

In The Matter Of:
DE 10-261 PUBLIC SERVICE COMPANY OF N.H.
Least Cost Integrated Resource Plan

DAY 3 - AFTERNOON SESSION ONLY
May 8, 2012

SUSAN J. ROBIDAS, LCR
(603) 622-0068 shortprtr@comcast.net

 **COPY**

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

Page 1

1 STATE OF NEW HAMPSHIRE
2 PUBLIC UTILITIES COMMISSION
3
4 May 8, 2012 - 1:06 P.M. DAY 3
5 Concord, New Hampshire AFTERNOON SESSION ONLY
6 RE:
7 DE 10-261 PUBLIC SERVICE COMPANY OF NEW
8 HAMPSHIRE: Least Cost Integrated
9 Resource Plan
10
11 PRESENT: Commissioner Michael D. Harrington
12 Commissioner Robert R. Scott
13 F. Anne Ross, General Counsel
14 Sandy Deno, Clerk
15
16 APPEARANCES:
17 Reptg. Public Service Co. of N.H.
18 Gerald M. Eaton, Esq.
19 Sarah B. Knowlton, Esq.
20 Reptg. TransCanada:
21 Douglas L. Patch, Esq. (Orr & Reno)
22 Reptg. Granite Ridge Energy:
23 Howard M. Moffett, Esq. (Orr & Reno)
24 Reptg. N.H. Sierra Club:
25 Arthur B. Cunningham, Esq.
26 Reptg. Conservation Law Foundation:
27 N. Jonathan Peress, Esq.
28
29 COURT REPORTER: SUSAN J. ROBIDAS, N.H. LCR NO. 44
30

Page 2

1 APPEARANCES: (C o n t i n u e d)
2
3 Reptg. Office of Energy & Planning:
4 Eric Steltzer
5 Reptg. Residential Ratepayers:
6 Rorie E. P. Hollenberg, Esq.
7 Kenneth E. Traum
8 Office of Consumer Advocate
9 Reptg. PUC Staff:
10 Alexander F. Speidel, Esq.
11 George R. McCluskey, Electric Division
12 Edward Arnold (Jacobs Consultancy)
13
14
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Page 3

1 I N D E X
2
3 WITNESS PANEL: TERRANCE J. LARGE
4 WILLIAM H. SMAGULA
5 ELIZABETH H. TILLOTSON
6 RICHARD L. LEVITAN
7 RICHARD L. CARLSON
8
9 EXAMINATION PAGE
10 Cross-examination by Mr. Patch 18
11 Cross-examination by Mr. Peress 110
12 Interrogatories:
13 Cmsr. Scott 121, 154
14 Cmsr. Harrington 132
15
16
17
18
19
20
21
22
23
24

Page 4

1 I N D E X (Continued)
2 EXHIBITS PAGE
3 Staff 7 5/20/11 PSNH's response 8
4 to Staff 02-008
5 TransCanada Record Request to provide 26
6 4 actual net energy benefits
7 realized by Newington
8 in 12 months of 2011
9 TransCanada LMP and congestion impacts 32
10 5 of Northern Pass Trans-
11 mission Project Final Report
12 TransCanada PSNH response to 35
13 6 DR TC-04-004
14 TransCanada PSNH response to 43
15 7 DR TC 03-002
16 TransCanada PSNH response to 65
17 8 DR TC 03-001
18 TransCanada PSNH "Steam Electric 73
19 9 Generating Plant
20 TransCanada "Monthly Average Fuel Price 81
21 10 and RT Hub LMP."
22 TransCanada ISO Forward Capacity 90
23 11 Auction Results
24 TransCanada PSNH response to DR 99
25 12 TC 04-012
26 TransCanada PSNH response to DR 104
27 13 TC-04-016
28
29
30

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 5</p> <p>1 AFTERNOON SESSION</p> <p>2 CMSR. HARRINGTON: We're back on</p> <p>3 the record in Docket DE 10-261 Public Service</p> <p>4 Company of New Hampshire Least Cost Integrated</p> <p>5 Resource Plan. Ms. Knowlton.</p> <p>6 MS. KNOWLTON: I had one</p> <p>7 procedural issue that I wanted to raise before</p> <p>8 we get back to cross-examination of the panel,</p> <p>9 which is I'm trying to make my own best</p> <p>10 estimate about when this panel might finish on</p> <p>11 the stand. Not trying to rush it, but Mr.</p> <p>12 Smagula and I just wanted to remind everybody</p> <p>13 that, back when we were here back in April, we</p> <p>14 let everyone know that Mr. Smagula needs to</p> <p>15 leave tomorrow at about 11:30. He's got a</p> <p>16 flight to catch to go out of town for a</p> <p>17 professional commitment. So the Company at</p> <p>18 this point would have limited redirect for the</p> <p>19 panel. So I'm just wanting to raise that</p> <p>20 issue now, to make sure that before he leaves</p> <p>21 at 11:30 tomorrow, that we would do that. And</p> <p>22 we did talk about coming back on the 11th, on</p> <p>23 Friday, but the letter from the Commission</p> <p>24 didn't -- reserving these two days didn't</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 7</p> <p>1 was still granted partial confidential</p> <p>2 treatment with regards to a specific schedule.</p> <p>3 So that doesn't seem to be the case, so I will</p> <p>4 withdraw the copies of "Confidential Staff</p> <p>5 Exhibit 2," so to speak, and distribute what I</p> <p>6 have styled as "Staff Exhibit 7" to the</p> <p>7 hearing room if it's all right.</p> <p>8 CMSR. HARRINGTON: Is this</p> <p>9 physically a different piece of paper or --</p> <p>10 MR. SPEIDEL: It is not. And it</p> <p>11 also relates to my questioning of Mr. Smagula.</p> <p>12 So, have the witnesses been</p> <p>13 sworn?</p> <p>14 MR. SCOTT: Just for clarity,</p> <p>15 you said -- don't you mean Confidential Staff</p> <p>16 Exhibit 1?</p> <p>17 MR. SPEIDEL: One, yes. That's</p> <p>18 correct.</p> <p>19 CMSR. HARRINGTON: So you're</p> <p>20 going to basically toss out the one that says</p> <p>21 "Confidential" on it and give us another one</p> <p>22 that doesn't say that.</p> <p>23 MR. SPEIDEL: That's exactly</p> <p>24 right.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 6</p> <p>1 indicate anything about Friday.</p> <p>2 CMSR. HARRINGTON: Well, our</p> <p>3 goal is to finish in two days.</p> <p>4 MS. KNOWLTON: Right.</p> <p>5 CMSR. HARRINGTON: So why don't</p> <p>6 you, tomorrow morning, make sure you remind</p> <p>7 us, in case we haven't gotten to that point by</p> <p>8 11:30 -- or before 11:30, so you can do your</p> <p>9 redirect.</p> <p>10 MS. KNOWLTON: Okay. Thank you.</p> <p>11 MR. SPEIDEL: Commissioners,</p> <p>12 thank you. There was a false start before we</p> <p>13 broke for lunch, and the Company has in fact</p> <p>14 confirmed what I initially tried to style as</p> <p>15 "Confidential Staff Exhibit 2" is a public</p> <p>16 document now because of the Commission order</p> <p>17 related to the confidentiality of the</p> <p>18 material.</p> <p>19 CMSR. HARRINGTON: Okay.</p> <p>20 MR. SPEIDEL: And I had, in</p> <p>21 abundance of caution, gone on the basis of my</p> <p>22 expectation that, even though it was most</p> <p>23 likely that the material was public</p> <p>24 information, there was a possibility that it</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 8</p> <p>1 CMSR. HARRINGTON: Which will be</p> <p>2 Exhibit 6.</p> <p>3 MR. SPEIDEL: So this will be</p> <p>4 Staff Exhibit 7.</p> <p>5 CMSR. HARRINGTON: Seven.</p> <p>6 (The document, as described, was</p> <p>7 herewith marked as Staff 7 for</p> <p>8 identification.)</p> <p>9 BY MR. SPEIDEL:</p> <p>10 Q. So, Mr. Smagula, the document that I've</p> <p>11 distributed here, Staff Exhibit 7, is the</p> <p>12 Company's response to Staff Data Request</p> <p>13 Set 2, Question 8, and it was dated May 20</p> <p>14 of 2011. Could you please confirm the fact</p> <p>15 stated in your rebuttal testimony -- and I</p> <p>16 will make reference to the specific lines of</p> <p>17 that as well. Let's see here. I don't</p> <p>18 think that has been -- has this been marked</p> <p>19 by the Company yet or not?</p> <p>20 MS. KNOWLTON: Yes, that's</p> <p>21 PSNH 4.</p> <p>22 MR. SPEIDEL: PSNH 4. Thank you</p> <p>23 very much for your help, Counsel.</p> <p>24 BY MR. SPEIDEL:</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON PERSON1]</p> <p>1 Q. All right. So your rebuttal testimony in 2 PSNH 4, at Pages 15 and 16, there is a 3 discussion of the fact that the capital 4 investment projections for the line marked 5 "2010" for Newington station were those 6 provided by PSNH and used by Levitan for the 7 Newington CUO study. And I will redirect 8 everyone's attention to the third page of 9 Staff Exhibit 7, which is a table outlining 10 different vintages of five-year capital 11 budget forecasts for Newington Station. 12 So you can see that there's a line marked 13 "2010," and there are a series of capital 14 investment figures for the years 2011 through 15 2015, and they're all \$500,000 a year. Now -- 16 I'm sorry. 17 Could you please confirm the fact that 18 the capital investment projections for the 19 line marked "2010" for Newington Station were 20 those provided by PSNH and used by Levitan for 21 the Newington CUO study? 22 A. (By Mr. Smagula) Yes, they are. 23 Q. And that would be \$500,00 per year for each 24 year?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON PERSON1]</p> <p>1 Q. So my question is, that line that is marked 2 "2009" presents the capital projections for 3 Newington Station prepared during the year 4 2009, or does it not? 5 A. (By Mr. Smagula) Yes, that's right. 6 Q. Okay. So -- 7 A. (By Mr. Smagula) Well, which line are you 8 talking about? 9 Q. I'm talking about the line marked -- for 10 example, 2009, there's a column on the far 11 left that indicates certain years -- 12 A. I think that's right. The column on the 13 left indicates the year that those numbers 14 had been developed. 15 Q. Very good. That's my question. Thank you. 16 Now, Mr. Smagula, the projections for 17 2011 and beyond on the line marked "2009" are 18 significantly higher than the projections for 19 the same years on the line marked "2010"; are 20 they not? 21 A. (By Mr. Smagula) Yes, they're different. 22 Q. Have you any explanation for the 23 differences? 24 A. (By Mr. Smagula) Yeah, there's a number of</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON PERSON1]</p> <p>1 A. (By Mr. Smagula) That's correct. 2 Q. Now, would you also agree, Mr. Smagula, that 3 the line marked "2009" present the Company's 4 capital projections prepared during that 5 year for Newington Station? 6 A. (By Mr. Smagula) No, that's not correct. 7 The budget projections that you see starting 8 in any given year are those budgets that 9 were projected in the preceding year for the 10 next series of five years. So the budgets 11 that were in 2011 with \$500,000 were 12 projected in 2010 for those years. 13 Q. I think we agree on that point, Mr. Smagula. 14 But what I'm asking is, there's a line on 15 this table here in Staff Exhibit 7 that you 16 provided as part of a discovery response -- 17 the Company did, and you were the witness 18 marked on that discovery response -- and in 19 2009 there was one projection for the 2010 20 budget and then there's another for the 2011 21 budget and then there's another for the 2012 22 budget and then there's another for 2013 and 23 2014 budgets. 24 A. (By Mr. Smagula) Yes.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON PERSON1]</p> <p>1 reasons for that, and I'm glad you asked, 2 because when you asked the question of 3 showing what your budgets are, we've 4 answered the questions, but there's 5 significantly more information that's behind 6 these numbers, and I'd be happy to explain 7 that for you. 8 As you look at this series of numbers, 9 starting in the budgets that were developed 10 in 2006 and '07, you see that there are some 11 large expenditures projected in the period 12 2010 and 2011. That indicates that in 2010 13 we had projected a large maintenance year. 14 And with a large maintenance year, it 15 usually requires a lengthy outage. And when 16 you have a lengthy outage, that is most 17 often the time when you would make large 18 capital investments. As a result, our 19 projection, as you can see here in 2010, we 20 had expected to do some major maintenance 21 and make some capital investments. 22 And as we proceeded from 2006, when we 23 started seeing reduced capacity factors, and 24 we still held -- in 2007, we still held that</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOUGHAN] Page 3</p> <p>1 large maintenance year in 2010. However, in 2 2008, with the reduced capacity factors, as 3 you're familiar with, you can see that the 4 large capital investment was pushed into 5 2012. 4.4 million was shifted. Our big 6 year was shifted out two years, and that's 7 because we were running less.</p> <p>8 And then you see in 2009 that number 9 was pushed out even further. So, by the -- 10 and the reason I explain this is, as things 11 were changing over time, our actual 12 projections, which is what this is a table 13 of, were shifted out because we didn't see 14 the operations which drives our budgets, we 15 didn't see the operations increasing. In 16 fact, the capacity factors were moderated.</p> <p>17 And in line with that, what is also not 18 portrayed in this table is that the actual 19 expenditures for capital in 2008 were 20 2.51 million; in 2009 it was 1.1 million; in 21 2007 -- excuse me -- 2010, rather, it was 22 418,000; and in 2011 it was 750,000; and 23 this year we've spent, at this point, just 24 over \$200,000.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOUGHAN] Page 5</p> <p>1 Q. So on the basis of what you're saying there, 2 the Company decided to make a significant 3 downshift between its 2009 projection for 4 the year of 2011, which had been \$1,210,000 5 for Newington, to a 2010 vintage projection 6 for that very same year of 2011 of \$500,000?</p> <p>7 A. (By Mr. Smagula) Yes, and that's consistent 8 to the actuals that we had in 2010 and 2011, 9 yes.</p> <p>10 Q. Is that necessarily true, Mr. Smagula? 11 Because I believe that the Company's 12 projection for 2011, made in 2010 -- that 13 is, the \$500,000 projection -- has already 14 been shown to be too conservative. For 15 instance: Do you recall that the Company's 16 response to an OCA data request mentioned 17 the fact that actual capital expenditures 18 for Newington in 2011 totalled approximately 19 \$1 million?</p> <p>20 A. (By Mr. Smagula) I think, actually, there 21 was some money that was expended that was 22 actually improperly booked to the station, 23 which was rebooked to a transmission account 24 for work in our high yard. That accounted</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOUGHAN] Page 4</p> <p>1 So you have to put it in context, that 2 as things were changing, as the projections 3 were pushed out, then accepting the fact 4 that the capacity factors would be in the 5 single digits, we determined that, based on 6 actuals of 2010 and '11, and projected for 7 2012, that \$500,000 was a very reasonable 8 number. Our O & M budgets similarly were 9 reduced over that period.</p> <p>10 Q. So, Mr. Smagula, you seem to be indicating 11 that, on the basis of the Company's 12 expectations of lower capacity factors and 13 lower use rates for the Newington plant, 14 that it has downshifted its expected capital 15 expenditures for the plant on an ongoing 16 basis, starting in 2006 going forward.</p> <p>17 A. (By Mr. Smagula) Not just capacity factors. 18 We have a planning process where we look at 19 equipment needs and other needs of the 20 facility over a moderate and long-term 21 horizon. And we look at a five-year horizon 22 most commonly, and that assists us in 23 driving these numbers out five years. And 24 we do also look at times beyond that.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOUGHAN] Page 6</p> <p>1 for, I believe, \$300,000 or so being 2 transferred out of the station costs. And 3 the energy costs for the Company, the actual 4 was, as I indicated, about \$450 -- \$750 5 million -- excuse me -- \$750,000.</p> <p>6 Q. Seven hundred and fifty thousand.</p> <p>7 A. (By Mr. Smagula) Right.</p> <p>8 Q. And Mr. Smagula, has that data response been 9 updated by the Company in some fashion?</p> <p>10 A. (By Mr. Smagula) I don't recall.</p> <p>11 Q. Moving on. Isn't it true, Mr. Smagula, that 12 some consideration is being given by the 13 Company to replacing one of the two 14 auxiliary boilers at Newington Station 15 possibly in 2012 with a boiler that uses 16 natural gas?</p> <p>17 A. (By Mr. Smagula) Yeah, there is a study 18 underway to look at one of our two auxiliary 19 boilers to determine whether it is more 20 economic to modify that or change that 21 boiler to one that burns natural gas. That 22 takes into account the economics of such an 23 investment, the value to customers and, you 24 know, air permitting requirements and so on.</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 17</p> <p>1 And that has not been finalized as yet. And</p> <p>2 I believe there was a data request which did</p> <p>3 mention this.</p> <p>4 Q. Now, so, Mr. Smagula, if the replacement</p> <p>5 were to take place in either the year 2012</p> <p>6 or the year 2013, is it likely that capital</p> <p>7 expenditures in that given year in which the</p> <p>8 boiler upgrade would take place would exceed</p> <p>9 the half-million-dollar projection?</p> <p>10 A. (By Mr. Smagula) That is likely. But the</p> <p>11 basis upon which any such decision would be</p> <p>12 made is one that would be economically</p> <p>13 beneficial to customers. And I think if</p> <p>14 this project is successfully justified, it</p> <p>15 would in fact reduce costs to customers,</p> <p>16 from what I am hearing, generally one- or</p> <p>17 two- or two- or three-year payback. So the</p> <p>18 economic analysis of Newington's continued</p> <p>19 operation would in fact improve if that</p> <p>20 investment were made.</p> <p>21 Q. But as a general working principle, would it</p> <p>22 be fair to say that the 2010 vintage capital</p> <p>23 expenditure forecast that had been</p> <p>24 integrated by Levitan in its analysis for</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 in which it accepted the 2007 Least Cost</p> <p>2 Integrated Resource Plan? Are you generally</p> <p>3 familiar with that?</p> <p>4 A. (Mr. Large) I am in general, yes.</p> <p>5 Q. Do you recall that the Commission said in</p> <p>6 that order, "Early retirement of existing</p> <p>7 power plants for economic reasons is a</p> <p>8 practical option for utility planners if</p> <p>9 continued operation entails the expenditure</p> <p>10 of significant investment dollars"? Does</p> <p>11 that sound familiar? I can give you a copy</p> <p>12 of the order if it would be helpful.</p> <p>13 A. (Mr. Large) It would be helpful.</p> <p>14 Q. What I read from was on Page 16 of that</p> <p>15 order.</p> <p>16 A. (By Mr. Large) Yes, it's under the heading</p> <p>17 of "Merrimack Continued Unit Operations</p> <p>18 Study." There was considerable dialogue, I</p> <p>19 believe, in that docket about whether a CUO</p> <p>20 should be conducted for Merrimack Station.</p> <p>21 Q. Isn't it true that -- and I think the</p> <p>22 Commission later modified that heading. I</p> <p>23 think it recognized that that heading had</p> <p>24 been improperly placed in that order. Do</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 the CUO study would probably -- there would</p> <p>2 be justification for updating or perhaps</p> <p>3 revisiting such a projection?</p> <p>4 A. (By Mr. Smagula) If a future decision were</p> <p>5 made, that may be an analysis. But as I</p> <p>6 indicated, I think that would illustrate</p> <p>7 that the analysis would be improved, as far</p> <p>8 as customer value over that period with a</p> <p>9 short payback.</p> <p>10 Q. Thank you very much, Mr. Smagula.