entire TransCanada corporate family. "TransCanada and its affiliates are involved in the transportation of natural gas and the power generation business in North America. TransCanada and its affiliates collectively own approximately 567 MW of hydroelectric generation capacity on the Connecticut and Deerfield rivers, with the bulk of it being in New Hampshire." December 7, 2011, Petition to Intervene at 2 (Tab 7).

After the TransCanada Intervenors filed testimony of Michael Hachey, a lengthy dispute arose between PSNH and the TransCanada Intervenors over scores of PSNH data requests. The discovery litigation culminated with Order No. 25,671 (May 29, 2014),¹ which denied the TransCanada Intervenors' motion to reconsider the order that they provide supplemental responses to four data requests by June 6, 2014. The disputed data requests sought fuel price forecasts from the TransCanada Intervenors and their affiliates, and statements by any TransCanada official regarding the predicted effects on natural gas prices of horizontal drilling and hydraulic fracturing.

The TransCanada Intervenors complied with portions of Order No. 25,671. They refused to comply with the order's requirement regarding production of documents from non-party affiliates, even after the Commission rejected their Motion for Reconsideration on this issue. On the date the discovery was due, counsel for the TransCanada Intervenors wrote a letter that stated as follows:

As TransCanada indicated in its Motion for Reconsideration ... it will not produce non-public forecast information held by non-party affiliates. TransCanada does not take this position lightly or out of any disrespect for the Commission or the process. Rather, this position is taken to protect the financial and competitive interest of TransCanada's affiliates and its parent company's business interests.

TransCanada Intervenors letter June 6, 2014 (Tab 192).

II. POSITIONS OF THE PARTIES

A. PSNH

PSNH asked the Commission to rescind the TransCanada Intervenors' party intervenor status for violating Commission orders. Motion at 1, 6. PSNH cited RSA 541-A:32, II which conditions permissive intervention on a finding that the requested intervention "would not impair

¹ As most orders cited here are styled *Public Service Co. of N.H.*, references will be to the order number and date.

the orderly and prompt conduct of the proceedings.” *Id.* at 4. PSNH cited two orders directing the TransCanada Intervenors to produce documents by dates certain with which the TransCanada Intervenors did not comply. *Id.* at 2-3; *see* Order No. 25,663 at 8 (May 8, 2014); Order No. 25,671 at 6 (May 29, 2014). PSNH argued that the Commission has authority under RSA 541-A:32, V to grant the relief sought (“The presiding officer may modify the order [granting intervention] at any time, stating the reasons for the modification”). Motion at 5. Finally, PSNH noted that in Order No. 25,646 at 3 (April 8, 2014), we said: “Revocation of intervenor status based on discovery misconduct should be reserved for unusual situations.” PSNH argued the TransCanada Intervenors’ conduct is such an unusual situation. *Id.*

B. TransCanada

The TransCanada Intervenors objected to PSNH’s motion, stating that they have “responded ... to an inordinate number of data requests” including the disputed data requests on behalf of the two TransCanada Intervenors. The TransCanada Intervenors, however, “declined to provide forecasts produced by or available to non-party affiliates because they would include commercially sensitive confidential information revealing a methodology that would constitute intellectual property or trade secrets.” Objection at 2.

The TransCanada Intervenors responded to PSNH’s argument regarding delays in this proceeding by noting that PSNH’s refusal to produce certain records caused the TransCanada Intervenors to file several motions to compel that occupied much of 2012. *Id.* at 3. The TransCanada Intervenors underscored their status as the sole intervenors with “a business perspective” and that they “still [have] much to contribute to this docket.” *Id.* at 4. Finally, the TransCanada Intervenors argued that rescinding their intervenor status would be “extraordinary” and “unprecedented.” *Id.* at 3.

C. Other Parties

The TransCanada Intervenors noted in their objection that the Office of Consumer Advocate, the Conservation Law Foundation, and the Sierra Club support their position. *Id.* at 5.