</p> <p>11 MR. SPEIDEL: Staff has no</p> <p>12 further questions of the Company's witnesses.</p> <p>13 CMSR. HARRINGTON: Okay. As</p> <p>14 previously agreed, TransCanada has questions</p> <p>15 for this panel?</p> <p>16 MR. PATCH: Thank you.</p> <p>17 CROSS-EXAMINATION</p> <p>18 BY MR. PATCH:</p> <p>19 Q. Good afternoon. Mr. Large, I think I'd like</p> <p>20 to start with you. Is the microphone</p> <p>21 working?</p> <p>22 A. (By Mr. Large) Yes, indeed it is.</p> <p>23 Q. Mr. Smagula [sic], you're familiar with a</p> <p>24 Commission Order in 2009, Order No. 24,945,</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 19</p> <p>1 you recall that?</p> <p>2 A. (Mr. Large) I don't recall that. But I'd be</p> <p>3 happy to take it, subject to check.</p> <p>4 Q. Okay. And in the same order, did the</p> <p>5 Commission require PSNH to include in future</p> <p>6 Least Cost Integrated Resource Plans an</p> <p>7 economic analysis of retirement for any unit</p> <p>8 in which the alternative is the investment</p> <p>9 of significant sums to meet new emission</p> <p>10 standards and/or enhance or maintain plant</p> <p>11 performance?</p> <p>12 A. (Mr. Large) The section on Page 16 goes on</p> <p>13 to say that, yes.</p> <p>14 Q. I'm going to show you a copy of a response</p> <p>15 to a data request from TransCanada in this</p> <p>16 docket.</p> <p>17 MR. PATCH: I'm going ask that</p> <p>18 this be marked. It's TransCanada Set 4,</p> <p>19 No. 5. And the responses are dated 12/16/11,</p> <p>20 and it has your name as the witness at the</p> <p>21 top.</p> <p>22 CMSR. HARRINGTON: TransCanada</p> <p>23 No. 3.</p> <p>24 (The document, as described, was</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 21]</p> <p>1 herewith marked as TransCanada 3 for 2 identification.) 3 MR. PATCH: Thank you. 4 A. (By Mr. Large) Could we have an additional 5 copy for the remainder of my friends on the 6 panel? 7 (Document handed to Mr. Large.) 8 A. Thank you. 9 BY MR. PATCH: 10 Q. I would ask you, Mr. Large, to look at Roman 11 VI. And this asked that you provide the 12 actual net energy benefits realized by 13 Newington in the first 11 months of 2011 and 14 compare the results to the analysis used to 15 determine the ES rate in the Levitan real 16 option value approach. Could you read the 17 response that you provided. 18 A. (Mr. Large) Yes. In small Roman VI, we 19 objected to the request, identified that the 20 plan we submitted was complete and that the 21 net energy benefits were not reasonably 22 calculated to lead to discovery of 23 information that would be admissible. But 24 not withstanding that objection, we</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 22]</p> <p>1 approximately \$0.7 million. 2 Q. So we had asked for the first 11 months of 3 2011, and it doesn't look as though you 4 provided that. Is that correct? 5 A. (Mr. Large) We objected to the question and 6 provided the information we felt provided a 7 reasonable response. 8 Q. Do you have actual numbers for 2011 now? 9 A. (Mr. Large) Not with me, as I sit here 10 today. 11 Q. Would you take a record request? 12 MS. KNOWLTON: I'm going to 13 object to that. Certainly, TransCanada could 14 have moved to compel if they felt that this 15 response was not sufficient, and they chose 16 not to do so. The time for filing a motion to 17 compel in response to this response is 18 certainly long overdue. 19 MR. PATCH: Well, if we filed a 20 motion to compel, I don't think the 2011 21 numbers would have been ready. I think it's a 22 reasonable record request at this point in 23 time, given where we are. I mean, we just 24 talked about CapEx numbers where they updated</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 22]</p> <p>1 identified that, excluding real-time 2 dispatch that appears to have been mainly 3 for operating reserves, PSNH estimates 4 Newington's energy margin using offer prices 5 for all of 2011 to be \$4 million. Using 6 accounting record fuel expense, including 7 days where the dispatch appears to have been 8 mainly for operating reserves would produce 9 a different value. Fuel accounting is done 10 on a monthly, not daily or hourly basis, and 11 includes No. 2 fuel oil not directly used 12 for dispatch. While it might be possible to 13 refine the accounting record using daily gas 14 billing information, and possibly daily fuel 15 use information, that information is not 16 readily available, whereas the offer prices 17 are. Offer prices on gas do not necessarily 18 reflect actual gas costs because the gas is 19 purchased only after Newington is provided 20 dispatch instructions, which is subsequent 21 to the Newington offers being submitted. 22 The final ES rate filing model 23 submitted on December 2010 for 2011 24 estimated Newington's energy margin to be</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 23]</p> <p>1 with actual numbers for those years. And 2 that's all I'm asking for in this situation is 3 actual numbers for 2011. 4 MS. KNOWLTON: I have a 5 further -- may I state a further objection on 6 the basis of relevance? 7 CMSR. HARRINGTON: Sure. 8 MS. KNOWLTON: This CUO was 9 conducted and filed -- well, was filed with 10 the Commission in September 2010. The work 11 was done in the summer of 2010. And so, 12 certainly information on that was -- Mr. Patch 13 is seeking information from a time period 14 subsequent to that I don't believe is 15 relevant. 16 MR. PATCH: Well, if I could 17 just point out to the Commission, one of the 18 remedies that is requested in this docket is 19 that an independent consultant be hired to 20 complete a CUO study of Newington. So I think 21 it would be very useful for the Commission to 22 know whether actual numbers from 2011 23 correspond in any way to the numbers on which 24 Mr. Levitan relied and the numbers which PSNH</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 25]</p> <p>1 has provided.</p> <p>2 (Off-the-record discussion among Commissioners.)</p> <p>3 CMSR. HARRINGTON: We'll let you</p> <p>4 make the request, Mr. Patch.</p> <p>5 MR. PATCH: Okay. So, just to</p> <p>6 be clear, that record request would be for the</p> <p>7 actual numbers for 2011.</p> <p>8 A. (Mr. Large) And clear as to what actual</p> <p>9 numbers, just so we're all understanding?</p> <p>10 CMSR. HARRINGTON: Is this as</p> <p>11 stated in your Roman VI there, provide the</p> <p>12 actual net energy benefits realized by</p> <p>13 Newington in the first 11 months of 2011?</p> <p>14 MR. PATCH: Yeah, that's</p> <p>15 correct.</p> <p>16 CMSR. HARRINGTON: So you're</p> <p>17 basically asking for what's stated in</p> <p>18 TransCanada Exhibit 3, Roman VI, on the first</p> <p>19 page, but for the entire year and not just the</p> <p>20 first 11 months.</p> <p>21 MR. PATCH: Yeah, that's right.</p> <p>22 For all of 2011.</p> <p>23 CMSR. HARRINGTON: That would be</p> <p>24 Record Request 1?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 27]</p> <p>1 prices, therefore energy margin, was lower</p> <p>2 than had been previously considered.</p> <p>3 Q. Why would that explain going from 700,000 to</p> <p>4 4.0 million?</p> <p>5 A. (Mr. Large) Well, if the market price for</p> <p>6 power was lower, the unit would likely</p> <p>7 operate less, and therefore, the margin is</p> <p>8 associated with the benefits to be derived</p> <p>9 would be smaller.</p> <p>10 Q. And the number that Mr. Levitan used that</p> <p>11 would correspond with this number, are you</p> <p>12 familiar with that number? I believe it's</p> <p>13 on Page 232 of the total IRP pages. So I</p> <p>14 guess that's a Bates number. I think it was</p> <p>15 4.486 million.</p> <p>16 CMSR. HARRINGTON: Which</p> <p>17 document are you referring to, Mr. Patch?</p> <p>18 Exhibit 1?</p> <p>19 MR. PATCH: Well, it's the</p> <p>20 actual IRP. So is that PSNH No. 1?</p> <p>21 CMSR. HARRINGTON: Yeah, PSNH</p> <p>22 Exhibit 1.</p> <p>23 MR. SPEIDEL: And I think for</p> <p>24 the benefit of the hearing room, Mr. Patch,</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 26]</p> <p>1 THE CLERK: No. 4.</p> <p>2 CMSR. HARRINGTON: Four. Okay.</p> <p>3 (The document, as described, was</p> <p>4 herewith marked as TransCanada</p> <p>5 Request Request 4 for</p> <p>6 identification.)</p> <p>7 BY MR. PATCH:</p> <p>8 Q. Now, the estimates that you provided,</p> <p>9 Mr. Large, in that response, one of them was</p> <p>10 an estimate, in that second full paragraph</p> <p>11 on the second page of TransCanada Exhibit 3,</p> <p>12 under Roman VI. "PSNH estimates Newington's</p> <p>13 energy margin using offer prices for all of</p> <p>14 2011 to be \$4 million"; is that correct?</p> <p>15 A. (Mr. Large) That's what I read, yes.</p> <p>16 Q. And yet, in December of 2010, the estimate</p> <p>17 had been .7 million, or \$700,000?</p> <p>18 A. (Mr. Large) Yes, for the energy service</p> <p>19 rate.</p> <p>20 Q. Can you explain why there was such a</p> <p>21 significant difference?</p> <p>22 A. (Mr. Large) I think, simply put, the unit</p> <p>23 operated at a lower capacity factor than had</p> <p>24 been originally considered, and that energy</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 28]</p> <p>1 you're referring to Bates Page 232, or Page 49</p> <p>2 of the Newington study?</p> <p>3 MR. PATCH: That's correct.</p> <p>4 MR. SPEIDEL: Thank you.</p> <p>5 A. (Mr. Large) What I see on Exhibit G.17,</p> <p>6 which is the reference page on net revenue,</p> <p>7 the bottom number in the "2011" column in</p> <p>8 the "Expected Value" section is \$4.48</p> <p>9 million.</p> <p>10 Q. And that's actually the corrected page; is</p> <p>11 that right?</p> <p>12 A. (Mr. Large) It's the study that was filed on</p> <p>13 4/26/11.</p> <p>14 Q. Okay. The original net revenue was 2.1;</p> <p>15 correct? That was corrected to -- actually,</p> <p>16 I guess the original net revenue was</p> <p>17 9 million, and it was corrected to --</p> <p>18 (Court Reporter interrupts.)</p> <p>19 Q. Let me withdraw that question. I want to</p> <p>20 make sure I get the numbers right.</p> <p>21 CMSR. HARRINGTON: The corrected</p> <p>22 numbers are on which exhibit, Mr. Patch?</p> <p>23 MR. PATCH: Well, is it PSNH 3</p> <p>24 with the corrected numbers? There's the</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 9</p> <p>1 original IRP, which I think is No. 2, and then</p> <p>2 the corrected pages, the CUO study --</p> <p>3 actually, those are PSNH 2, as I understand</p> <p>4 it. PSNH 1 is the original IRP with the</p> <p>5 original CUO study, and PSNH 2 is the</p> <p>6 corrected pages.</p> <p>7 BY MR. PATCH:</p> <p>8 Q. So, Mr. Large, I don't know if you can</p> <p>9 provide to the Commission a comparable</p> <p>10 number to the one that you provided in</p> <p>11 response to that data request that Mr.</p> <p>12 Levitan uses. Is there a comparable number</p> <p>13 or not?</p> <p>14 A. (Mr. Large) A comparable number to what, Mr.</p> <p>15 Patch? I'm sorry.</p> <p>16 Q. Well, TransCanada No. 3, Roman VI, we had</p> <p>17 asked you to please provide the actual net</p> <p>18 energy benefits realized by Newington. And</p> <p>19 I guess what I'm asking for is whether Mr.</p> <p>20 Levitan had a number that would correspond</p> <p>21 to that. Obviously, it would not be actual,</p> <p>22 but it would be net energy benefits assumed</p> <p>23 by Mr. Levitan.</p> <p>24 And Mr. Levitan, if you want to answer</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 9</p> <p>1 estimated as being \$700,000 when it did the</p> <p>2 estimate for the ES study in 2010.</p> <p>3 A. (By Mr. Levitan) One is a simulated</p> <p>4 risk-adjusted result, and the other is an</p> <p>5 expected -- is an actual number. So, with</p> <p>6 distinction in mind, and that is a very</p> <p>7 important distinction, they represent an</p> <p>8 estimation of performance versus the actual</p> <p>9 net margin realized in the market. And of</p> <p>10 course, it's important to note that the fuel</p> <p>11 price forecast in the summer of 2010 was</p> <p>12 remarkably higher across the board than</p> <p>13 actual fuel prices that materialized in</p> <p>14 2011 -- in particular, the second half of</p> <p>15 2011, when natural gas prices across North</p> <p>16 America weakened, and in particular key</p> <p>17 pricing points across New England.</p> <p>18 Q. But I think you referenced, you said, an</p> <p>19 actual number. That's not -- the 700,000</p> <p>20 figure was not an actual number. That was</p> <p>21 an estimate by PSNH for the purposes of the</p> <p>22 ES docket. So that's not an actual number;</p> <p>23 is that correct?</p> <p>24 A. (By Mr. Levitan) I did not derive the</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 10</p> <p>1 this question, that's fine.</p> <p>2 A. (By Mr. Levitan) Sure, I'd be happy to. I'm</p> <p>3 sure in our model we do have data that would</p> <p>4 correspond on a probabilistic basis using a</p> <p>5 stochastic approach employed for real option</p> <p>6 valuation for a net revenue for 2011. Of</p> <p>7 course, it was conducted on an annual basis.</p> <p>8 Your Question VI references the first</p> <p>9 11 months. I'm not sure we can sort that</p> <p>10 out, but we do have on annual basis the</p> <p>11 results.</p> <p>12 Q. And is that the 4.486 million number in the</p> <p>13 Expected Value box in Exhibit G.17?</p> <p>14 A. (By Mr. Levitan) Yes.</p> <p>15 Q. And the original number that you provided --</p> <p>16 that was the corrected number I just read.</p> <p>17 The original number you provided was</p> <p>18 15.7 million.</p> <p>19 A. (By Mr. Levitan) Yes. And that was based on</p> <p>20 an erroneous specification that Dr. Carlton</p> <p>21 addressed in terms of model flaws that were</p> <p>22 corrected in April of 2011.</p> <p>23 Q. And that's -- and we're talking about</p> <p>24 basically the same number that PSNH</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 10</p> <p>1 number, so I can't comment.</p> <p>2 Q. Okay. Mr. Large, back to you. You're</p> <p>3 familiar with the Charles River Associates</p> <p>4 studies on the impacts of Northern Pass</p> <p>5 that's been the subject of a motion to</p> <p>6 compel in this docket and a Commission</p> <p>7 order?</p> <p>8 A. (Mr. Large) I have familiarity with it, yes,</p> <p>9 and did address questions with respect to it</p> <p>10 in my rebuttal testimony.</p> <p>11 MR. PATCH: I have a copy of</p> <p>12 this report. I would request this be marked</p> <p>13 as the next exhibit.</p> <p>14 CMSR. HARRINGTON: This will be</p> <p>15 TransCanada --</p> <p>16 THE CLERK: Five.</p> <p>17 CMSR. HARRINGTON: TransCanada</p> <p>18 5, LMP and Congestion Impacts of Northern Pass</p> <p>19 Transmission Project Final Report.</p> <p>20 (The document, as described, was</p> <p>21 herewith marked as TransCanada 5 for</p> <p>22 identification.)</p> <p>23 Q. Is this a copy of that study?</p> <p>24 A. (Mr. Large) I believe it to be so, yes.</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 3</p> <p>1 Q. This study says that Northern Pass 2 transmission would provide -- I'm looking 3 here at Page 1, and I'm looking about five 4 or six lines down. It says that Northern 5 Pass would provide 1200 megawatts of 6 capacity, "allowing a significant amount of 7 power generated by plants burning fossil 8 fuels to be replaced with imported power 9 generated predominantly by hydroelectric 10 facilities in Quebec." Is that what it 11 says? 12 A. (Mr. Large) Other than your characterization 13 of 1200 megawatts of "capacity." The report 14 says "power." 15 Q. Okay. And one of the conclusions of this 16 study -- and this is on Page 34 -- one of 17 the conclusions is that the addition of the 18 Northern Pass Transmission Project has a 19 pronounced and continuing effect on the New 20 England power market. Is that correct? 21 A. (By Mr. Large) The conclusion at Section 5 22 identifies those words as you said, yes. 23 Q. And you, Mr. Large, I think have indicated 24 in your testimony, both on the stand and</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 3</p> <p>1 MR. PATCH: PSNH 3. Thank you. 2 BY MR. PATCH: 3 Q. Mr. Large, Page 19, Lines 27 to 29. 4 A. (Mr. Large) I have it. 5 Q. And there you had indicated that, at the 6 time the analysis was begun in June of 2010, 7 you concluded it should be -- "it" meaning 8 the NPT consideration -- should be excluded 9 because the line had not received the 10 approvals and permits that it needed; is 11 that correct? 12 A. (Mr. Large) That is what I stated in that 13 testimony, yes. 14 Q. I'm going to show you a copy of a PSNH 15 response dated December 18th, 2011 to a data 16 request from TransCanada, TC4-4, Set 4, No. 17 4. 18 MR. PATCH: And I'd ask that it 19 be marked. 20 (The document, as described, was 21 herewith marked as TransCanada 6 for 22 identification.) 23 CMSR. HARRINGTON: This will be 24 marked as TransCanada 6.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 4</p> <p>1 your written testimony, that you were 2 basically in charge of putting the IRP 3 together and also in charge of directing the 4 CUO study; is that correct? 5 A. (Mr. Large) Yes, I have overall 6 responsibilities for both of those filings. 7 That's correct. 8 Q. So was it your decision that Mr. Levitan -- 9 or Levitan Associates, be directed not to 10 take this project into account? 11 A. (Mr. Large) Yes. 12 Q. In your rebuttal testimony at Page 19, Lines 13 27 to 29 -- 14 CMSR. HARRINGTON: Excuse me. 15 What exhibit number is that so we're all on 16 the same one? 17 MR. PATCH: I'm sorry? 18 CMSR. HARRINGTON: The exhibit 19 number. 20 MR. PATCH: I don't have the 21 exhibit list in front of me. I'm sorry. But 22 it's the -- 23 CMSR. HARRINGTON: Looks like 24 it's PSNH 3.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 5</p> <p>1 THE CLERK: Correct. 2 CMSR. HARRINGTON: It's Data 3 Request TC4-4, dated 12/16/2011. 4 BY MR. PATCH: 5 Q. You're listed as the witness on this 6 particular response; is that correct? 7 A. (Mr. Large) Yes, I am, but certainly in 8 consultation with our team. 9 Q. And Question 5 asked you to state whether 10 PSNH believes there are any approvals for 11 Northern Pass that are in doubt. Can you 12 read the response? 13 A. (Mr. Large) I'd be happy to. The response 14 begins with Items i through ix, where we 15 object to the request on the basis that it's 16 argumentative and seeks information that's 17 not going to reasonably be calculated to 18 lead to discovery of information that would 19 be admissible in this proceeding. 20 The status of any given transmission 21 project that was in the early planning stage 22 in mid-2010 isn't relevant to the Newington 23 CUO. In addition, information regarding the 24 status of such projects is equally available</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 17</p> <p>1 to the requestor, which is a member of</p> <p>2 ISO-New England. To the extent any</p> <p>3 information isn't public and relates to the</p> <p>4 Northern Pass transmission lines it's</p> <p>5 confidential and subject to attorney/client</p> <p>6 privilege.