III. COMMISSION ANALYSIS

The narrow issue presented is to determine the proper sanction for the TransCanada Intervenors' admitted violation of our orders compelling responses to data requests that sought fuel price forecasts and statements by TransCanada officials regarding their knowledge of the new supplies of natural gas. PSNH asked that we rescind the TransCanada Intervenors' intervenor status or that we "[g]rant such other relief as the Commission deems appropriate." Motion at 6. We decline PSNH's primary request, but we find that alternative sanctions are appropriate. As explained below, we will strike parts of Mr. Hachey's testimony and are prepared to draw adverse inferences where appropriate. We begin with a discussion of our authority to address discovery violations, review available options, and conclude with the sanctions we impose against the TransCanada Intervenors.

A. The Commission's Authority to Remedy Discovery Violations

We have authority to rescind the TransCanada Intervenors' status based on their refusal to answer fully the contested data requests. We granted their petition to intervene under RSA 541-A:32, II, the provision that gives the Commission discretion when acting on intervention requests that do not establish "rights, duties, privileges, immunities or other substantial interests" test of subsection I(b). That provision nonetheless requires a Commission finding that "such intervention ... would not impair the orderly and prompt conduct of the proceedings." *Id.* The clear implication is that we could revoke the TransCanada Intervenors' status were we to find that they did impair the conduct of this docket. Indeed, RSA 541-A:32, V

grants the Commission authority to “modify the [intervention] order at any time, stating the reasons for the modification.” The statute does not limit our authority to “modify” the order granting a petition to intervene, and thus supports our authority to rescind intervention status.

Though we have authority to rescind the TransCanada Intervenors’ status, it is an extraordinary remedy which we choose not to employ. PSNH and the TransCanada Intervenors successfully worked through data requests that included over 400 questions. We noted that the relevance of the disputed requests was a “close call.” Order No. 25,663 at 7. We also continue to believe that the TransCanada Intervenors may have useful information to offer in this docket. Although they should be sanctioned for their refusal to provide the data responses, we have concluded that revoking their intervenor status goes too far. As a result, we turn to other available options.

Although the Commission’s rules do not set forth recourse if a party fails to comply with an order compelling responses, an enforcement tool often requested is an order to strike some or all of a witness’s pre-filed testimony. For example, we have granted motions to strike because testimony was filed “six months after close of the evidentiary phase of this docket,” Order No. 25,459 at 23 (Jan. 29, 2013), and because a witness filed what was in effect direct testimony at the time rebuttal testimony was due, Order No. 25,213 at 102 (Apr. 18, 2011). We have threatened to strike testimony as a discovery sanction under circumstances similar to those present here. After granting a motion to compel, we stated: “In the event that [the sponsor of the testimony] fails to provide responses to associated data requests where the motion to compel has been granted, the related testimony shall be stricken from the record.” *Electric Utility Customers*, Order No. 25,439 at 22 (Dec. 7, 2012). An order striking some or all of Mr. Hachey’s testimony is an available remedy.

The Commission rules and practice do not provide other guidance for discovery sanctions. In similar situations where the rules are silent, and on several occasions in this docket, we have turned to the rules and practices governing civil litigation. For example, we often cite the Superior Court standard to describe the limits of discovery, *see* Order No. 25,334 at 9 (Mar. 12, 2012); and for requests for admission, *see* Order No. 25,646 at 6; *see also* Puc 203.09(j) (“The commission shall authorize other forms of discovery, including ... any other discovery method permissible in civil judicial proceedings before a state court when such discovery is necessary.”).

One Superior Court practice we find appropriate here is the use of an adverse inference. Grounds for an adverse inference arise when a party withholds or destroys relevant evidence. *See* Superior Court Civil Rule 21(d)(2)(B). If a party acts with notice of the underlying claim and with knowledge that the evidence is relevant, then the fact finder may infer that the evidence was unfavorable. Such an adverse inference is an accepted remedy for discovery violations and other instances of evidence destruction.