</p> <p>7 Notwithstanding that, am I correct it</p> <p>8 was Roman VI you were referring to, Mr.</p> <p>9 Patch?</p> <p>10 Q. Actually, Roman V.</p> <p>11 A. (Mr. Large) Neither I nor PSNH possesses</p> <p>12 knowledge of any approvals that are in doubt</p> <p>13 by the Northern Pass entity.</p> <p>14 Q. Now, obviously, this is a little bit later</p> <p>15 in time from when the study was prepared.</p> <p>16 But do you know what happened with regard to</p> <p>17 Northern Pass between the time the study was</p> <p>18 prepared and this particular date that would</p> <p>19 cause you to say they were in doubt at that</p> <p>20 point, but they're not in doubt then?</p> <p>21 MS. KNOWLTON: Mr. Patch, I'd</p> <p>22 ask you to clarify when you refer to "the</p> <p>23 study," what study you mean.</p> <p>24 MR. PATCH: Well, I guess I'm</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 point was to say that my testimony did not</p> <p>2 refer to "doubt."</p> <p>3 Q. Well, did you have any doubt in the summer</p> <p>4 of 2010 about approvals? Is that why you</p> <p>5 told Levitan Associates not to include it,</p> <p>6 because there was some doubt?</p> <p>7 A. (By Mr. Large) It wasn't a question of</p> <p>8 doubt. It was a question of the</p> <p>9 appropriateness in considering it for this</p> <p>10 analysis, when in fact our transmission team</p> <p>11 and the transmission portion of the least</p> <p>12 cost planning docket had excluded it from</p> <p>13 their plan, and it was clearly premature for</p> <p>14 it to be considered. And it was in</p> <p>15 discussion with our teammates from Levitan</p> <p>16 that we agreed to that conclusion. But I</p> <p>17 own responsibility for the recommendation</p> <p>18 that it be excluded.</p> <p>19 A. (By Mr. Levitan) And if I may supplement,</p> <p>20 Mr. Large's response. As an independent and</p> <p>21 objective consulting firm, we welcome the</p> <p>22 opportunity to thrash out with PSNH the</p> <p>23 reasonableness of not including NPT in the</p> <p>24 study. And after careful and measured</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 19</p> <p>1 speaking about the CUO prepared by Levitan</p> <p>2 Associates.</p> <p>3 A. (Mr. Large) Well, I'll attempt to respond,</p> <p>4 Mr. Patch, because at Page 19 of my</p> <p>5 testimony, I don't use the words "in doubt."</p> <p>6 I said that they had not been received and</p> <p>7 needed for the project to move forward. So</p> <p>8 that's not a discussion about doubt. It's a</p> <p>9 statement about permits having been</p> <p>10 received.</p> <p>11 BY MR. PATCH:</p> <p>12 Q. Okay. So you didn't have any doubt in the</p> <p>13 summer of 2010 that they would be received?</p> <p>14 A. (Mr. Large) No. And that's what the</p> <p>15 response in Roman V says.</p> <p>16 Q. Well, I thought you were just referring to</p> <p>17 your testimony on Page 19, where you said it</p> <p>18 wasn't about doubt.</p> <p>19 A. (Mr. Large) If I could have the reporter</p> <p>20 reread what the original question was,</p> <p>21 because my interpretation of what you asked</p> <p>22 was about there being doubts as identified</p> <p>23 in my testimony and then doubt as</p> <p>24 established in the data request. And my</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 19</p> <p>1 consideration, it was a very easy call to</p> <p>2 reject its inclusion, since we knew in the</p> <p>3 summer of 2010 that there's no chance that</p> <p>4 the project was going to be commercialized</p> <p>5 in the 2014, 2015 time frame. And we</p> <p>6 recognize the legitimate triggers of</p> <p>7 commercial success: ISO system impact</p> <p>8 studies, ISO queue positions, environmental</p> <p>9 permits, financing, a clear commitment by HQ</p> <p>10 in Quebec to line up the financing to</p> <p>11 support the bill for exportation. All of</p> <p>12 these things were relevant in reaching that</p> <p>13 decision in 2010 to exclude NPT from the</p> <p>14 study design. It was on that basis that we</p> <p>15 bolted down the metrics and ran the numbers.</p> <p>16 Q. So, no chance at all, Mr. Levitan? In 2010,</p> <p>17 no chance at all it was going to be ready in</p> <p>18 that time frame? Is that what NPT -- excuse</p> <p>19 me. Let me finish the question. Is that</p> <p>20 what NPT officials were saying at that time?</p> <p>21 A. (By Mr. Levitan) I am not certain what NPT</p> <p>22 officials were saying at that time. I know</p> <p>23 I was cognizant of their expressions of</p> <p>24 support for the project. But of course, it</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 1</p> <p>1 goes so far beyond NPT itself to include</p> <p>2 HQ's commitment as a provincial entity to</p> <p>3 enter into the financial commitments and to</p> <p>4 do the bill and to commit the resources in a</p> <p>5 weak energy marketplace, both for capacity</p> <p>6 and energy, when the market expectations had</p> <p>7 shifted radically from what was initially</p> <p>8 contemplated when gas was \$8 to \$10 per</p> <p>9 million BTUs. So, for those reasons, and,</p> <p>10 in particular, the lack of an ISO queue</p> <p>11 position and the lack of rightness with</p> <p>12 respect to environmental permits and other</p> <p>13 requirements, it seemed very clear to us, as</p> <p>14 a transmission modeling team, that the</p> <p>15 project would not be operational in the</p> <p>16 first half of the study horizon.</p> <p>17 A. (Mr. Large) Additionally, that's supported</p> <p>18 by what the Northeast Utilities Transmission</p> <p>19 Organization that filed a document as part</p> <p>20 of the Least Cost Plan indicated, that NPT</p> <p>21 was not included in their plan horizon</p> <p>22 through 2015.</p> <p>23 Q. Is that what they were saying publicly at</p> <p>24 that time, or is that just an internal</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 3</p> <p>1 an exhibit.</p> <p>2 CMSR. HARRINGTON: Any</p> <p>3 objections to marking this?</p> <p>4 (No verbal response)</p> <p>5 CMSR. HARRINGTON: Okay. This</p> <p>6 will be TransCanada No. 7.</p> <p>7 (The document, as described, was</p> <p>8 herewith marked as TransCanada 7 for</p> <p>9 identification.)</p> <p>10 MR. PATCH: Thank you.</p> <p>11 BY MR. PATCH:</p> <p>12 Q. Now, Mr. Large, you're listed as the witness</p> <p>13 on this response; is that correct?</p> <p>14 A. (Mr. Large) I am, but certainly in</p> <p>15 consultation with our team members,</p> <p>16 including the Levitan team.</p> <p>17 Q. And so you're familiar with the response,</p> <p>18 obviously.</p> <p>19 A. (Mr. Large) Yes, I am.</p> <p>20 Q. And this shows the data on Newington Station</p> <p>21 costs revenues and margins from the CRA</p> <p>22 studies for the years 2015, 2016, 2018; is</p> <p>23 that correct?</p> <p>24 A. (Mr. Large) Yes, that's one view of the</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 2</p> <p>1 document?</p> <p>2 A. (Mr. Large) Least Cost Plan section on</p> <p>3 transmission was filed as part of this</p> <p>4 docket.</p> <p>5 Q. No, but my question is the time frames that</p> <p>6 you're talking about for when Northern Pass</p> <p>7 was going to be operational. Is what you</p> <p>8 just said consistent with what they were</p> <p>9 saying publicly at that time?</p> <p>10 MS. KNOWLTON: I'm actually</p> <p>11 going to object because that's a</p> <p>12 mischaracterization of the testimony that's</p> <p>13 been given. I think what the witnesses have</p> <p>14 testified to is the period in which it would</p> <p>15 not be operational.</p> <p>16 A. (By Mr. Levitan) And we noted from our</p> <p>17 advisory firm's substantial expertise with</p> <p>18 HVDC projects elsewhere in the greater</p> <p>19 Northeast what it takes to get them built</p> <p>20 even when there are signed contracts</p> <p>21 anchoring the project.</p> <p>22 Q. Mr. Large, I'm going to show you a copy of a</p> <p>23 response to a data request from TransCanada,</p> <p>24 Set 3, No. 2, and ask that it be marked as</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 4</p> <p>1 world as presented in our CRA analysis, yes.</p> <p>2 Q. Could you please take a look at the Levitan</p> <p>3 study, Page 49. And I'm looking at</p> <p>4 corrected Page 49, so I think that's part</p> <p>5 of...</p> <p>6 CMSR. HARRINGTON: Mr. Patch,</p> <p>7 are you referring to the original Exhibit 1</p> <p>8 Page 49?</p> <p>9 MR. PATCH: No, it's PSNH 2.</p> <p>10 That's the corrected pages.</p> <p>11 CMSR. HARRINGTON: All right.</p> <p>12 BY MR. PATCH:</p> <p>13 Q. And again we're at G.17. At the box at the</p> <p>14 top, Expected Value, do you see the line</p> <p>15 Energy Revenue for the year 2015?</p> <p>16 A. (Mr. Large) I have that. 29,886,000.</p> <p>17 Q. And what's -- or okay. The CRA has for a</p> <p>18 base number for 2015 what figure?</p> <p>19 A. (Mr. Large) It appears \$1,219,000.</p> <p>20 Q. So that's about a \$28 million difference,</p> <p>21 roughly?</p> <p>22 A. (Mr. Large) Yes.</p> <p>23 Q. And for year 2016, what's the number that</p> <p>24 Levitan has?</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PAGE 5]</p> <p>1 A. (Mr. Large) 30,223,000.</p> <p>2 Q. And what's the number that the CRA study</p> <p>3 has?</p> <p>4 A. (Mr. Large) 796,000.</p> <p>5 Q. So, again, we're talking about \$29 million</p> <p>6 difference, ballpark?</p> <p>7 A. (Mr. Large) If one believes that the CRA</p> <p>8 analysis is an accurate representation of</p> <p>9 what Newington's benefits or energy revenues</p> <p>10 are going to be, that's what -- you would</p> <p>11 reach that conclusion.</p> <p>12 Q. Who commissioned the CRA study?</p> <p>13 A. (By Mr. Large) Northeast Utilities</p> <p>14 Transmission Organization.</p> <p>15 Q. And for the year 2018, what's the number</p> <p>16 that Levitan has?</p> <p>17 A. (Mr. Large) 24,323,000.</p> <p>18 Q. Actually, I think the comparable number is</p> <p>19 30,887,000.</p> <p>20 A. (Mr. Large) Oh, I'm sorry. Down by a line.</p> <p>21 30,887,000. Thank you.</p> <p>22 Q. And what does the CRA have for a base number</p> <p>23 for 2018?</p> <p>24 A. Energy revenue of 2,417,000.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PAGE 7]</p> <p>1 natural gas costs or oil gas parity ratios</p> <p>2 and the like. They didn't do that, nor did</p> <p>3 they even begin to contemplate the hedge</p> <p>4 value of the asset in terms of PSNH's use.</p> <p>5 But most importantly, the numbers represent</p> <p>6 very different states, since they're running</p> <p>7 a but-for test with and without NPT.</p> <p>8 In our analysis, we didn't include NPT,</p> <p>9 which is exactly the point. If Charles</p> <p>10 River is right, and in fact Newington's</p> <p>11 energy margins are crushed following the</p> <p>12 injection of 1200 megawatts of energy per</p> <p>13 hour, then it will have a significant</p> <p>14 economic implication in a weak capacity</p> <p>15 market for Newington's future. Why roll the</p> <p>16 dice on its inclusion when you really don't</p> <p>17 know in 2010, 2011 and the like? All that</p> <p>18 leads you to is the premature retirement of</p> <p>19 the plant. So, with that abundance of</p> <p>20 caution, the decision was made once again to</p> <p>21 run it without NPT.</p> <p>22 A. (By Mr. Large) If I could add, another point</p> <p>23 of difference between the two analyses is</p> <p>24 that CRA, when they were running the GE maps</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PAGE 6]</p> <p>1 Q. So, actually, the CRA study does sort of</p> <p>2 both, with and without NPT. If you look at</p> <p>3 the numbers, they have base and they have</p> <p>4 NPT numbers. But either way, the numbers</p> <p>5 are not significantly different. But in any</p> <p>6 event, they are significantly different than</p> <p>7 the ones Mr. Levitan provided, aren't they?</p> <p>8 A. (By Mr. Large) They're different, yes, as</p> <p>9 pretty much any analysis that attempted to</p> <p>10 analyze such a variable would be. But I</p> <p>11 wouldn't begin to conclude that they are</p> <p>12 accurate or more accurate. As a matter of</p> <p>13 fact, I would find them to be far less</p> <p>14 accurate because they didn't account for and</p> <p>15 care for the actual operation of Newington</p> <p>16 Station that the Levitan model does.</p> <p>17 A. (By Mr. Levitan) And I would also point out</p> <p>18 that the Charles River analysis is a</p> <p>19 pinpoint, deterministic study used in a math</p> <p>20 model of a conventional simulation tool;</p> <p>21 whereas, the real option valuation technique</p> <p>22 is grinding through 250 scenarios,</p> <p>23 accounting for all sorts of uncertainty</p> <p>24 factors in terms of market key rates,</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PAGE 8]</p> <p>1 model, was making use of publicly available</p> <p>2 data on generators throughout the region;</p> <p>3 whereas, we had access to PSNH's operating</p> <p>4 performance -- operating behavior data for</p> <p>5 the plant, in terms of minimum run time,</p> <p>6 ramp rates, cold and hot start costs, et</p> <p>7 cetera. So, for the limited amount of data</p> <p>8 that we were able to observe from the CRA</p> <p>9 study, it appeared that it was using older</p> <p>10 data, and perhaps not even accurate as older</p> <p>11 data. It was different. And so it tended</p> <p>12 to show that the minimum up-time would be</p> <p>13 much longer. So, in order to be able to be</p> <p>14 dispatched for a much longer minimum</p> <p>15 up-time, it would have to have a higher</p> <p>16 spark spread; whereas, the operating</p> <p>17 performance now of Newington is able to take</p> <p>18 into account some of the daily ups and downs</p> <p>19 of the energy spark spread.</p> <p>20 Q. Mr. Large, looking back at the CRA study,</p> <p>21 again commissioned by Northeast Utilities,</p> <p>22 I'd ask you to take a look at Page 4 under</p> <p>23 Section 2.1. And at the end of the first</p> <p>24 paragraph, if you could read to me the last</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 9</p> <p>1 sentence in that first paragraph.</p> <p>2 A. (Mr. Large) Page 4, the Background section,</p> <p>3 Mr. Patch, is that what you're referring to?</p> <p>4 Q. No, it's not the Background section. It's</p> <p>5 the regular Page 4, not in Roman numerals.</p> <p>6 CMSR. HARRINGTON: Which</p> <p>7 document are we in, Mr. Patch?</p> <p>8 MR. PATCH: We're in the CRA</p> <p>9 study. Sorry, but I don't recall --</p> <p>10 MR. SPEIDEL: TransCanada 5.</p> <p>11 CMSR. HARRINGTON: TransCanada</p> <p>12 5.</p> <p>13 MR. PATCH: Thank you.</p> <p>14 BY MR. PATCH:</p> <p>15 Q. Page 4, Section 2, Background, 2.1, last</p> <p>16 sentence in the paragraph, if you could read</p> <p>17 that, please, for the record.</p> <p>18 A. (Mr. Large) Yes. That sentence says that</p> <p>19 major construction is expected to begin in</p> <p>20 2013, with a target in-service date of 2015.</p> <p>21 Q. And Mr. Large, again, this report is</p> <p>22 dated -- do you know what the date is on it?</p> <p>23 December 7, 2010; is that correct?</p> <p>24 A. (Mr. Large) The copy that you provided</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 9</p> <p>1 MS. KNOWLTON: I'm going to</p> <p>2 object to the line of questioning, to the</p> <p>3 extent that you're asking about the IRP. That</p> <p>4 phase of this case has already been heard.</p> <p>5 CMSR. HARRINGTON: Mr. Patch.</p> <p>6 MR. PATCH: I'm not sure I</p> <p>7 understand that. I have a couple of sort of</p> <p>8 foundational questions I'd like to ask first.</p> <p>9 But I guess --</p> <p>10 MS. KNOWLTON: I mean, Mr. Large</p> <p>11 was on the witness stand for two days on the</p> <p>12 IRP. We're here today on the CUO. So, you</p> <p>13 know, I think questions about the CUO are the</p> <p>14 focus of his examination today.</p> <p>15 MR. PATCH: Okay. Well, my</p> <p>16 question actually, if you let me get there,</p> <p>17 relates to the CUO.</p> <p>18 (Off-the-record discussion among Commissioners.)</p> <p>19 CMSR. HARRINGTON: All right.</p> <p>20 We'll listen for a little bit, but we don't</p> <p>21 want to regress back into the IRP portion of</p> <p>22 the docket.</p> <p>23 MR. PATCH: No, understood.</p> <p>24 BY MR. PATCH:</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 10</p> <p>1 doesn't have a date on it, Mr. Patch. But</p> <p>2 I'll accept that, subject to check.</p> <p>3 Q. I think if you look at the bottom, second</p> <p>4 page --</p> <p>5 A. (Mr. Large) I see that now, yes. The cover</p> <p>6 doesn't include that.</p> <p>7 Q. Okay. Thank you. And it was commissioned</p> <p>8 by Northeast Utilities. And actually, the</p> <p>9 report was prepared -- you know, my guess.</p> <p>10 You tell me if I'm wrong -- five or six</p> <p>11 months after you prepared the IRP in this</p> <p>12 docket; correct?</p> <p>13 A. (Mr. Large) Five or six months after we</p> <p>14 filed it, yes.</p> <p>15 Q. Okay. As you indicated before, you have</p> <p>16 responsibility for preparing the IRP. And I</p> <p>17 guess one thing I have a hard time</p> <p>18 understanding, based on the responses that I</p> <p>19 heard to various questions this morning in</p> <p>20 the discussion about the non-disclosure</p> <p>21 agreement, you clearly understood that the</p> <p>22 IRP was going to be presented to the</p> <p>23 Commission, the Public Utilities Commission,</p> <p>24 in a public forum; is that correct?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 12</p> <p>1 Q. I guess it's clear from the record,</p> <p>2 Mr. Large, that you had responsibility for</p> <p>3 the preparation of the IRP, so I won't ask</p> <p>4 you that question again.</p> <p>5 But you understood, did you not, that the</p> <p>6 IRP and the CUO study would be something that</p> <p>7 would have to be presented publicly in this</p> <p>8 case? Is that correct?</p> <p>9 A. (Mr. Large) That was the whole intent of the</p> <p>10 preparation of those filings. Absolutely.</p> <p>11 Q. So, I'm just having a problem understanding</p> <p>12 why you would not have instructed Levitan</p> <p>13 Associates with regard to the data on which</p> <p>14 they relied, but it would have to be</p> <p>15 information available publicly at the time</p> <p>16 that the report was presented, because I</p> <p>17 heard a lot of discussion this morning about</p> <p>18 various inputs that were protected or too</p> <p>19 expensive to provide. You want us to see</p> <p>20 the outputs but apparently not the inputs.</p> <p>21 So, could you explain that to me.</p> <p>22 A. (Mr. Large) Well, the work done by Levitan</p> <p>23 was to examine what they felt were the best</p> <p>24 sources of information available to produce</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 3</p> <p>1 the highest quality output product in the</p> <p>2 CUO that was possible. And their choice of</p> <p>3 using Bloomberg information was based upon</p> <p>4 their experience and historic use of that</p> <p>5 information. I believe I heard from my</p> <p>6 friends, Mr. Carlton and Mr. Levitan, that</p> <p>7 they were unclear until a later point in</p> <p>8 time about the lack of accessibility on a</p> <p>9 public basis of the Bloomberg information.</p> <p>10 I believe I heard that said earlier. So I</p> <p>11 take it their expectation was that wasn't an</p> <p>12 issue, and that substantial time, energy and</p> <p>13 expense went into trying to resolve those</p> <p>14 issues, and when found unresolvable, provide</p> <p>15 alternatives that would be perfectly</p> <p>16 consistent with, in the specific case of</p> <p>17 Bloomberg information, that data. And if I</p> <p>18 misstated or left something short on that</p> <p>19 response, please feel comfortable to add.</p> <p>20 A. (By Mr. Levitan) As a licensee, we were</p> <p>21 under rigid requirements that required us to</p> <p>22 protect the information. It was disclosed</p> <p>23 in graphic form in the form of basis</p> <p>24 spreads. But the actual data itself in</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 3</p> <p>1 Smagula and Ms. Tillotson, since you filed</p> <p>2 your testimony together.</p> <p>3 In that testimony, the two of you say</p> <p>4 that you jointly have more than 50 years'</p> <p>5 experience monitoring the regulatory</p> <p>6 environment in order to plan for and implement</p> <p>7 any environmental regulations that apply to</p> <p>8 the Company's operations. And I was looking</p> <p>9 at Page 8, Lines 4 to 6. Does that sound</p> <p>10 familiar to you?</p> <p>11 A. (By Mr. Smagula) Yes.</p> <p>12 Q. And you also say that you are constantly</p> <p>13 monitoring the status of regulations;</p> <p>14 correct?</p> <p>15 A. (By Mr. Smagula) Yes.</p> <p>16 Q. And you say that PSNH needs to wait until a</p> <p>17 final rule is established with a compliance</p> <p>18 date in order to begin planning; correct?</p> <p>19 A. (By Mr. Smagula) That's correct.</p> <p>20 Q. And you say that quality planning must be</p> <p>21 based on final regulations; correct?</p> <p>22 A. (By Mr. Smagula) Yes.</p> <p>23 Q. At the same time in your testimony, you</p> <p>24 cited the Commission's December 28, 2010</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 4</p> <p>1 electronic format could not be provided, or</p> <p>2 it would have been a breach of our</p> <p>3 obligation.</p> <p>4 Q. Those are the only numbers you have used?</p> <p>5 A. (By Mr. Levitan) No. There was lots of data</p> <p>6 that we could have used, all pretty much</p> <p>7 taking you to the exact same place: Platts,</p> <p>8 you know, EIA data. These data sets are</p> <p>9 commonly available to all consultants and</p> <p>10 Staff Commission and other market</p> <p>11 participants.</p> <p>12 We based our analysis on Bloomberg</p> <p>13 because we're comfortable using them, and</p> <p>14 they're embedded in our models. Frankly,</p> <p>15 this had never come up before, in terms of</p> <p>16 public disclosure, cross-examination and the</p> <p>17 like. If given the opportunity to do it</p> <p>18 over again to avoid this kind of</p> <p>19 controversy, I would have easily made the</p> <p>20 decision to use some data sets in the public</p> <p>21 sector so as to avoid this kind of extended</p> <p>22 argument. But again, it wouldn't have</p> <p>23 changed a thing with respect to the results.</p> <p>24 Q. Okay. I have a few questions for Mr.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTSON] Page 5</p> <p>1 letter that's been marked in this docket as</p> <p>2 TransCanada No. 1, Pages 13 and 14 of your</p> <p>3 testimony. And that letter says that a</p> <p>4 sound planning process should consider</p> <p>5 reasonably foreseeable regulatory changes,</p> <p>6 not just those where a final regulation with</p> <p>7 a compliance date is in place; correct?</p> <p>8 A. (By Mr. Smagula) I don't have the text in</p> <p>9 front of me. But assuming you're correct,</p> <p>10 I'll agree to it.</p> <p>11 Q. It's Page 13 and 14 of your testimony, if</p> <p>12 you want to double-check it.</p> <p>13 A. (By Mr. Smagula) I'm sure it's correct.</p> <p>14 MS. KNOWLTON: Mr. Smagula, I'd</p> <p>15 just ask you to speak more into the</p> <p>16 microphone. Thank you.</p> <p>17 A. (By Mr. Smagula) I'll trust that your text</p> <p>18 is correct.</p> <p>19 BY MR. PATCH:</p> <p>20 Q. Okay. Thank you. And given what that</p> <p>21 letter lays out as basically a standard to</p> <p>22 use, in the next IRP docket, would PSNH</p> <p>23 utilize a different standard than the one</p> <p>24 that you've articulated with regard to final</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 17</p> <p>1 regulations with a compliance date? Would</p> <p>2 you use a different standard next time?</p> <p>3 A. (By Mr. Smagula) I think the standard we</p> <p>4 used is as we had characterized it, and that</p> <p>5 is consistent to what had been used in all</p> <p>6 the preceding IRP dockets. In the future, I</p> <p>7 guess I'm not going to assume what we will</p> <p>8 use, but we will certainly take into</p> <p>9 consideration all of the discussions here</p> <p>10 and certainly review the ruling from the</p> <p>11 Commission as to what would be appropriate</p> <p>12 in future dockets and future analysis. I</p> <p>13 think there has been much discussion about</p> <p>14 what should or should not be included and</p> <p>15 things that certain parties may have thought</p> <p>16 were appropriate. But if we look at what</p> <p>17 we've done in the past and we look at our</p> <p>18 traditional planning process, we filed</p> <p>19 consistent with both of those.</p> <p>20 Q. And so, then, it sounds like direction from</p> <p>21 the Commission and the order in this docket</p> <p>22 with regard to what standard you ought to</p> <p>23 use in the future might be helpful, because</p> <p>24 it sounds like the Commission's standard</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 A. (By Mr. Smagula) You know, as I look at the</p> <p>2 regulations that have been referenced, the</p> <p>3 CUO has been, I guess I could characterize</p> <p>4 it as criticized for not taking a review of</p> <p>5 the regulations. But we have reviewed the</p> <p>6 regulations. And I won't belabor everyone,</p> <p>7 unless it's desired, to go through every</p> <p>8 regulation and comment with regard to the</p> <p>9 status of Newington and its compliance with</p> <p>10 regard to the regulations on part and</p> <p>11 visibility, Clean Air Transport Rule, or the</p> <p>12 MAC Rule, and cite the condition of the</p> <p>13 facility, the equipment that's been</p> <p>14 installed, and our means of managing its</p> <p>15 availability into the future, irrespective</p> <p>16 of what these rules are, based on the fact</p> <p>17 that it's gas-fired and it does have some</p> <p>18 limited use of oil. We feel very</p> <p>19 comfortable that our assessment of this unit</p> <p>20 is very positive with regard to that</p> <p>21 equipment that's installed. And the fact</p> <p>22 that we didn't spend pages and go into it in</p> <p>23 detail perhaps is something to reflect upon</p> <p>24 in the future. So I think we're aware of</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 outline in the December 28th letter is</p> <p>2 pretty different from the one that you</p> <p>3 articulated in your testimony; correct?</p> <p>4 A. (By Mr. Smagula) I guess I think I responded</p> <p>5 to your question. I'm not sure I'd</p> <p>6 characterize what the Commission should do</p> <p>7 beyond that.</p> <p>8 Q. All right. On Page 14, you say that at the</p> <p>9 time the Company prepared the IRP, it did</p> <p>10 not, in good faith and with prudence, commit</p> <p>11 Company resources for planning for any</p> <p>12 potential future compliance with any of --</p> <p>13 and then you cited the proposed regulations,</p> <p>14 the ones that had been cited by the Consumer</p> <p>15 Advocate, Sierra Club and CLF; correct?</p> <p>16 A. (By Mr. Smagula) That's correct.</p> <p>17 Q. Now, given your many years of experience and</p> <p>18 your self-described "constant monitoring of</p> <p>19 regulations," if the plan were being</p> <p>20 prepared today, are there any other</p> <p>21 environmental regulations you would take</p> <p>22 into account with regard to Newington</p> <p>23 Station, given what the Commission said in</p> <p>24 the December 2010 letter?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 19</p> <p>1 certain people's perception of this</p> <p>2 projected need to meet in the future, but I</p> <p>3 think the station is well positioned for it.</p> <p>4 Q. Have you read the Levitan study?</p> <p>5 A. (By Mr. Smagula) I have reviewed the Levitan</p> <p>6 study.</p> <p>7 Q. Are you familiar with the fact that he</p> <p>8 assumed the retirement of 2100 megawatts of</p> <p>9 generation?</p> <p>10 A. I'm familiar that there was some megawatts,</p> <p>11 but I don't recall the exact number.</p> <p>12 Q. Well, I'd ask you to look at Page 38 -- and</p> <p>13 I guess it would be Exhibit 1, Page 38 of</p> <p>14 the CUO study, and it's Page 221 of the</p> <p>15 overall plan.</p> <p>16 A. (By Mr. Smagula) I have the page here.</p> <p>17 Q. Okay. About four lines down there's a</p> <p>18 sentence that begins with "Generally</p> <p>19 consistent with the Connecticut IRP, we</p> <p>20 assumed retirement of approximately 2100</p> <p>21 megawatts of capacity over the period 2014</p> <p>22 to 2016" -- and then the next phrase is of</p> <p>23 particular interest to my question -- "due</p> <p>24 to increasingly strict environmental</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 1</p> <p>1 standards." Now, that sounds a little 2 different than the standard that you have 3 used in deciding whether or not to take into 4 account particular environmental 5 regulations. 6 A. (By Mr. Smagula) I think -- 7 MS. KNOWLTON: Actually, I want 8 to state an objection for a minute, because 9 the standard that the Commission stated in the 10 December 2010 letter, as I understand it, 11 related to the IRP. And this is -- Mr. 12 Smagula's here testifying as to the CUO. 13 MR. PATCH: Well, my question of 14 whether Mr. Smagula -- maybe I wasn't clear 15 enough. But with regard to the standard that 16 he articulated when PSNH takes into account 17 environmental regulations, and that's the 18 standard basically, that they're and there's a 19 compliance date. And what I'm asking him is 20 that that's a little different than apparently 21 what Levitan Associates used as the basis for 22 assuming 2100 megawatts of capacity 23 retirement. 24 CMSR. HARRINGTON: Do you</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 3</p> <p>1 A. (By Mr. Smagula) Okay. Then I guess maybe 2 we'll -- I'll be happy to respond if you 3 could repeat it then. I'm sorry. 4 Q. I mean, it appears, based on the language 5 that Levitan Associates used in that portion 6 of the IRP, that they were just referring to 7 increasingly strict environmental standards; 8 whereas, you seem to rely specifically on 9 final regulations with a compliance date. 10 A. (By Mr. Smagula) I guess I provided you with 11 some input from me, but I'm not sure I'm the 12 appropriate one to comment on their study. 13 I may want to invite them to provide remarks 14 as well. 15 Q. Okay. I'll actually give Mr. Levitan that 16 opportunity a little bit later. I have some 17 questions for them as well. 18 A. (By Mr. Smagula) Okay. Good. 19 A. (By Mr. Levitan) Although, I would be happy 20 to comment now if you would appreciate the 21 clarification. 22 Q. Actually, I'd prefer to wait. Thank you. 23 You're familiar, Mr. Smagula, aren't you, 24 with the correction that Levitan Associates</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 2</p> <p>1 understand the question? 2 WITNESS SMAGULA: Yes. 3 MR. PATCH: It's not a question 4 for Mr. Levitan. It's really for Mr. Smagula. 5 A. (By Mr. Smagula) Well, if I look at the 6 units that are referenced which characterize 7 the quantity of megawatts that are 8 identified, and I look at those units 9 specifically, because I do have some 10 familiarity with it, Norwalk Harbor units 11 are oil-fired. Montville 6 is an oil-fired 12 unit without a precipitate. Middletown 3 is 13 a cyclone-fired unit which will burn natural 14 gas. Bridgeport Harbor is an older facility 15 and so on. 16 So, talking about units being retired 17 and comparing them generically or 18 specifically with Newington Station is not 19 an appropriate measure. I'm satisfied that 20 the statement made is perhaps appropriate, 21 but its characterization and its linkage to 22 Newington cannot be made directly. 23 Q. Okay. But that wasn't my question, was it, 24 Mr. Smagula?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 4</p> <p>1 had to make to the study? There was some 2 testimony about that this morning. 3 A. (By Mr. Smagula) I did hear some numbers 4 that were changed. I'm not as directly 5 familiar with the specifics of each, but I 6 understand generally what took place. 7 Q. I mean, as an example of -- I just want to 8 point you to net present value of the 9 expected energy net revenues reduced from 10 120 million to 40 million. And I'm 11 referencing Page 52 of the IRP -- actually, 12 of the -- I guess it's the CUO contained in 13 the IRP, and corrected Page 52, which would 14 be part of PSNH Exhibit 2. I don't know if 15 you want to take a look at that, but -- 16 A. (By Mr. Smagula) I heard them correct the 17 number. I'm not sure what I can do to 18 assist you any further. 19 Q. Well, as an order of magnitude, from \$120 20 million to \$40 million, does that sound 21 consistent? 22 MS. KNOWLTON: And I'm actually 23 going to object to this line of questioning. 24 When Mr. Smagula took the stand in the case</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 5</p> <p>1 this morning, and I asked him what his role in 2 the CUO was, I thought he was very clear that, 3 as a director of generation of PSNH, what he 4 did was provide some input data about the 5 operation of the plant. So, I mean, I really 6 feel like these questions are not properly 7 focused to Mr. Smagula's involvement in the 8 CUO.</p> <p>9 MR. PATCH: Well, Mr. Chairman, 10 I'll actually withdraw that question for now 11 and lay a foundation for it.</p> <p>12 I'd like to ask that a 13 response to TransCanada 3-1, with Mr. 14 Smagula as the witness, be marked as the 15 next exhibit.</p> <p>16 CMSR. HARRINGTON: Any 17 objections to entering this? 18 (No verbal response.)</p> <p>19 CMSR. HARRINGTON: Seeing none, 20 this will be TransCanada 7 -- 8. 21 (The document, as described, was 22 herewith marked as TransCanada 8 for 23 identification.)</p> <p>24 Q. Are you familiar, Mr. Smagula, with this</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 5</p> <p>1 120 million to 40 million -- basically, over 2 a 200-percent reduction -- is "relatively 3 small" in your opinion?</p> <p>4 A. (By Mr. Smagula) I guess it seems as though 5 the number is about half or less than half 6 of what it was previously. Relatively 7 small, though, is relative to what? Is it 8 relative to zero, or is it relative to the 9 two numbers? So I guess it is a reasonably 10 good change. I don't know how to 11 characterize that any further.</p> <p>12 Q. Okay. Mr. Smagula, are you familiar with 13 the capacity factors in recent years at 14 Newington Station?</p> <p>15 A. (By Mr. Smagula) I am.</p> <p>16 Q. And I believe in your testimony you referred 17 to them as -- and I'm looking at Page 15, 18 Lines 8 and 9, "a reduced capacity factor in 19 recent years." Does that sound correct?</p> <p>20 A. (By Mr. Smagula) Yes.</p> <p>21 Q. In fact, I don't know if you're familiar 22 with -- I'm going to give you a copy of this 23 Commission order. It's an order dated 24 December 21, 2009, approving the 2010 energy</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 6</p> <p>1 response that has you listed as a witness, 2 dated June 3rd, 2011?</p> <p>3 A. (By Mr. Smagula) I'm familiar with it, yes.</p> <p>4 Q. And Paragraph C asks, "Does PSNH still 5 believe that the original Levitan work 6 'properly represents the expected value of 7 Newington to customers?'" Do you see that?</p> <p>8 A. I do.</p> <p>9 Q. Could you read the response.</p> <p>10 A. (By Mr. Smagula) "PSNH still believes there 11 is a range of outcomes under which Newington 12 provides value to customers by being a 13 physical hedge against market prices, as 14 well as providing revenue to customers. The 15 original and revised Levitan study 16 quantifies the range of value Newington 17 provides. The differences in outcomes 18 predicted by the original and revised 19 Levitan studies are relatively small, and as 20 a result, PSNH believes that the original 21 Levitan work 'properly represents expected 22 value of Newington's customers.'"</p> <p>23 Q. I wanted to focus on the phrase "relatively 24 small" and ask you whether a reduction from</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 6</p> <p>1 service rate. And I would ask you to take a 2 look at this order at Page 17.</p> <p>3 MS. KNOWLTON: Mr. Patch, could 4 you give us the order number.</p> <p>5 MR. PATCH: Order 25,061 in 6 Docket DE 09-180. It's dated December 31st, 7 2009.</p> <p>8 MS. KNOWLTON: Thank you.</p> <p>9 BY MR. PATCH:</p> <p>10 Q. And the first full paragraph describes 11 comments by Steve Mullen, the assistant 12 director of the Electric Division here at 13 the Commission. And it says there, "Mr. 14 Mullen noted that Newington Station had 15 become increasingly uneconomic, and as a 16 result, its capacity factor has steadily 17 declined from 55.9 percent in 2003 to 18 3.3 percent in 2008." Did I read that 19 correctly?</p> <p>20 A. (By Mr. Smagula) Yes.</p> <p>21 Q. So, at Page 16 of your testimony, Line 16, 22 you referred to, quote, anticipated 23 continued lower capacity factors; is that 24 correct?</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 9</p> <p>1 A. (By Mr. Smagula) Yes.</p> <p>2 Q. Do you know the capacity factors that</p> <p>3 Levitan assumed?</p> <p>4 A. (By Mr. Smagula) I would have to ask them or</p> <p>5 refer to what they have on their study. I</p> <p>6 don't have that number in my memory.</p> <p>7 Q. I mean, subject to check, in the first round</p> <p>8 it was 15 to 19 percent; and in the</p> <p>9 corrected version, it was 7 to 10.7 percent.</p> <p>10 I'm looking at the revised G.17. Subject to</p> <p>11 check, would you accept that?</p> <p>12 A. (By Mr. Smagula) Yes.