In *Rodriguez v. Webb*, 141 N.H. 177 (1996), the New Hampshire Supreme Court affirmed the introduction of testimony that the defendant destroyed a piece of machinery that had injured the plaintiff. There was no dispute that the defendant intentionally destroyed the evidence and that it was relevant. The jury was asked to decide whether the defendant acted innocently (he did not expect a lawsuit and wished to avoid further injury), or not (he intended to hide evidence of negligence). If the latter, the jury was instructed that it could conclude that the missing evidence would support the plaintiff’s claim of negligence. *Id.* at 180-181. In *N.H. Ball Bearings v. Jackson*, 158 N.H. 421, 433-435 (2009), the court affirmed use of the adverse

inference instruction in a case involving destruction of computer hard drives that were sought during discovery.

Federal courts similarly authorize adverse inferences. In *Booker v. Mass. Dept. of Public Health*, 612 F.3d 34, 46 (1st Cir. 2010), the court stated familiar requirements for the adverse inference: “the sponsor of the inference must ... proffer[] evidence sufficient to show that the party who destroyed the document ‘knew of (a) the claim (that is, the litigation or the potential for litigation), and (b) the document’s potential relevance to that claim.’” The First Circuit explained the reason for the inference:

This adverse inference is based in part on the commonsense observation that a party who destroys a document (or permits it to be destroyed) when facing litigation, knowing the document’s relevancy to issues in the case, may well do so out of a sense that the document’s contents hurt his position. The inference is also based on prophylactic and punitive rationales: it serves to deter litigants from destroying relevant evidence prior to trial and to penalize a party whose misconduct creates the risk of an erroneous judgment.

612 F.3d at 45-46 (citations, quotations omitted).

The state of mind required to support an adverse inference is that the conduct was “intentional and not a matter of routine.” *Rodriguez v. Webb*, 141 N.H. at 180; *see also Residential Funding Corp. v. DeGeorge Financial Corp.*, 306 F.3d 99, 108 (2nd Cir 2002) (“the ‘culpable state of mind’ factor is satisfied by a showing that the evidence was destroyed ‘knowingly, even if without intent to [breach a duty to preserve it], or negligently’”) (emphasis in original).

In the context of the withholding of documents, *Astro-Med, Inc. v. Nihon Kohden America, Inc.*, 591 F.3d 1 (1st Cir. 2009), is instructive. In that case, the court sanctioned the use of an adverse inference instruction when a witness testified to the existence of documents on the witness stand which had not been produced for trial. The court stated:

An adverse inference instruction may be allowed when a party fails to produce a document that exists or should exist and is within its control.... The failure of a party to produce available evidence that would help decide an issue may justify an inference that the evidence would have been unfavorable to the party to whom it is available.

Id. at 20 (citations and quotations omitted); *see also Residential Funding Corp. v. DeGeorge Financial Corp.*, 306 F.3d 99, 107 (2nd Cir. 2002) (court has broad discretion in fashioning sanctions for non-production of evidence including an adverse inference at trial).

The TransCanada Intervenors' conduct qualifies for the adverse inference because they intentionally withheld the information. Although the TransCanada Intervenors did not destroy evidence, and notified the Commission of their reasons for withholding evidence, they acted intentionally in blocking production of the evidence, even after Commission orders to produce.

B. The Specific Sanctions Imposed

Choosing a sanction requires us to balance two goals. First, we strive to tailor the sanction to the harm flowing from the missing information. Second, we must impose an appropriate sanction to discourage conduct contrary to Commission orders in future cases. In weighing these goals, we recognize that the discoverability of the affiliate information was a "close call," Order No. 25,663 at 7, and that the TransCanada Intervenors and PSNH successfully worked through all but seven of over 400 data requests, *see* Order No. 25,663 at 2; PSNH Data Requests, Attachment A to PSNH's February 21, 2014, motion (Docket Tab 170).