</p> <p>13 Q. And any of those numbers are higher than any</p> <p>14 capacity factors that have been present at</p> <p>15 Newington since 2007; is that correct?</p> <p>16 A. (By Mr. Smagula) It is.</p> <p>17 Q. Now, a couple of questions --</p> <p>18 A. (By Mr. Smagula) I will add, however, that</p> <p>19 we provided them with the information, and</p> <p>20 their knowledge of fuel and other factors</p> <p>21 creates their projection as to what the</p> <p>22 operations of the facility will be. I do</p> <p>23 not project the capacity factors.</p> <p>24 Q. At Page 87 of the IRP itself, it describes</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 9</p> <p>1 we feel very comfortable with. If there is</p> <p>2 a system emergency, it is my opinion that we</p> <p>3 could improve that. But the ISO system</p> <p>4 would fill that gap, would fill that period</p> <p>5 of time with other resources that are more</p> <p>6 readily available to come on until a more</p> <p>7 economic unit could come on. And the fact</p> <p>8 that Newington provides strength in the</p> <p>9 345KV line from Vermont down into eastern</p> <p>10 Massachusetts I think would be a very</p> <p>11 important factor for it to get online</p> <p>12 quickly.</p> <p>13 Q. It's a 400-megawatt unit, and of those 400</p> <p>14 megawatts, is it true about 80 megawatts are</p> <p>15 designed for oil?</p> <p>16 A. (By Mr. Smagula) No.</p> <p>17 Q. How would you characterize it?</p> <p>18 A. (By Mr. Smagula) It's a 400-megawatt unit</p> <p>19 that can run very close to full load on gas,</p> <p>20 on natural gas. However, if a full load is</p> <p>21 needed, we supplement the gas with some oil</p> <p>22 firing to get full load. It can achieve</p> <p>23 full load on an oil or a oil/gas</p> <p>24 combination, but not quite a full load on</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 10</p> <p>1 Newington Station as, quote, Designed as a</p> <p>2 peaking unit for quick start-up." Does that</p> <p>3 sound correct?</p> <p>4 A. (By Mr. Smagula) That's a general</p> <p>5 characterization of its design. That's</p> <p>6 correct.</p> <p>7 Q. And on the same page, "designed for fast</p> <p>8 response and start-up."</p> <p>9 A. (By Mr. Smagula) Yes, that's the same</p> <p>10 concept.</p> <p>11 Q. What's the cold-start time for Newington?</p> <p>12 A. It has been reduced significantly from what</p> <p>13 it had been in the past. I think at the</p> <p>14 moment it's in the six- to seven-hour range,</p> <p>15 subject to check.</p> <p>16 Q. So if a nuclear unit were to go offline on a</p> <p>17 summer afternoon at, say, 1:00, and</p> <p>18 Newington was needed to come online from a</p> <p>19 cold start, it would be, at a minimum, 7 or</p> <p>20 8 p.m. before it would be producing power at</p> <p>21 its capacity. Is that what those numbers</p> <p>22 mean?</p> <p>23 A. (By Mr. Smagula) The numbers we refer to as</p> <p>24 six to seven hours to ISO are numbers that</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 10</p> <p>1 all gas.</p> <p>2 Q. In 2011, do you have any idea of what</p> <p>3 percentage of the time Newington operated on</p> <p>4 oil versus natural gas? Ballpark.</p> <p>5 A. (By Mr. Smagula) I think it operated very</p> <p>6 sparingly on oil. There have been some</p> <p>7 problems with the natural gas supply system</p> <p>8 at times where there was a deficiency in</p> <p>9 availability, where Newington stepped in to</p> <p>10 fill that gap for New England. But it was</p> <p>11 very limited. Based on economics.</p> <p>12 Q. And those economics being that the price of</p> <p>13 oil is a lot higher than the price of</p> <p>14 natural gas on an MMBtu basis; is that</p> <p>15 right?</p> <p>16 A. (By Mr. Smagula) I guess I view the price of</p> <p>17 natural gas is a lot lower than oil.</p> <p>18 Q. That's what I meant to say.</p> <p>19 A. (By Mr. Smagula) And that's the current</p> <p>20 market assessment with gas.</p> <p>21 Q. I'm going to show you a copy of what I think</p> <p>22 is a Form 1 document with regard to</p> <p>23 Newington, and I believe this is for 2011.</p> <p>24 MR. PATCH: And I would ask that</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PSNH] Page 3</p> <p>1 this be marked as the next exhibit for</p> <p>2 TransCanada.</p> <p>3 CMSR. HARRINGTON: Any objection</p> <p>4 to marking?</p> <p>5 (No verbal response)</p> <p>6 CMSR. HARRINGTON: So this will</p> <p>7 be TransCanada 9. It's a document from Public</p> <p>8 Service Company of New Hampshire, "Steam</p> <p>9 Electric Generating Plant Statistics," dated</p> <p>10 2011/Q4 -- 4/9/12 I guess is the date.</p> <p>11 (The document, as described, was</p> <p>12 herewith marked as TransCanada 9 for</p> <p>13 identification.)</p> <p>14 BY MR. PATCH:</p> <p>15 Q. Mr. Smagula, are you familiar with this</p> <p>16 particular document?</p> <p>17 A. (By Mr. Smagula) Not typically, but I have</p> <p>18 had familiarity with it in the past.</p> <p>19 Q. Now, if I'm reading this correctly, I mean,</p> <p>20 Newington's in the far right column;</p> <p>21 Schiller's in the column next to it. But</p> <p>22 I'm interested in Newington. It has No. 6</p> <p>23 oil barrels, No. 2 barrels and No. 6 gas;</p> <p>24 correct? Down near the bottom?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PSNH] Page 5</p> <p>1 we could submit a clean copy.</p> <p>2 CMSR. HARRINGTON: No, I just</p> <p>3 wanted -- and the bottom figure below that</p> <p>4 says -- I'm not sure what it says. Check</p> <p>5 97.32, slash, something fuel cost maybe?</p> <p>6 MR. PATCH: Yeah, that's per</p> <p>7 megawatt hour fuel cost. It was an estimate</p> <p>8 done. I'm not sure I need to ask questions</p> <p>9 about that.</p> <p>10 CMSR. HARRINGTON: All right.</p> <p>11 BY MR. PATCH:</p> <p>12 Q. No. 6 oil barrels, if I read correctly, it's</p> <p>13 83 million -- 83,126; is that correct? I'm</p> <p>14 looking at, I guess it's Line 38.</p> <p>15 A. (By Mr. Smagula) That's correct.</p> <p>16 Q. And then No. 2 oil, 10,647 barrels.</p> <p>17 A. (By Mr. Smagula) That's what's on the sheet,</p> <p>18 yes.</p> <p>19 Q. And then MCF looks as though it's 1,034,154</p> <p>20 MCF of gas; right?</p> <p>21 A. (By Mr. Smagula) That's correct.</p> <p>22 Q. Now I'm going to ask you to take this,</p> <p>23 subject to check. I mean, you're probably</p> <p>24 familiar with the MMBTU conversion factor.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PSNH] Page 4</p> <p>1 A. (By Mr. Smagula) I see it, yes.</p> <p>2 Q. And it looks as though the unit produced in</p> <p>3 2011, 125 -- make sure I gets this right --</p> <p>4 125,215-megawatt hours -- or kilowatt hours,</p> <p>5 125,215,000; is that correct?</p> <p>6 A. (By Mr. Smagula) Yes.</p> <p>7 Q. That's Line No. 12.</p> <p>8 I mean, overall in 2011, I think it was</p> <p>9 approximately a 3.4 percent capacity factor.</p> <p>10 Does that sound about right?</p> <p>11 A. That could be right. I'd have to check</p> <p>12 that.</p> <p>13 Q. And it shows that --</p> <p>14 CMSR. HARRINGTON: Excuse me,</p> <p>15 Mr. Patch. Just for clarity, the writing on</p> <p>16 the bottom of this, where it's written in by</p> <p>17 hand "3.4 percent capacity factor," was that</p> <p>18 produced by yourself, or does that come from a</p> <p>19 Public Service document?</p> <p>20 MR. PATCH: No, it was produced</p> <p>21 by TransCanada.</p> <p>22 CMSR. HARRINGTON: Okay. Thank</p> <p>23 you.</p> <p>24 MR. PATCH: And if you'd prefer,</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH PSNH] Page 6</p> <p>1 Do you know how to make that conversion to</p> <p>2 an MMBTU figure?</p> <p>3 A. (By Mr. Smagula) I don't have that with me</p> <p>4 or in my head at the moment.</p> <p>5 Q. Okay. Well, based on these numbers, would</p> <p>6 it surprise you to learn that approximately</p> <p>7 36 percent of the 2011 power actually was</p> <p>8 produced by oil versus natural gas?</p> <p>9 A. (By Mr. Smagula) That could be the case. I</p> <p>10 guess I'd have to refresh myself on exactly</p> <p>11 what we earned last year and when and why.</p> <p>12 Q. I mean, you admitted that the price of oil</p> <p>13 is obviously significantly higher right now</p> <p>14 than the price of natural gas. So I'm</p> <p>15 trying to understand, if that's the case,</p> <p>16 why would PSNH have utilized so much oil as</p> <p>17 opposed to natural gas in 2011?</p> <p>18 A. (By Mr. Smagula) I think our choice is to</p> <p>19 run the most economic fuel that's available.</p> <p>20 And we bid our unit in on gas, and it's</p> <p>21 based on gas price and gas availability. If</p> <p>22 there are times when the system, when the</p> <p>23 ISO-New England system has a problem with</p> <p>24 the supply of natural gas, as I said</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 17</p> <p>1 earlier, we occasionally will be actually 2 dispatched on oil. 3 Also, and I guess I'll have to confirm 4 all of this -- but also, we have certain 5 regulatory requirements that require us to 6 do testing periodically with our air permit 7 on oil. And there are times when, 8 irrespective of the incremental cost to 9 customers, we have a regulatory and 10 environmental obligation to operate the unit 11 on oil in order to achieve test data to 12 provide appropriate filings with our 13 regulatory community. So there are a number 14 of reasons why we do this. 15 We also sometimes have control system 16 modifications or other operational 17 characteristics of the unit which we need to 18 assure reliability of the unit in order to 19 prove that equipment is operating and 20 responding properly, when we would have to 21 operate the unit on the alternate fuel. 22 I think, if I recall, we were having 23 some start-up gas testing, so that the unit 24 traditionally would start up on oil and then</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 generate many megawatt hours. That's the 2 house heating oil, so... 3 Q. It was both, No. 6 and No. 2. 4 A. (Mr. Large) So I think a more accurate 5 computation would exclude the No. 2 oil from 6 the percent of megawatt hours made. 7 Certainly the numbers on the page, you could 8 do that arithmetic and come up with the 9 value that you did. But in terms of making 10 megawatt hours, it's not producing megawatt 11 hours. 12 Q. Does it all go to running the station, 13 either way? 14 A. (By Mr. Smagula) Well, it doesn't go into 15 the cost to generate megawatt hours. 16 Q. And ratepayers pay for all of that, right, 17 regardless of whether it's No. 2 or No. 6; 18 right? 19 A. (By Mr. Smagula) That's correct. 20 Q. Okay. I'm going to show you -- this is 21 "Monthly Average Fuel Price and RT Hub LMP." 22 This is an ISO document that shows the price 23 of oil and dates back to 2003. But 24 through -- it has projections, actually,</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 transfer to gas. We were doing testing so 2 that we could start up on just gas and be 3 able to more economically start our units, 4 which contributes to the shorter start time. 5 But it also contributes to our customers on 6 a lower-cost start-up, which makes it more 7 environmentally friendly, but also makes it 8 more economically friendly. I think there 9 were periods in which that start-up on gas 10 had to be adjusted and curtailed in order to 11 go into an oil start-up until that -- those 12 systems were proven. 13 So I believe our reasons to operate on 14 gas were driven by either environmental, 15 economic or various business decisions in 16 order to maximize the flexibility of the 17 unit and meet our regulatory or dispatch 18 obligations. 19 A. (Mr. Large) And if I could add, it's unclear 20 from your question, Mr. Patch when you speak 21 about taking the amount of oil that was 22 utilized, if you're referring only to the 23 RFO or the No. 2 oil, because if in fact it 24 included the No. 2 oil, that really doesn't</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 19</p> <p>1 through September of 2012. It's an ISO 2 document. And this is really just to 3 underscore something that you already 4 indicated, which is that the price of oil is 5 obviously, at this point in time, anyway, 6 and at least in the fairly recent past, 7 significantly higher than the price of 8 natural gas. And, again, in my mind, at 9 least it raises the question of why you 10 would be burning oil at all unless you 11 absolutely had to during 2011. Maybe you 12 want to respond to that? 13 A. (By Mr. Smagula) I did respond to that. I 14 told you that there are operational and 15 regulatory and other reasons why we burn 16 oil. Other than those reasons, we 17 absolutely burn the lowest-cost fuel, or as 18 you can see from the capacity factors, we 19 purchase energy on the open market. 20 A. (Mr. Large) If I can, my take is that these 21 are monthly average values, and it doesn't 22 recognize the fact that there are days and 23 hours in which natural gas prices are 24 substantially higher than oil. And the</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 1]</p> <p>1 beauty and benefit of having a station like 2 Newington, with dual fuel capacity and the 3 ability to run at or near full load, takes 4 full advantage of the fact that on those 5 days when there are very high natural gas 6 prices or lack of availability of natural 7 gas, it can operate on oil, and does. 8 A. (By Mr. Smagula) If I had anticipated your 9 question further, I would be able to become 10 very specific with you. But I think my 11 characterization of the different reasons we 12 burn oil should explain why we do it. We 13 only do it if we need to do it. 14 MR. PATCH: Mr. Chairman, I'm 15 not sure that I requested that this be marked 16 as an exhibit, but I would request that it be 17 marked. 18 CMSR. HARRINGTON: That would be 19 TransCanada 9 -- 10? 20 THE CLERK: Ten. 21 (The document, as described, was 22 herewith marked as TransCanada 10 23 for identification.) 24 BY MR. PATCH:</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 3]</p> <p>1 corrections that were made to the studies, so 2 I don't see the need to belabor that. It 3 sounded like they were grouped into at least 4 two different categories; one were corrections 5 that were made, I think as you said, on Page 6 15 of your testimony, after legitimate 7 questions were raised in the first round of 8 discovery and at the first technical session. 9 So in fact, you didn't make the corrections on 10 your own. It was only after TransCanada and 11 others raised questions that you made them; is 12 that correct? 13 A. (By Mr. Levitan) We made the corrections on 14 our own. We appreciated Mr. Hachey's 15 constructive criticisms at that first 16 technical session which revealed defects in 17 the results and then motivated us to go back 18 and do a deep dive into the programming 19 code, the assumptions and the like, at which 20 point we quickly found problem areas and 21 moved to correct them at once. 22 Q. On Page 15, Line 20 of your rebuttal 23 testimony, you made it sound as though there 24 were time constraints on the completion of</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 2]</p> <p>1 Q. Mr. Smagula, I'd like to ask you to look at 2 Page 9, I believe it is, of the CUO study. 3 Appendix G, about four lines down in the 4 first full paragraph where it says, "The 5 station has a 12-hour cold start-up time." 6 Now, that sounds inconsistent with your 7 testimony that it's a six- to seven-hour 8 start-up time. Maybe you could explain 9 that. 10 A. (By Mr. Smagula) Well, it was my 11 recollection that it was a seven- to 12 eight-hour cold start. 13 Q. Seven to eight? I thought you said six to 14 seven. 15 A. (By Mr. Smagula) If I said six to seven -- I 16 think I did say six to seven. I'm not sure. 17 I could... I'd have to check on that number. 18 I may have recalled the time for a hot start 19 being six to seven hours. But on a cold 20 start, it could be longer. It would be 21 longer, but I... 22 Q. Okay. Okay. Mr. Levitan and Dr. Carlton, 23 I'm prepared to ask you a few questions now. 24 I mean, obviously, we've been through the</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCH Page 4]</p> <p>1 the study. Could you explain that. 2 A. (By Mr. Levitan) Page 15, Line 20? 3 Q. Yes. 4 A. (By Mr. Levitan) The production process in 5 the summer of 2010 was less ideal. We got a 6 bit of a late start, and we found ourselves 7 challenged to accomplish a great deal of 8 programming and technical analysis with an 9 eye toward a September filing date. I would 10 defer to my colleague, Dr. Carlton, to flush 11 out some of the additional challenges. 12 A. (By Mr. Carlton) As Mr. Levitan stated, we 13 didn't get the go-ahead until a little bit 14 later than we had initially anticipated, 15 based on our proposal discussions. In that 16 initial proposal there was this framework 17 specified of doing a real option valuation 18 analysis for which we needed to do some 19 from-scratch model development. So one of 20 the time pressures was simply that there was 21 a shorter time line for the model 22 development and testing phase before filing 23 that report and... 24 Q. Are you done?</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 5</p> <p>1 A. (By Mr. Carlton) And then, in addition, 2 there were some other extenuating 3 circumstances. 4 Q. Do you want to describe them? 5 A. (By Mr. Carlton) I'm sorry. It was a death 6 in my family. 7 Q. Okay. Sorry. 8 The next set of corrections that Levitan 9 Associates made, as I understand it, were 10 really in response to a request from Staff for 11 a backcast case. Could you explain what a 12 "backcast case" is, first of all. 13 A. (By Mr. Carlton) Well, a backcast case is 14 what the name may seem to imply. You go 15 backwards in time, but rather than trying to 16 run a model in reverse chronological order, 17 you take a past time period and you run the 18 model forward. The basic idea is to be able 19 to compare model performance against the 20 actual results which would be known at that 21 time. However, there are many difficult 22 aspects of doing a reasonably good job at a 23 backcast case, the main one being that every 24 year or any time period you look at is going</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 5</p> <p>1 we determined, a significant amount was also 2 used for plant warming purposes. And given 3 that we knew how many starts had occurred in 4 the year 2010, that we were studying how 5 many were cold, how many were hot starts, we 6 were able to estimate how much total fuel 7 use for No. 2 oil would be involved and 8 calibrate that against the model result. 9 Q. One of the assumptions that you made was 10 that 2100 megawatts of capacity in NEPOOL 11 would retire; is that correct? I'm looking 12 at Page 38 of the CUO. And we already 13 looked at it with Mr. Smagula at 14 Footnote 26. So, is that correct? 15 A. (By Mr. Levitan) It is correct in the narrow 16 context of the mid case. As I'm sure you 17 recognize, three distinct capacity price 18 forecasts were formulated. Only in the mid 19 case was the assumption of 2100 megawatts of 20 retirement considered. 21 Q. And are you familiar with New England ISO 22 Forward Capacity Auctions? And I'm going to 23 refer now specifically to capacity auction 24 No. 6.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 6</p> <p>1 to be just one state of nature. It's going 2 to be unique for certain reasons, and 3 especially for a probabilistic model. Part 4 of the model validation process is to know 5 whether its distribution of values are in 6 the reasonable range, not just a 7 single-point estimate. 8 Q. So as a result of that request from Staff, 9 then you uncovered some other errors. And 10 those concerned, as I understand it, start 11 fuel, use assumptions. And No. 2 fuel use 12 for station warming hadn't been included in 13 fixed costs. I think there were a couple of 14 other areas that were uncovered as part of 15 that. So they weren't something you came 16 across on your own. It was only after Staff 17 requested that particular analysis; is that 18 correct? 19 A. (By Mr. Carlton) That's right. So, in the 20 course of trying to reconcile the 21 differences, one factor I was able to 22 isolate, as recently been stated, that the 23 No. 2 oil is not used in generation. It was 24 used, in part, for start fuel, and then as</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 6</p> <p>1 A. (By Mr. Levitan) Yes, I'm familiar with it. 2 Q. And this particular capacity auction is for 3 delivery June 1, 2015 to May 31, 2016. Does 4 that sound correct? 5 A. (By Mr. Levitan) Sounds correct. I don't 6 have the building block assumptions from 7 that auction in front of me. But your 8 characterization sounds right. 9 Q. And have you checked to see how the units 10 that you listed in Footnote 26 fared in that 11 particular auction, as to whether or not 12 they've been obligated through 2016? Have 13 you had a chance to do that? 14 A. (By Mr. Levitan) No, I have not. Nor would 15 it matter, insofar as the analysis reflected 16 these unit retirements on a generic basis. 17 I'm sure that it was stated either in this 18 report or in data responses that we relied 19 on the work done by another consultant in 20 the 2010 Connecticut IRP to come up with an 21 estimation of total plant attrition over the 22 forecast period. If these plants don't 23 retire, typically, another resource would be 24 expected to retire in conjunction with the</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON]</p> <p>1 assumption of our total RTO-wide attrition</p> <p>2 that was used in this forecast.</p> <p>3 Q. Well, would it surprise you to learn that,</p> <p>4 in fact, as a result of that particular</p> <p>5 capacity auction, that the ISO anticipates</p> <p>6 being 2800 megawatts long?</p> <p>7 A. (By Mr. Levitan) No, it would not surprise</p> <p>8 me.</p> <p>9 Q. Okay. I'm going to show you a copy of a</p> <p>10 document that is dated April 30th, 2012.</p> <p>11 And I have not copied the entire document</p> <p>12 which is over a hundred pages, but I would</p> <p>13 represent to the Commission that what I have</p> <p>14 copied is what I believe to be the relevant</p> <p>15 portions of this filing with the FERC by the</p> <p>16 ISO with regard to the results of this No. 6</p> <p>17 capacity auction and the relevant portions</p> <p>18 of it as they relate to the units that Mr.</p> <p>19 Levitan had assumed would be retired. And</p> <p>20 we have highlighted in yellow the particular</p> <p>21 units as they appear in this filing. So I</p> <p>22 would ask --</p> <p>23 CMSR. HARRINGTON: Mr. Patch, do</p> <p>24 you want to enter this as an exhibit?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON]</p> <p>1 the total capacity that you had identified</p> <p>2 in that footnote are included as capacity</p> <p>3 obligations through at least May of 2016. I</p> <p>4 would just ask you to accept that, subject</p> <p>5 to check. And I know you have an</p> <p>6 explanation that you've already given, at</p> <p>7 least in part. Maybe there's something</p> <p>8 else --</p> <p>9 A. (By Mr. Levitan) No, I'm happy to consider</p> <p>10 it, subject to check.</p> <p>11 Q. Thank you.</p> <p>12 A. (By Mr. Levitan) Of course, it's worth</p> <p>13 noting --</p> <p>14 Q. Go ahead.</p> <p>15 A. (By Mr. Levitan) -- that there are many</p> <p>16 components of the Forward Capacity Market</p> <p>17 that continue to be revisited by both FERC</p> <p>18 and stakeholders across the region. And it</p> <p>19 is the evolving nature of the restructuring</p> <p>20 of the Forward Capacity Market that</p> <p>21 certainly encourages incumbent generators to</p> <p>22 hang in there, wait for a better day. Some</p> <p>23 of the structural reforms presently before</p> <p>24 the ISO and various stakeholder committees</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON]</p> <p>1 MR. PATCH: Please.</p> <p>2 CMSR. HARRINGTON: Any</p> <p>3 objections?</p> <p>4 (No verbal response)</p> <p>5 CMSR. HARRINGTON: Seeing none,</p> <p>6 this will be TransCanada 11?</p> <p>7 THE CLERK: Eleven.</p> <p>8 (The document, as described, was</p> <p>9 herewith marked as TransCanada 11</p> <p>10 for identification.)</p> <p>11 Q. And maybe, Mr. Levitan, in light of your</p> <p>12 comments, you don't want to run through each</p> <p>13 of these. But I would represent to you that</p> <p>14 what I have highlighted on the hand-numbered</p> <p>15 pages are the portions of this particular</p> <p>16 filing by the ISO with the FERC that relate</p> <p>17 to the generating units that you referenced</p> <p>18 in Footnote 26. And I would further</p> <p>19 represent to you that, based on the math</p> <p>20 that I've done, which is -- or Mr. Hachey's</p> <p>21 actually done, which would probably give you</p> <p>22 more faith than if I did it, that for some</p> <p>23 summer ratings, 2,045 megawatt for the</p> <p>24 units, 1821 -- or 89 -- almost 90 percent of</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON]</p> <p>1 could not have been known with as much</p> <p>2 accuracy in 2010 as we know today.</p> <p>3 Q. Well, that may be true. But I guess I would</p> <p>4 ask you to look back at the CRA study then,</p> <p>5 which was done, actually, five or six months</p> <p>6 later than the study you did. This has been</p> <p>7 marked as an exhibit in this docket. It's</p> <p>8 TransCanada -- sorry, but I don't recall the</p> <p>9 number. But I'd ask you to look at Page 23</p> <p>10 of that particular document. And underneath</p> <p>11 that chart, at the top it says, "The</p> <p>12 capacity retirements assumed to take place</p> <p>13 in 2010 and beyond based on accepted delist</p> <p>14 bids in the Forward Capacity Auctions</p> <p>15 include: Somerset 6 and Salem Harbor 1 and</p> <p>16 2."</p> <p>17 So, in fact, the CRA study had a very</p> <p>18 different approach than what you had. And</p> <p>19 that was done in 2010; was it not?</p> <p>20 A. (By Mr. Levitan) It was done in 2010. But</p> <p>21 I'm not sufficiently acquainted with the</p> <p>22 study to really comment on the differences.</p> <p>23 CMSR. HARRINGTON: Mr. Patch</p> <p>24 with regard to your exhibit, just a question</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 3</p> <p>1 from labeling. This is on TransCanada 11. 2 When you go to the first chart, the page there 3 is labeled page, I guess that's one. For 4 Bridgeport Harbor 2, you go across, and 5 underneath the dates there's a series of zeros 6 there -- 7 MR. PATCH: That's right. 8 CMSR. HARRINGTON: And the next 9 page you have other ones highlighted where 10 there's -- well, in the case of Middletown, it 11 starts with 236,000. What are those -- what's 12 the units of those? 236,000 what for 13 Middletown? 14 MR. PATCH: Kilowatts. 15 CMSR. HARRINGTON: Pardon? 16 MR. PATCH: Kilowatts. 17 CMSR. HARRINGTON: Is it 18 kilowatts or -- so, that's the capacity? 19 Okay. 20 So in the case of Bridgeport 21 Harbor, you've highlighted where it's all 22 zeros, and you're saying they do not have a 23 capacity supply obligation? 24 MR. PATCH: That's correct. And</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 3</p> <p>1 With respect to the Charles 2 River analysis for NPT, I note on the very 3 page that you referenced that they're 4 stating that the retirements are calculated 5 on a conservative basis. They have noted 6 that additional delist bids have been 7 rejected based on reliability concerns. 8 They note, if those concerns are resolved, 9 additional unit retirements are likely. 10 Specifically, permanent delist bids have 11 been filed for Salem Harbor 3 and 4 for 12 FCA 5. And they go on to say that a delist 13 was requested for Vermont Yankee, for which 14 the Vermont Legislature voted to deny 15 extension of an operating license was 16 rejected in FCA 4. We now know, of course, 17 Vermont Yankee did not clear FCA 6. 18 So, there's a lot going on 19 here in the context of the study that they 20 were asked to perform. Presumably, they 21 wanted to state the energy price-suppression 22 benefit attributed to NPT on a conservative 23 basis. So they conservatively carried 24 forward resources that were likely to retire</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 4</p> <p>1 so that's among the 10 percent or so that we 2 said of the ones in Footnote 26 that do not. 3 You know, it adds up approximately to 4 90 percent that do. 5 CMSR. HARRINGTON: So those are 6 the ones that didn't clear the auction, in the 7 case of Bridgeport Harbor 2? 8 MR. PATCH: That's right. 9 BY MR. PATCH: 10 Q. And Mr. Levitan, or anybody else on the 11 panel, just because they didn't clear the 12 auction doesn't necessarily mean that 13 they're going to retire; is that fair to 14 say? 15 A. (By Mr. Levitan) It's technically correct. 16 But if a resource did not clear the auction 17 and it's holding on by its fingertips and 18 making virtually no profit from energy sales 19 and ancillary sales, the loss of capacity 20 revenue would no doubt discourage them from 21 staying in the market. I haven't met a 22 resource that would be that benevolent year 23 over year. So its retirement would likely 24 ensue.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOTTSON] Page 4</p> <p>1 just so as to avoid over-estimating the 2 price-suppression effect. If we were doing 3 this study, in all likelihood, we would have 4 stated it conservatively as well. 5 Q. I think I left up there on the Bench a copy 6 of Order 25,061. And I would ask if Mr. 7 Levitan or Dr. Carlton, either one of you, 8 could take a look at Page 18. Turning to -- 9 A. (Mr. Large) I don't think we do. If you 10 could be kind enough to share that with us? 11 Q. We had two copies of the order, so -- 12 A. (By Mr. Large) We have 24,945... where would 13 you like us to go? 14 Q. Have you got it? 15 A. (By Mr. Large) We do not. 16 A. (By Mr. Levitan) Yes, we do. 17 A. (Mr. Large) Oh, I'm sorry. We do have it. 18 Q. We're at 25,061, Page 18. And on that 19 page -- are you there? 20 A. (By Mr. Levitan) Yes. 21 Q. There are statements attributed to Steve 22 Mullen, the assistant director of the 23 Electric Division, where he said that with 24 the end of the Forward Capacity Market</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 17</p> <p>1 transition payments in May of 2010, lower 2 future capacity prices resulting from the 3 Forward Capacity Auctions may result in a 4 widening gap between plant-related expenses 5 and revenues for Newington Station. Do you 6 see that? 7 A. Yes. 8 Q. Do you know how much Newington received for 9 market transition payments in 2010? 10 A. (By Mr. Levitan) I do not have that 11 information. 12 Q. Would you accept, subject to check, that it 13 was \$20 million? And I think that's on the 14 same Page 18. Maybe it's referenced above 15 where I just read to you. 16 A. (By Mr. Levitan) I see the reference in the 17 document. 18 Q. And so those are revenues that Newington no 19 longer receives. I mean, they stopped in 20 2010; is that right? 21 A. (By Mr. Levitan) To the best of my 22 knowledge, revenues are received based on 23 the FCA outcome from annual auction to 24 annual auction.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 CMSR. HARRINGTON: I'm just 2 trying to get an idea because we're coming up 3 on needing a break. 4 Any objection to entering this 5 in evidence? 6 (No verbal response) 7 CMSR. HARRINGTON: So this will 8 be TransCanada 12. 9 (The document, as described, was 10 herewith marked as TransCanada 12 11 for identification.) 12 MR. PATCH: My guess is about 15 13 more minutes. Would you like to continue? 14 CMSR. HARRINGTON: Yeah, we'll 15 continue for 15 minutes. 16 People should start thinking 17 about whether they can stay later this 18 afternoon, because we do have a lot to get 19 through, and we need to get PSNH's redirect 20 on some of the witnesses that won't be 21 available tomorrow afternoon. So, maybe we 22 can stay a little later than planned 23 tonight. 24 Go ahead and continue, Mr.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 18</p> <p>1 Q. In your testimony at Page 18, you commented 2 on Mr. Hachey's testimony about 3 reconfiguration auctions. Do you recall 4 that? 5 A. (By Mr. Levitan) Yes. 6 Q. And he had pointed out that you failed to 7 take into account the fact that retiring the 8 Newington Station could result in \$20- to 9 \$30 million of capacity revenue if Newington 10 were to shed its future capacity obligations 11 in the reconfiguration auctions; correct? 12 A. (By Mr. Levitan) Yes. 13 Q. I'm going to show you a copy of a response 14 to a data request. It's TransCanada Set 4, 15 No. 12. And you're listed as the witness. 16 MR. PATCH: And I would ask that 17 this be marked as the next exhibit for 18 TransCanada. 19 CMSR. HARRINGTON: Mr. Patch, 20 how much longer will your cross-examination 21 go? 22 MR. PATCH: If I could just have 23 one minute, I'll take a quick look at my 24 questions.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLOCHSON] Page 19</p> <p>1 Patch. 2 BY MR. PATCH: 3 Q. So, Mr. Levitan, I'd ask you to look at 4 Section Roman X. And the question there was 5 regarding LAI-8, an attachment to your 6 rebuttal testimony. "Is it Mr. Levitan's 7 opinion that his calculation of 'net 8 retirement disbenefit' is an appropriate 9 valuation of the retirement benefit or cost 10 to PSNH customers of Newington?" And I'd 11 ask that you read the response. 12 A. (By Mr. Levitan) The response goes as 13 follows: "The purpose of the analysis 14 presented in Exhibit LAI-8 was to estimate 15 how under certain assumptions the net 16 revenues of Newington shedding its capacity 17 supply obligations would differ from the 18 revenues received under the continued 19 operation scenario. This is a simple rough 20 estimate that shows significant retirement 21 disbenefits compared to the continued 22 operation scenario. LAI believes that this 23 analysis is appropriate for the purpose of 24 the CUO study. However, valuation of the</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 1</p> <p>1 retirement benefit or cost to PSNH customers 2 would probably require a more complex type 3 of analysis that goes beyond the scope of 4 this proceeding." 5 Q. And then Roman XII regarding that same 6 LAI-18 [sic], "Does this exhibit account in 7 any way to the ongoing costs of operating 8 Newington?" And your response to that was? 9 A. (By Mr. Levitan) "No." The analysis that's 10 presented in LAI-8 simply shows the net 11 retirement benefit -- or disbenefit over the 12 forecast period. 13 Q. So I'm just having a hard time understanding 14 why you fault Mr. Hachey's analysis, when 15 you didn't even include in your own 16 back-of-the-envelope calculation the actual 17 cost of the operating the facility. 18 A. (By Mr. Levitan) Mr. Hachey formulated an 19 idealized scenario where there would be a 20 continued sustained differential between the 21 FCA price outcome and the reconfiguration 22 auction prices of a dollar per kilowatt 23 month. It makes no sense to me as an 24 industry analyst to hold that differential</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 3</p> <p>1 that outcome. And I think if you were to 2 poll industry experts, most would agree it's 3 overhang that drives the delta price-wise, 4 and that is inevitably going to disappear. 5 Q. On Pages 20 and 21 of your rebuttal 6 testimony, you criticized Mr. Hachey's 7 rejection of your price-suppression analysis 8 saying that it was "misplaced"; correct? 9 A. (By Mr. Levitan) Could you point me to a 10 line, please? 11 Q. Well, it's not one line. It's generally 12 Pages 20 and 21. I think there's Q & A -- 13 A. (By Mr. Levitan) Yes. And I acknowledged in 14 the testimony that the use of the word 15 "suppression" in the context of capacity 16 price benefits is a bit of a misnomer. But 17 perhaps we'll get to that. 18 Q. Yes. I mean, I was going to ask you that. 19 Lines 33 to 34 on Page 21 is where you in 20 fact said that; right? 21 A. (By Mr. Levitan) Yes. 22 Q. "Price suppression may have been a 23 misnomer." 24 I'm going to show you copy of a data</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 2</p> <p>1 constant since the differential is driven 2 entirely by the magnitude of the megawatt 3 overhang in New England. You know from our 4 modeling assumptions that we do consider 5 additional DR entering the resource mix and 6 additional imports from New York, although a 7 decline in the level of imports due to the 8 price differentials. But most importantly, 9 we look at capacity attrition effects, 10 whether it's 2100 megawatts or 2500 11 megawatts or something less than that. It's 12 baked into each scenario. 13 As the magnitude of the megawatt 14 overhang dissipates, inevitably there would 15 be upward pressure, and significant upward 16 pressure on RA prices. So the benefits of 17 shedding the capacity supply obligation 18 would dissipate with that differential that 19 narrows. If Mr. Hachey is right that, 20 regardless of the magnitude of the megawatt 21 overhang, RA prices will stay fixed at a 22 dollar per kilowatt month, then the benefits 23 to PSNH's customers associated with shedding 24 the CSO would be large. But I don't expect</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 4</p> <p>1 request from TransCanada dated December 16, 2 2011, and it has you as the witness. 3 CMSR. HARRINGTON: Any 4 objections to entering this in the record? 5 (No verbal response) 6 CMSR. HARRINGTON: This is going 7 to be TransCanada 12? 8 THE CLERK: Thirteen. 9 (The document, as described, was 10 herewith marked as TransCanada 13 11 for identification.) 