On the other hand, we issued a direct order to the TransCanada Intervenors to produce the affiliate information, Order No. 25,663 at 6-7, and we are frustrated with the TransCanada Intervenors' selective reliance upon their position within the large family of TransCanada entities. Sometimes the TransCanada Intervenors remind us of the size and expertise of their

TransCanada affiliates. Other times the TransCanada Intervenors limit their participation in this docket to the two TransCanada Intervenors. *Compare* the TransCanada Intervenors' December 7, 2011, petition to intervene, touting all of its affiliates' experience and reach through North America,² *with* their refusal to produce information held by their non-party affiliates.

Although this order will not revisit the merits of the discovery dispute between PSNH and the TransCanada Intervenors, the June 6, 2014, letter from counsel (Tab 192) was the first time the TransCanada Intervenors articulated an argument that the affiliate documents contained "methodology[ies]" that constitute "intellectual property" owned by "private party forecasters." Prior filings from the TransCanada Intervenors summarily referred to these reports. *See* 1/24/14 Objection to PSNH's Data Requests (Tab 155) at 5 ("confidential and proprietary information" that Mr. Hachey cannot produce "due to regulated codes of conduct"); 3/3/14 Objection to Motion to Rescind (Tab 172) at 11 (information that is "otherwise not available ... because of regulated codes of conduct prohibiting such disclosure"); 4/25/14 TransCanada Intervenors Objection to Motion to Compel (Tab 181) at 4, 7 ("confidential information in the possession of nonparty TransCanada affiliates;" "proprietary and confidential forecasts that were purchased from private sources"). Although the TransCanada Intervenors' 5/19/14 Motion to Reconsider (Tab 186) finally referred to third party forecasts and the need for confidentiality waivers, it still did not provide any information about the reports held by the affiliated companies:

However, these forecasts, which are voluminous, were prepared by Ventyx and ESAI (Energy Security Analysis, Inc.) and the agreements that TransCanada has with these companies to purchase the forecasts require the forecasts to be kept confidential and prohibit disclosure to third parties. TransCanada could seek a waiver from the third-party vendors of the confidentiality provisions and

² "TransCanada and its affiliates are involved in the transportation of natural gas and the power generation business in North America. TransCanada and its affiliates collectively own approximately 567 MW of hydroelectric generation capacity on the Connecticut and Deerfield rivers, with the bulk of it being in New Hampshire." December 7, 2011, Petition to Intervene at 2 (Tab 7).

limitations on third party disclosure but will not disclose the materials if the vendors do not consent. TransCanada wants to make it clear to the Commission, however, that it will not provide forecasts that were produced by or that are in the possession of affiliates that are not parties to this docket for the reasons explained above.

For the first time in its June 6, 2014, letter the TransCanada Intervenors articulated that third party methodologies were the material that warranted special protection as intellectual property. June 6 was well after expiration of any periods for rehearing or reconsideration of our orders compelling production. This late-filed argument is not persuasive. As the TransCanada Intervenors well know, the Commission routinely handles sensitive financial information and has the tools available to limit its dissemination.

After weighing these and other factors, and in exercising our broad authority and discretion to manage the discovery process, *see* Order No. 25,646 at 4, we find that the goals stated above are best served by a combination of striking parts of Mr. Hachey's testimony and allowing an adverse inference arising from that missing information, where appropriate.

Attached to this order are those pages of Mr. Hachey's testimony on which we have marked the sections to be struck. The principal used in choosing the language to strike is whether the particular testimony is based on Mr. Hachey's personal expertise and knowledge beyond what he read in PSNH's testimony and discovery. We have struck language that relates to Mr. Hachey's knowledge of forecasting and to the timing of his awareness of the impact of "fracking" on natural gas prices. The scope of Mr. Hachey's testimony that we strike represents our careful weighing of PSNH's interests in limiting testimony that may be related to the missing information, and our interest in having the benefit of the TransCanada's Intervenors' participation.