12 CMSR. HARRINGTON: Oh, I'll get 13 these straight one of these days. 14 "Monthly Average Fuel Price and RT Hub LMP." 15 Q. In your response, you say what you meant 16 when you used the term "capacity price 17 suppression benefit" was "the economic 18 benefits that were redound to customers 19 resulting from Newington remaining in 20 service"; is that correct? 21 A. (By Mr. Levitan) Yes. 22 Q. And you go on to say that, just as sellers 23 are entitled to consider portfolio benefits 24 of their actions in the markets -- and I</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 105</p> <p>1 just want to stop there and ask you what you</p> <p>2 meant by this. Are you saying that the</p> <p>3 sellers are entitled to withhold capacity</p> <p>4 from the market, that it's okay to</p> <p>5 manipulate the capacity market?</p> <p>6 A. (By Mr. Levitan) I'm wondering -- I'd ask</p> <p>7 for your forbearance for a second. Where</p> <p>8 are you reading from in the testimony?</p> <p>9 Q. Not the testimony. This is the response to</p> <p>10 TC 4-16. It's the second line. You say,</p> <p>11 "Just as sellers are entitled to consider</p> <p>12 portfolio benefits of their actions in the</p> <p>13 markets, buyers may account for the benefits</p> <p>14 resulting from their actions."</p> <p>15 A. (By Mr. Levitan) Well, there are a number of</p> <p>16 rigid safeguards that are built into the</p> <p>17 existing ISO market structure. The internal</p> <p>18 market monitor can and will take immediate</p> <p>19 action to ensure that sellers do not</p> <p>20 economically withhold, thus bringing the</p> <p>21 market to cause energy prices to deviate</p> <p>22 from a competitive outcome. So I would say,</p> <p>23 no, sellers are not entitled to withhold.</p> <p>24 They have an obligation to show up for work</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 107</p> <p>1 retirement prematurely of the Newington</p> <p>2 Station could be followed by a run-up in</p> <p>3 capacity prices as a result of the slope of</p> <p>4 the supply curve. A more expensive resource</p> <p>5 would be expected to fill the gap</p> <p>6 attributable to the loss of 400 megawatts</p> <p>7 and, all other things being the same, would</p> <p>8 put upward pressure, not neutral or downward</p> <p>9 pressure, on capacity prices, the cost of</p> <p>10 which would redound to all ratepayers in the</p> <p>11 state of New Hampshire and, to a lesser</p> <p>12 extent, outside the state as well.</p> <p>13 Q. Just a couple more questions, Mr. Levitan,</p> <p>14 with regard to the reconfiguration auction.</p> <p>15 Have all of the FCM auctions thus far</p> <p>16 been significantly in excess of capacity? Is</p> <p>17 that fair to say?</p> <p>18 A. (By Mr. Levitan) There has been a</p> <p>19 substantial amount of qualified resources</p> <p>20 that have cleared the ICR in each auction.</p> <p>21 Q. So it sounds like the answer is yes.</p> <p>22 A. (By Mr. Levitan) Yes.</p> <p>23 Q. Do you believe that the next auction --</p> <p>24 which I think is the last one scheduled,</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 106</p> <p>1 and produce energy based on the marginal</p> <p>2 cost of producing that energy, subject to</p> <p>3 unit availability day in and day out.</p> <p>4 Q. So, if Newington Station were an uneconomic</p> <p>5 resource to PSNH's customers, then I guess</p> <p>6 what you're saying is ISO has enough rules</p> <p>7 in place that it wouldn't be allowed to</p> <p>8 operate? Is that what you're saying?</p> <p>9 A. (By Mr. Levitan) No, that's not what I said.</p> <p>10 Q. Okay. Then if it were an uneconomic</p> <p>11 resource, and PSNH continued operating it</p> <p>12 solely to lower capacity market prices, that</p> <p>13 would be fireside market manipulation; would</p> <p>14 it not?</p> <p>15 A. (By Mr. Levitan) No, it would not.</p> <p>16 Q. It would not? Why not?</p> <p>17 A. (By Mr. Levitan) Because first, the</p> <p>18 Newington Station is an incumbent resource.</p> <p>19 It's a price taker. It is not a price</p> <p>20 setter. It's been around for a long time.</p> <p>21 It would not be a manipulation of FCA</p> <p>22 outcome based on continued unit operation.</p> <p>23 What is meant in the study design and in the</p> <p>24 data response is that the hypothetical</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 108</p> <p>1 isn't it -- No. 7, do you believe that it</p> <p>2 will continue to be -- or to provide for</p> <p>3 excess capacity as the other six have?</p> <p>4 A. (By Mr. Levitan) There are at present major</p> <p>5 efforts among New England stakeholders and</p> <p>6 ISO in response to FERC's directive to sort</p> <p>7 out the defects in the capacity market here</p> <p>8 in New England. That effort is well</p> <p>9 underway. There are many potential outcomes</p> <p>10 that could potentially result in the removal</p> <p>11 of the floor in FCA 7, but more likely in</p> <p>12 FCA 8, many other structural changes that</p> <p>13 could have a profound effect on the future</p> <p>14 trajectory of capacity prices in the region.</p> <p>15 Q. Are you familiar with the FERC order that's</p> <p>16 specific to FCA 7?</p> <p>17 A. (By Mr. Levitan) No.</p> <p>18 Q. And with regard to Mr. Hachey's testimony on</p> <p>19 this, what assumptions did he make for</p> <p>20 reconfiguration auction pricing through</p> <p>21 FCA 7?</p> <p>22 A. (By Mr. Levitan) I believe that Mr. Hachey</p> <p>23 looked back at the reconfiguration auction</p> <p>24 price of a dollar per kilowatt month and</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 109</p> <p>1 just held it constant over the forecast</p> <p>2 period and thus calculated the differential</p> <p>3 between the pro rated FCA price outcome</p> <p>4 versus the reconfiguration auction price of</p> <p>5 a dollar, assuming that as other capacity</p> <p>6 resources scramble into the reconfiguration</p> <p>7 auction, there would not be any upward</p> <p>8 pressure on RA prices. That was simplifying</p> <p>9 assumption on his part as a comment to the</p> <p>10 "reasonableness."</p> <p>11 Q. Thank you.</p> <p>12 MR. PATCH: That's all the</p> <p>13 questions I have.</p> <p>14 CMSR. HARRINGTON: Okay. We'll</p> <p>15 go off the record now and take a short recess.</p> <p>16 (Brief recess taken at 3:15 p.m., and</p> <p>17 hearing resumed at 3:34 p.m.)</p> <p>18 CMSR. HARRINGTON: Mr. Patch,</p> <p>19 you're done your questioning?</p> <p>20 MR. PATCH: Yes.</p> <p>21 CMSR. HARRINGTON: So, next</p> <p>22 would be Granite Ridge.</p> <p>23 MR. MOFFETT: No questions, Mr.</p> <p>24 Chairman. Thank you.</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 110</p> <p>1 earlier, I understand that you did not</p> <p>2 disclose the historic data that you used to</p> <p>3 develop the basis spread adders which is</p> <p>4 what you used to forecast the gas prices at</p> <p>5 Dracut; is that correct?</p> <p>6 A. (By Mr. Carlton) That's correct. That was</p> <p>7 part of the Bloomberg data. However, we did</p> <p>8 provide in a data response the 12 monthly</p> <p>9 percentage adders to make it easy for</p> <p>10 anybody to calculate from any data source</p> <p>11 what the add-on would be.</p> <p>12 Q. I understand that. If I'm looking at the</p> <p>13 testimony correctly, you criticized Staff's</p> <p>14 estimation of those basis spreads using the</p> <p>15 Emera data; is that correct?</p> <p>16 A. (By Mr. Carlton) The Emera invoice data was</p> <p>17 used for a different basis spread. So the</p> <p>18 one you were just discussing was the Henry</p> <p>19 Hub to Dracut Hub basis spread. And then,</p> <p>20 in addition, there's getting the gas to the</p> <p>21 Newington Station. And that is a basis</p> <p>22 spread between the Dracut price and the</p> <p>23 Emera invoice price on any of the days that</p> <p>24 PSNH makes gas purchases.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 111</p> <p>1 CMSR. HARRINGTON: Sierra Club.</p> <p>2 MR. CUNNINGHAM: No questions,</p> <p>3 Mr. Chair.</p> <p>4 CMSR. HARRINGTON: Conservation</p> <p>5 law Foundation.</p> <p>6 MR. PERESS: Thank you,</p> <p>7 Commissioner. I do have just a few questions.</p> <p>8 Thank you.</p> <p>9 CROSS-EXAMINATION</p> <p>10 BY MR. PERESS:</p> <p>11 Q. I'd like to refer Mr. Levitan to what's been</p> <p>12 marked PSNH Exhibit 10, which is the</p> <p>13 redacted copy of the modeling system</p> <p>14 overview, and specifically to Page 3.</p> <p>15 A. (By Mr. Levitan) We're there.</p> <p>16 Q. So, if I understand the natural gas forward</p> <p>17 pricing model, basically what the -- what</p> <p>18 Levitan -- what you did was to calculate an</p> <p>19 error to account for the differential in</p> <p>20 prices between Henry Hub and Dracut in your</p> <p>21 forward natural gas projection; is that</p> <p>22 right?</p> <p>23 A. (By Mr. Levitan) Yes.</p> <p>24 Q. And from the testimony that we heard</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 112</p> <p>1 Q. Thank you. So if I understand this, the</p> <p>2 Henry Hub to Dracut spread is part of the</p> <p>3 cost projection that would go into your</p> <p>4 projection of the marginal cost at</p> <p>5 Newington; is that correct?</p> <p>6 A. (By Mr. Carlton) That's correct.</p> <p>7 Q. And it would go into your projection of</p> <p>8 energy prices for all of ISO-New England; is</p> <p>9 that correct?</p> <p>10 A. (By Mr. Carlton) That's correct. We also</p> <p>11 use the Dracut Hub to drive the electric</p> <p>12 price model.</p> <p>13 Q. And it would go to the dispatch projections</p> <p>14 that you are using for Newington; is that</p> <p>15 correct?</p> <p>16 WITNESS LEVITAN: Commissioner,</p> <p>17 may we have a moment to confer?</p> <p>18 CMSR. HARRINGTON: Sure.</p> <p>19 A. (By Mr. Levitan) If you would forgive us for</p> <p>20 one moment, please.</p> <p>21 (Off-the-record discussion among panel members.)</p> <p>22 A. (By Mr. Carlton) Sorry. Could you repeat</p> <p>23 the last question?</p> <p>24 Q. The Henry Hub to Dracut spread would also</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 3</p> <p>1 ultimately dictate the dispatch scenarios</p> <p>2 for Newington -- or have a big impact on the</p> <p>3 dispatch scenarios for Newington; isn't that</p> <p>4 correct?</p> <p>5 A. (By Mr. Carlton) Well, yes, the Henry Hub to</p> <p>6 Dracut scenario would affect the dispatch.</p> <p>7 Q. So, isn't it true that the parties lack the</p> <p>8 data necessary to assess the validity of</p> <p>9 your gas price forecast at Dracut, since you</p> <p>10 didn't provide it?</p> <p>11 A. (By Mr. Carlton) We did provide it.</p> <p>12 Q. The underlying data, the historical data</p> <p>13 that you used.</p> <p>14 A. (By Mr. Carlton) No, not the underlying</p> <p>15 data. But we provided the month-by-month</p> <p>16 forward price projection at Dracut.</p> <p>17 Q. I understand that. But isn't it correct</p> <p>18 that the parties lacked the ability to</p> <p>19 assess the validity of that month-by-month</p> <p>20 price projection without that historic data?</p> <p>21 A. (By Mr. Carlton) Again, it gets back to</p> <p>22 whether you think two different vendors'</p> <p>23 daily spot prices are largely substitutable.</p> <p>24 One can obtain, at relatively low cost, data</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 5</p> <p>1 state regulatory proceedings throughout the</p> <p>2 Mid-Atlantic, New York and New England for</p> <p>3 multiple client engagements. This had not</p> <p>4 come up before, so I did not think it</p> <p>5 through.</p> <p>6 Q. And I think, Mr. Levitan, you testified that</p> <p>7 Mr. Hachey's review of your modeling</p> <p>8 assumptions and the modeling results -- I</p> <p>9 think you used the term "constructive</p> <p>10 criticism" -- uncovered defects in the study</p> <p>11 methodology; is that correct?</p> <p>12 A. (By Mr. Levitan) Yes. We appreciated Mr.</p> <p>13 Hachey's criticisms and comments at the</p> <p>14 technical session.</p> <p>15 Q. And on the basis of the defects that he</p> <p>16 uncovered, you recalculated the ratepayer</p> <p>17 value of Newington; is that correct?</p> <p>18 A. (By Mr. Levitan) I don't know that it's fair</p> <p>19 to say that Mr. Hachey "uncovered" the</p> <p>20 defects. He simply galvanized us to take a</p> <p>21 fresh look at the structure of the model and</p> <p>22 the equations in the model in which was</p> <p>23 buried a problem, which once discovered was</p> <p>24 easy to fix.</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 4</p> <p>1 on a gas price series of historical data.</p> <p>2 Q. But you've already testified that the spot</p> <p>3 prices you used were not provided; correct?</p> <p>4 A. (By Mr. Carlton) That is correct.</p> <p>5 Q. And did you also --</p> <p>6 A. (By Mr. Levitan) And I also testified that,</p> <p>7 in my experience, the data sets for key</p> <p>8 pricing points across New England are</p> <p>9 strongly correlated at least -- or "highly</p> <p>10 strongly correlated" I think is the way I</p> <p>11 put it, at least in terms of the mid points,</p> <p>12 because different vendors are discussing,</p> <p>13 day in and day out with different brokers.</p> <p>14 There might be more wider or narrower bid</p> <p>15 spreads from vendor to vendor, but the</p> <p>16 midpoint are right on top of one another.</p> <p>17 Q. And you testified previously that you</p> <p>18 decided to use vendor data that you could</p> <p>19 not disclose; right?</p> <p>20 A. (By Mr. Carlton) We did not know that at the</p> <p>21 outset.</p> <p>22 A. (By Mr. Levitan) We were following our</p> <p>23 normal corporate forecasting procedure,</p> <p>24 which has been used in a variety of major</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 6</p> <p>1 Q. And after he "galvanized" you, the asset</p> <p>2 valuation for Newington went down quite</p> <p>3 considerably; is that correct?</p> <p>4 A. (By Mr. Levitan) Yes, in relation to the</p> <p>5 expected value that was stated in the</p> <p>6 September CUO; but no, in the more narrow</p> <p>7 context of it leading to the same</p> <p>8 conclusion -- that being that the Newington</p> <p>9 Station remains clearly in the black with</p> <p>10 respect to customers' economic interests.</p> <p>11 Q. But you recalculated -- strike that.</p> <p>12 Exhibit G.12, which is Page 44 of the</p> <p>13 CUO, you recalculated what you term "net</p> <p>14 revenue requirement" and determined that it</p> <p>15 was less than half of what you had originally</p> <p>16 projected; is that correct? I'm sorry. The</p> <p>17 ratepayer benefit was less than half of what</p> <p>18 you had originally projected; is that correct?</p> <p>19 A. (By Mr. Levitan) Yes.</p> <p>20 Q. And this Dracut gas price is very critical</p> <p>21 to the asset valuation, isn't it?</p> <p>22 A. (By Mr. Levitan) I would say no.</p> <p>23 Q. So it's critical to the marginal cost. It's</p> <p>24 critical to energy prices. It's critical to</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 117</p> <p>1 dispatch scenarios. But it's not critical</p> <p>2 to the valuation?</p> <p>3 A. It's key to the valuation, but I wouldn't</p> <p>4 say "critical," because it is correlated</p> <p>5 with energy prices across all the key</p> <p>6 pricing points in New England. And it is</p> <p>7 therefore the single largest determinant of</p> <p>8 the LMP hour to hour in the day-ahead</p> <p>9 market, in the real-time market. But the</p> <p>10 action at Newington reflects an additional</p> <p>11 micro basis adder from the Dracut pricing</p> <p>12 point on the joint facility system to the</p> <p>13 Newington Station. And historically, that</p> <p>14 basis -- or micro basis adder has been very</p> <p>15 significant in the winter, in at least 2010,</p> <p>16 and significant in the non-winter months as</p> <p>17 well. That has a direct significant bearing</p> <p>18 on the dispatch and the net profitability of</p> <p>19 the Newington Station. But going forward,</p> <p>20 there are all sorts of reasons why looking</p> <p>21 back may not be a good indication of what</p> <p>22 Newington's fuel costs will be going</p> <p>23 forward.</p> <p>24 Q. So I also believe you testified that you</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 118</p> <p>1 MS. KNOWLTON: I'm going to</p> <p>2 object, to the extent the question is asking</p> <p>3 about the IRP. Again, this panel is here to</p> <p>4 testify about the CUO.</p> <p>5 CMSR. HARRINGTON: Mr. Peress.</p> <p>6 MR. PERESS: Commissioner, in</p> <p>7 the first instance, we had agreed at the</p> <p>8 beginning of this hearing that there was not a</p> <p>9 black line as between the panels and the</p> <p>10 questioning. And the question that I asked</p> <p>11 related directly to the work that they did on</p> <p>12 the CUO. I'm just asking if it had any other</p> <p>13 uses for PSNH in the context of the plan. I</p> <p>14 think to suggest that the CUO can be</p> <p>15 completely separated from the plan is not a</p> <p>16 sound proposition as a matter of law. The CUO</p> <p>17 is part of the plan.</p> <p>18 CMSR. HARRINGTON: I'll allow</p> <p>19 the question.</p> <p>20 A. (By Mr. Carlton) Well, we provided PSNH with</p> <p>21 the monthly forward prices that were used in</p> <p>22 the CUO study. And exactly what they did</p> <p>23 with those prices, I'm not entirely aware.</p> <p>24 MR. PERESS: I have no for</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 118</p> <p>1 conducted numerous forward gas price</p> <p>2 projections for distribution companies</p> <p>3 throughout New England; is that correct?</p> <p>4 A. (By Mr. Levitan) Yes.</p> <p>5 Q. And those were used by those distribution</p> <p>6 utilities for planning purposes? Is that</p> <p>7 why you did that?</p> <p>8 A. (By Mr. Levitan) They used them for a</p> <p>9 variety of purposes. Those purposes would</p> <p>10 include: For long-term resource planning,</p> <p>11 for short-term resource planning, for</p> <p>12 purposes of entering into long-term</p> <p>13 contracts for renewable energy sources, for</p> <p>14 purposes of evaluating the merit of</p> <p>15 conventional quick-start peaking resources</p> <p>16 in Connecticut. I could go on. But those</p> <p>17 are some of the first-order applications of</p> <p>18 the forecast.</p> <p>19 Q. And other than for the Continued Unit</p> <p>20 Operations Study, did Public Service Company</p> <p>21 of New Hampshire ask you to provide them</p> <p>22 with the forward gas price projection in</p> <p>23 association with this Integrated Resource</p> <p>24 Plan?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 119</p> <p>1 questions. Thank you, Commissioners.</p> <p>2 CMSR. HARRINGTON: Okay. Thank</p> <p>3 you. Going to move on, if I can find my list</p> <p>4 here. New Hampshire Office of Energy and</p> <p>5 Planning?</p> <p>6 MR. STELTZER: No questions.</p> <p>7 Thank you.</p> <p>8 CMSR. HARRINGTON: OCA?</p> <p>9 MS. HOLLENBERG: No questions.</p> <p>10 Thank you.