As a second sanction, the Commission will be prepared to draw an adverse inference from the missing affiliate information when appropriate. It is impossible to specifically describe any adverse inference we may draw at this stage of litigation because it is not clear what role the missing information will play. At the appropriate time during the hearing we will allow the parties to submit legal arguments about what adverse inferences should or should not be drawn as the result of TransCanada's withholding of discovery.

This is an unusual situation that has arisen in a complicated matter involving hundreds of millions of dollars. Unfortunately, the TransCanada Intervenors have chosen not to comply with discovery orders. As is clear from this Order, all three Commissioners agree that sanctions are appropriate, and that they must attempt to balance the parties' due process rights and the Commission's desire to get the best information as it considers the merits. We also agree that rescinding the TransCanada Intervenors' status would not be appropriate at this time, but that some or all of Mr. Hachey's testimony should be struck. We have reached different conclusions about the use of additional sanctions, but all the Commissioners wish to make clear that the Commission will not countenance the flouting of its orders now or in the future.

Based upon the foregoing, it is hereby

ORDERED, that PSNH's request to rescind the TransCanada Intervenors' party status is DENIED; and it is

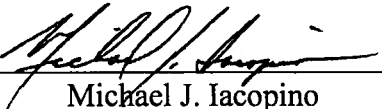
FURTHER ORDERED, that portions of Mr. Hachey's testimony are stricken, as detailed in the attached excerpts; and it is

FURTHER ORDERED, that the Commission may infer as appropriate during the balance of this docket that documents and information the TransCanada Intervenors refused to


provide as required by Order No. 25,663 would have, if produced, been adverse to the TransCanada Intervenors' positions relative to those topics described in the data requests.

By order of the Public Utilities Commission of New Hampshire this second day of July, 2014.


Martin P. Honigberg
Commissioner

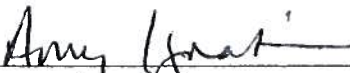

Michael J. Iacopino
Special Commissioner

Attested by:


Debra A. Howland
Executive Director

Concurring Opinion

I concur in the decision to deny PSNH's request to rescind the TransCanada Intervenors' party status in this case. I share the majority's concerns regarding their refusal to comply with Commission orders on discovery and the effects of their refusal on this docket and on further adjudication. In sanctioning the TransCanada Intervenors, however, I would not strike portions of Mr. Hachey's testimony or allow the use of adverse inferences. Rather, I would strike Mr. Hachey's testimony in full.


Amy L. Ignatius
Chairman

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

Docket No. DE 11-250

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
Investigation of Merrimack Station Scrubber Costs and Cost Recovery**

**PREFILED TESTIMONY OF MICHAEL E. HACHEY
ON BEHALF OF TRANSCANADA POWER MARKETING LTD. AND
TRANSCANADA HYDRO NORTHEAST INC.**

December 23, 2013

1 chart containing gas, oil and coal prices so that it only contained prices going back to
2 2001, rather than 1993. By doing this PSNH appears to have withheld from Staff and the
3 OCA critical information about the 15 year history of the price spread between gas and
4 oil and provided a shorter time frame that showed a spread that was favorable for the
5 project, as compared with the historical average spread which was damaging and
6 unfavorable to their position. Attachment 11, Response to TC 4-24. In the presentation
7 to Staff and the OCA PSNH also indicated that then “current spreads” (presumably as of
8 July 30, 2008) were more than \$9/mmbtu, which, for the reasons noted below, did not
9 coincide with information available regarding natural gas prices available at that time.
10 Natural gas prices would have had to have been more than \$13/mmbtu to support this
11 conclusion, but as described below, prices in July 2008 were much lower.⁵

12 **Q. Did PSNH put any of the information about the break-even level of**
13 **\$5.29/mmbtu or the historical average of the spread between gas and coal in the**
14 **filing it made with the PUC in DE 08-103 on September 2, 2008?**

15 A. No, it did not.

16 **Q. What was the natural gas price assumption that PSNH used in these**
17 **presentations?**

18 A. The assumption PSNH used was a 2012 natural gas price of
19 \$11.00/mmbtu escalated at the rate of 2.5 % per annum off of the 2012 estimate.

20 **Q. Was this a reasonable assumption?**

21 **A. No, it clearly was not for the reasons cited below.**

⁵ Note that for all spreads described in this testimony, I have assumed a coal price of \$4.82, which corresponds with PSNH’s assumed coal prices. This means that the prime variable at issue with PSNH’s analyses is the price of natural gas.

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PSNH's Fuel Forecasts and Assumptions

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Q. What were the main components of PSNH's economic analysis of the coal scrubber?

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A. At its most basic, PSNH considered the difference between an alternative where their customers relied on NEPOOL market pricing versus the value, or cost, of Merrimack Station with the \$457 million scrubber installed. The market pricing projection was obtained using natural gas pricing and a market heat rate. The Merrimack scrubber installation analysis accounted for revenue requirements of the scrubber and other capital expenses, fuel, operations and maintenance expenses, and capacity and energy revenues related to the station.

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Q. Do you have any concerns about the methodology that PSNH employed?

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A. Yes. As described in detail below, while I agree that the spread between natural gas and coal prices is vital to the scrubber economics analysis, PSNH's underlying assumptions about prices were faulty and relied on an inappropriate methodology.

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Q. As a preliminary point, why was the price of natural gas the underpinning of PSNH's analysis regarding the economics of the coal scrubber?

A. The New England market price of electricity is heavily dependent on natural gas pricing and has been for some time, including the timeframe relevant to this prudence review, circa 2008 - 2009. In most hours natural gas-fired units have been for some time and are still the marginal units in NEPOOL dispatch; accordingly they set the

1 A. NYMEX natural gas futures contracts are a widely used benchmark for the
2 price of the natural gas commodity in real time, but they do not provide a forecast of
3 future natural gas prices. The price of each month's natural gas NYMEX contract is
4 based on delivery to the Henry Hub in Louisiana.⁶ NYMEX futures prices represent only
5 a snapshot of where market participants are currently willing to transact. These are
6 forward prices that could be locked in on a specific trading day. NYMEX, as an indicator
7 of market price, is considered most robust in the near term, for example, the next 2 - 3
8 years, with trading after that being very thin and hence generally not considered
9 indicative of market prices in future years. See Attachment 13. PSNH relied on a
10 NYMEX snapshot in 2008 to predict natural gas prices from 2012 through 2027. Such a
11 reliance on NYMEX was plainly inappropriate.

12 **Q. Is there alternative data that PSNH could have relied upon?**

13 **A. Yes, there are natural gas forecasts which do predict future gas prices. A**
14 **forecast is based on economic and engineering analysis of future supply and demand,**
15 **regulatory and technological trends and typically contains some historical analysis as**
16 **well.**

17 **Q. Was PSNH imprudent to rely on NYMEX futures to determine**
18 **whether customers would receive net benefits from scrubber installation?**

19 **A. Yes. Rather than rely upon gas forecasts, PSNH relied upon an**
20 **inappropriate methodology for projecting gas prices out nearly 20 years to justify, and**

⁶ The cost of the NYMEX commodity represents the majority of a business' natural gas expenditures. A second cost component is the cost of interstate pipeline transportation or "basis" which represents the cost differential between the cost of the NYMEX contract at the Henry Hub and a business' geographical location.

1 presumably recover, its expenditure and the rate of return on the investment.

2 Furthermore, PSNH apparently chose to ignore substantial information that was available
3 at or about the time of its September 2, 2008 filing with the Commission in DE 08-103.

4 This additional information and analysis would have shown that its customers would
5 likely not receive net benefits from scrubber installation, thus creating substantial cost
6 risks for ES customers. This information included:

7 1) at the time of PSNH's September 2, 2008 letter to the PUC, NYMEX futures
8 had fallen from their peak of \$11 to \$9, raising significant questions regarding the
9 validity of their futures analysis which had essentially cherry-picked a NYMEX
10 price point and run it out for 20 years;

11 2) PSNH was in possession of several reputable forecasts which would have been
12 more appropriate sources than NYMEX futures and that conflicted with its
13 projection of NYMEX futures;

14 3) the nation's economy was in significant disarray with the financial collapse of
15 Lehman Brothers and overall concern about the economy, resulting in significant
16 job losses, a dramatic downturn in economic activity, and a decrease in the
17 demand for electricity; and

18 4) perhaps most important, the history of the natural gas market had shown a
19 number of periods of short-lived price peaks with sharp drops following the peak,
20 making the peak during the summer of 2008 an unreliable starting price point for
21 PSNH's long-term analysis.

22 Q. Did natural gas futures pricing support PSNH's view that the
23 scrubber would provide net customer benefits?

1 A. No. Natural gas pricing needed to reach levels above \$10/MMBtu for the
2 entirety of the depreciation period of the scrubber, from 2012 through 2027, for the
3 scrubber to provide net customer benefits. The \$10/MMBtu value is reached by adding
4 PSNH's coal cost, \$4.82/MMBtu, to the coal-gas price differential needed to provide
5 customer benefits, or \$5.29/MMBtu. A gas price rise above \$10/MMBtu that only lasted
6 for several months – particularly if those months occurred before the scrubber even
7 operated – would be meaningless to securing customer economic benefits.

8 In Attachment 14, I show the one year monthly average forward price for
9 Tennessee Zone 6, which provides a good representation for New England delivered gas
10 prices. As shown on the chart, forward prices high enough to meet PSNH's \$5.29 coal-
11 gas spread criteria existed for only a relatively brief window of time – roughly June and
12 July of 2008.

13 **Q. Why didn't the June and July prices validate PSNH's decision to**
14 **construct the scrubber?**

15 **A. First, in the Summer of 2008, the forwards were clearly at a peak value in**
16 **a market that history shows experienced periodic peaks. It was completely inappropriate**
17 **to base a \$457 million decision on such a fleeting signal. PSNH made a large and risky**
18 **bet thinking that it was not with its shareholders' money, but with its customers' money.**

19 Second, the primary benefit and use of market forwards (such as NYMEX) is the
20 ability to “lock in” the pricing and actually ensure the value represented would be
21 obtained. There is no evidence that PSNH has presented that shows they had any
22 intention to do that and hedge their customers' exposure to their risky decision.

1 enter into contracts that would end up costing ratepayers a significant amount of money,
2 and this was when significant changes in natural gas markets became evident.

3 **Q. Can you summarize the results of your analysis?**

4 A. Yes. We undertook to use many of PSNH's own assumptions and much
5 of its data to view the scrubber decision from a mid-year 2008 vantage point to test
6 whether the scrubber provided net financial benefits to customers over its 15 year
7 depreciation schedule. We used PSNH's return on equity of 9.81 per cent, though one
8 would ordinarily use a discounted rate based on the weighted cost of capital, which
9 would have produced even higher net present value customer losses. The primary
10 exception we took to PSNH's analysis was that we used three of the four gas forecasts I
11 previously discussed, and readily available to PSNH, rather than use their internal view
12 of \$11 gas escalating at 2.5%. The net present value customer loss we found for the
13 Synapse, EIA, and Brattle forecasts, respectively, were \$153 Million, \$270 Million, and
14 \$197 Million. See the spreadsheets in Attachment 26. In other words, all three forecasts,
15 applied to PSNH's other assumptions, indicate a loss to customers of at least a \$150
16 million in comparison with shutting down Merrimack Station and purchasing power on
17 the competitive market.

18 **Q. Which forecast did you eliminate?**

19 A. We eliminated the EVA forecast from consideration because we only were
20 provided EVA forecast values through 2018 by PSNH and we lacked any narrative
21 explanation of how to extrapolate it through 2027.

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