</p> <p>11 CMSR. HARRINGTON: Okay. Making</p> <p>12 progress. Redirect by Public Service?</p> <p>13 MS. KNOWLTON: The Company does</p> <p>14 have limited redirect. I'm actually --</p> <p>15 there's one of the documents that was marked</p> <p>16 by one of the parties, by Trans -- I'm</p> <p>17 sorry -- by Staff with an excerpt of a</p> <p>18 document. And I'm waiting to -- I'm having a</p> <p>19 hand delivery. I'm waiting to receive the</p> <p>20 full document. So, either we could take a</p> <p>21 break on redirect, or if the Commissioners</p> <p>22 would allow me to conduct redirect after</p> <p>23 they've concluded their questions, and</p> <p>24 hopefully I will have received that document.</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 11</p> <p>1 CMSR. HARRINGTON: We'll just 2 start with our questions now and see if that 3 works. 4 MS. KNOWLTON: Thank you. 5 CMSR. HARRINGTON: Commissioner 6 Scott. 7 CMSR. SCOTT: Thank you. 8 INTERROGATORIES BY CMSR. SCOTT: 9 Q. And again to the panel, I will -- whoever 10 feels most able to answer the question is 11 fine with me. 12 On the study itself, on the modeling 13 runs, just to ground everybody, if you could, 14 the last modeling run you did, can you give me 15 a time frame? When was that? 16 A. (By Mr. Carlton) Well, the last model run 17 that was done was the one that Staff had 18 requested, and that was done in the summer 19 of 2011. I don't recall the exact date, but 20 it's been provided in a data response. 21 MR. SPEIDEL: Yes, if I may 22 interject as a matter of clarification. I 23 believe that re-run was presented as part of 24 Public Service of New Hampshire's response to</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 13</p> <p>1 result in a slight increase in the market 2 rate. 3 Q. And the same question, I guess. It's tied 4 together, so it's probably going to be the 5 same answer, which is fine. 6 Again, in the past year, the capacity 7 factor of the plant, has that changed your 8 thinking as far as any outcomes for the study? 9 A. (By Mr. Carlton) We haven't evaluated it in 10 that regard. We heard earlier that it was 11 lower in 2011 than it was in 2010. But 12 we're not continually trying to update the 13 study with new information. But part of the 14 purpose of running those capacity analyses 15 is you're going to get a lot of year-to-year 16 variability, which greatly affects the 17 economics on a year-over-year basis of a 18 peaker-type plant as opposed to a baseload 19 plant. So you may get one or more years in 20 a row of relatively low capacity prices 21 based on current economic conditions 22 followed by an increase for a while. 23 A. (By Mr. Levitan) Because the plant dispatch 24 factor is in the single digits, it doesn't</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 12</p> <p>1 Technical Session Question 2, and that would 2 have a cover letter of July 12th, 2011. And I 3 believe that has been submitted as PSNH 4 Exhibit 11. 5 CMSR. SCOTT: Thank you for that 6 clarification. 7 BY CMSR. SCOTT: 8 Q. Obviously, since that time we've seen a 9 continuing drop in gas prices and 10 projections into the future. I was -- given 11 your expertise, I was just curious, you 12 know, given the one-year -- or almost a year 13 time difference, have you -- is there 14 anything in your conclusions that have 15 significantly changed based on the passage 16 of time and events? 17 A. (By Mr. Carlton) With respect to the falling 18 gas prices, I would say no. From recent 19 look-ups of Mass. Hub and Henry Hub forward 20 concerns, the spark spread based on those 21 two indices is as large, if not larger than 22 it has been in the past. There's often a 23 relationship where lower natural gas prices, 24 even though they bring down power prices,</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 14</p> <p>1 take much in the way of extreme heat and 2 humidity relative to more normal summertime 3 conditions, or extreme cold, which we didn't 4 have, for the most part, in the winter of 5 2011-12. It was mild as well in the winter 6 of 2010 and 2011. But had we experienced 7 normal weather conditions, or colder than 8 average conditions, or even the low 9 likelihood of a cold snap, then the dispatch 10 of the plant would have been significantly 11 higher. Those weather conditions were not 12 encountered. 13 Q. Thank you. That's fair. 14 You mentioned your background in some of 15 the work you've done for other commissions. 16 Have you ever done a CUO study before? 17 A. (By Mr. Levitan) In the narrow context of 18 its implementation here in New Hampshire, 19 the answer is no. But for purposes of 20 advising global investors, debt lenders and 21 generation companies on the going-forward 22 economics of purchasing a fleet of 23 conventional resources, where many of the 24 units -- or some of the units are old-style</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 15</p> <p>1 oil and/or gas/steam turbine generators, we</p> <p>2 have exhausted the engineering and the</p> <p>3 economic and the transmission and fuel</p> <p>4 issues surrounding the potential repowering</p> <p>5 of the asset, or how long in certain</p> <p>6 capacity markets the resource could be</p> <p>7 expected to limp along. Those analyses have</p> <p>8 been undertaken for very prominent investors</p> <p>9 and generation owners throughout the U.S.</p> <p>10 Q. And in those analyses, did you use similar</p> <p>11 methodologies?</p> <p>12 A. (By Mr. Levitan) We have incorporated</p> <p>13 aspects of real option valuation, but not</p> <p>14 with the level of rigor practiced here for</p> <p>15 the CUO.</p> <p>16 Q. And those -- again, I heard you earlier.</p> <p>17 You haven't done exactly the same thing for</p> <p>18 another commission. But in those analyses,</p> <p>19 did they require non-disclosure agreements?</p> <p>20 Is that a -- that's not a new thing for you.</p> <p>21 A. (By Mr. Levitan) Yes, in all cases, they</p> <p>22 would have required non-disclosure</p> <p>23 agreements with the generation owner selling</p> <p>24 the unit or the fleet, as well, typically,</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 17</p> <p>1 markets in New England, we did our best to</p> <p>2 throw a lot of math and engineering</p> <p>3 economics at the problem. And we concluded,</p> <p>4 especially upon refinement of the initial</p> <p>5 results in April of 2011, that the unit is</p> <p>6 in the black, consistently in the black,</p> <p>7 year over year. And there are all sorts of</p> <p>8 reasons well documented in the study for</p> <p>9 that. And in calibrating the value of the</p> <p>10 product slate -- capacity, energy, ancillary</p> <p>11 services, the hedge value of the asset -- to</p> <p>12 kind of narrow the spectrum of financial</p> <p>13 outcomes in comparison to the out-of-pocket</p> <p>14 cash cost of continued Newington operations</p> <p>15 the conclusion was straightforward: It's in</p> <p>16 the black. So we did not then take the next</p> <p>17 step of postulating a world of shedding the</p> <p>18 capacity supply obligation and buying "loose</p> <p>19 juice" from the day-ahead and real-time</p> <p>20 market, or buying -- you know, entering into</p> <p>21 structured financial products with a</p> <p>22 credit-worthy counterpart doing business in</p> <p>23 New England to strip out the risk of serving</p> <p>24 PSNH's customers. Those questions could</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 16</p> <p>1 as required by the lender or the investor,</p> <p>2 to protect their commercial interests. So,</p> <p>3 firms like ours and, for that matter, other</p> <p>4 prominent engineering firms doing business</p> <p>5 in this room or elsewhere in North America,</p> <p>6 typically enter into those NDAs.</p> <p>7 Q. On the valuation itself, could you describe</p> <p>8 comparisons you might have made? Obviously,</p> <p>9 there's cost of if the plant were to close,</p> <p>10 how would PSNH meet its customer needs</p> <p>11 without the plants. Can you describe a</p> <p>12 little bit the analysis you did on that end,</p> <p>13 you know, the use of long-term contracts or</p> <p>14 buying off the market, that type of thing?</p> <p>15 A. (By Mr. Levitan) We focused on the unit's</p> <p>16 continued operation. The threshold question</p> <p>17 before us on a risk-adjusted basis when we</p> <p>18 stochastically sample a broad spectrum of</p> <p>19 possible market outcomes or probable market</p> <p>20 outcomes: Does this unit provide economic</p> <p>21 benefits to PSNH's customers? Given the</p> <p>22 uncertainty in the energy markets, given the</p> <p>23 uncertainty about retirements, given the</p> <p>24 uncertainty about the evolving capacity</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 18</p> <p>1 have been answered, but were not because of</p> <p>2 the determination that the asset itself was</p> <p>3 in the black.</p> <p>4 Q. Okay. Thank you. And for Mr. Smagula.</p> <p>5 Earlier, when you were talking about the</p> <p>6 Newington Station, I think you made the</p> <p>7 comment about -- which I'm sure is true --</p> <p>8 long-term and short-term planning horizons.</p> <p>9 I was curious. What do you use for -- is</p> <p>10 there some planning scheme you have? What</p> <p>11 do you use for determining those horizons?</p> <p>12 A. (By Mr. Smagula) Well, we use a five-year</p> <p>13 horizon. And we look at the emerging</p> <p>14 changes in regulation, we look at emerging a</p> <p>15 number of scenarios on fuel pricing, we look</p> <p>16 at our maintenance needs, we look at our</p> <p>17 capacity investments, and we factor in all</p> <p>18 of those drivers of capacity factor and</p> <p>19 costs to look at that. It's a process we've</p> <p>20 been using for over 25 years in our company</p> <p>21 on all our facilities. So we don't hire a</p> <p>22 consultant to do this for us. We don't hire</p> <p>23 a service. We don't subscribe to a number</p> <p>24 of databases in order to feed that. It's</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 129</p> <p>1 based on our experience with awareness of 2 the New England marketplace. 3 Q. Do you memorialize that somehow or -- 4 A. (By Mr. Smagula) Well, we develop budgets, 5 and from our budgets we develop the pieces 6 of equipment that we intend to maintain. 7 And through our energy service rate filing, 8 that gets reviewed by a third-party 9 consultant on an annual basis to determine 10 if our projected and current costs are 11 reasonable, based on a lot of these 12 appropriate variables. So there are other 13 regulatory PUC venues where opinions are 14 based on that assessment and our work there. 15 A. (By Mr. Levitan) Commissioner, would you 16 permit me to amend my prior response? 17 Q. Sure. I'd rather do it now than later. 18 A. (By Mr. Levitan) Sure. Thank you. 19 In discussing the structure of the CUO, 20 I hope I did not leave the Commission with 21 the mistaken impression that the Company is 22 not aggressively looking at its options, day 23 in and day out, with respect to the 24 Newington Station. There are opportunities</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 131</p> <p>1 following beyond that, my question, I guess 2 is, is there not a potential for another 3 option, that even though the station's in 4 the black, it would be even more profitable, 5 if you will, or less cost to PSNH ratepayers 6 than the station, if that makes sense? 7 A. (By Mr. Levitan) Well, the postulated, 8 accelerated retirement of the station would, 9 from a directional standpoint, cause 10 capacity prices to run up. Exactly how far, 11 no one knows for sure. It's mostly 12 geometry. If you hold things constant, then 13 the slope of the supply curve, given the 14 vertical demand curve characteristic of the 15 Forward Capacity Market, suggests it could 16 run up a lot. Not for long, but certainly 17 for a year or two. 18 As far as energy prices are concerned, 19 the unit doesn't dispatch that much. So, 20 for the most part, throughout the year the 21 LMPs would be unaffected by the potential 22 retirement of the unit. The problem is when 23 the unit does operate is when you need it 24 the most. And so the loss of 400 megawatts,</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 130</p> <p>1 through brokers and other credit-worthy 2 counter-parties to enter into structured 3 products to take the place of the block of 4 energy that could be otherwise sourced from 5 Newington when the strike price of a 6 financial option or a physical option is 7 attractive. So they're constantly 8 systematically reviewing the relative merit 9 of Newington dispatch versus calling on a 10 plant as an option to meet that mid-range of 11 peaking block of energy, particularly when 12 there's a real chance in the real-time 13 market that prices explode. 14 What I meant to say is that we did not 15 run a scenario where we contemplated the 16 complete absence of Newington as a mid-range 17 or peaking option and having then to go to 18 the marketplace to supplant lost energy 19 production from the unit. 20 Q. That's helpful. And I think you've grasped 21 some of my thought process, anyways. It 22 wasn't whether -- and again, I'm 23 paraphrasing you. You made the conclusion 24 that this station's in the black. And</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 132</p> <p>1 both with respect to operating reserves or 2 in the day-ahead market, would have a -- 3 could have a significant adverse impact on 4 the LMPs. So it would not be a major run-up 5 in LMPs, but a fractional uptick in LMPs 6 resulting from the loss of the station. And 7 when you multiply that fractional uptick in 8 LMPs times the entire load in the state, 9 it's an adverse economic outcome for all. 10 Q. Thank you. 11 CMSR. SCOTT: That's all I have. 12 CMSR. HARRINGTON: Thank you. 13 INTERROGATORIES BY MR. HARRINGTON: 14 Q. Again I'll ask questions of whoever is most 15 appropriate to answer those. 16 One question is, I guess, going back to 17 TransCanada No. 9, which is the chart that was 18 passed out, on Line 43 down there, I'm just 19 making sure I'm reading this correctly. It 20 talks about the average cost of fuel burned 21 per kilowatt hour net generation. And for No. 22 6 oil and No. 6 gas it's the same number. 23 Does that mean the cost is the same to run the 24 station on gas and oil?</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 133</p> <p>1 A. (By Mr. Smagula) Thank you for asking that 2 question. After reflecting on the prior 3 questions and the discussions, I looked at 4 the sheet further during the break, and I 5 realized there was discussion with 6 representatives from Levitan, Line 42, which 7 identifies the average cost of oil versus 8 gas on a cents per million BTU -- or 9 dollars-per-million-BTU basis. And if you 10 look, they're very similar. What that means 11 is that -- and I just didn't think of it 12 instantaneously at the time -- is that the 13 oil we have in the tanks at Newington 14 Station were bought years ago. It's oil 15 that is very low-priced, and that when we 16 bid -- when we believe the unit will run, we 17 obtain prices for tomorrow's natural gas, 18 and we bid the unit out on gas and oil. But 19 if the unit is unlikely to run, we don't bid 20 in a gas price; we just have an oil price. 21 And we mark the oil price up so that our 22 customers don't just get reimbursed for the 23 cost of the fuel, but in fact make a small 24 margin. And since our oil price on the tank</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 135</p> <p>1 WITNESS SMAGULA: Yes, that's 2 the average delivered price during the year. 3 We didn't buy any. We haven't bought oil for 4 many years. 5 BY CMSR. HARRINGTON: 6 Q. So, assuming continued operation, somewhere 7 down the road here, if gas prices stay where 8 they are, the No. 6 gas would come down and 9 the No. 6 oil would go up substantially. 10 A. (By Mr. Smagula) Well, the No. 6 oil would 11 be the same, based on what we have in the 12 tank, and the gas would come down. We would 13 burn a small quantity of oil periodically to 14 meet certain circumstances. But -- 15 Q. Okay. 16 A. (By Mr. Smagula) -- gas is our fuel at this 17 point, generally. 18 Q. Okay. That makes sense. 19 Based on the study itself, I'm just 20 trying to get some of the assumptions there. 21 Now, what was used for the capacity factors 22 and -- let me back up and start again. 23 You looked out over five years on this 24 study, the next five years of operation at</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 134</p> <p>1 is so low, the unit has been picked up to 2 operate with a little more than we would 3 normally expect. And that's what occurred 4 in 2011, is the unit ran on oil because of 5 its economic oil price it has on site. 6 Q. But presumably, eventually this cheap oil 7 goes away because it gets all burned. 8 A. (By Mr. Smagula) Yes, but we only burn very 9 modest amounts. But, yes, there's only a 10 finite quantity of that. 11 Q. And how much is there left at the rate 12 you're burning it now? Because I'm assuming 13 this would be a fairly drastic increase from 14 buying new oil. 15 A. (By Mr. Smagula) Yeah, I -- I'm not sure I 16 have that value with me. But we have a few 17 dozen days of full-load oil. So there's 18 quite a bit of BTUs in oil still on site to 19 cover us for any contingency. 20 CMSR. SCOTT: Sorry to go out of 21 order. So, on the same Form 1 here, on 40, 22 there's a zero price for No. 6. Is that 23 because, again, it's historically already 24 bought in the past? Is that what that means?</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 136</p> <p>1 Newington Station? 2 A. (By Mr. Carlton) The next 10 years. 2011 3 through 2020. 4 Q. And what was the assumed capacity factor 5 during that time? 6 A. (By Mr. Carlton) Well, we had no assumption, 7 We ran the model for economic dispatch, and 8 depending upon the size of the spark spread 9 and its duration from scenario to scenario 10 or year to year there was resulting in a 11 capacity factor. 12 Q. Using that analysis, then, what was the 13 resulting capacity factor for the plant? 14 A. (By Mr. Carlton) Well, it was typically in 15 the single -- high single digits. But, you 16 know, it varies a lot from scenario to 17 scenario. If you look at the study, 18 Page 49, Exhibit G.17, it provides some 19 example of performance indicators. So in 20 the top panel it gives what the overall 21 average of the 250 scenarios is. And for 22 2011, for example, it gives a capacity 23 factor of 8 percent; in 2012, 7 percent. 24 Q. Okay. And those resulted by your projection</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 137	[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 138
<p>1 of -- well, I mean, I'm assuming the</p> <p>2 modeling was based on the cost of natural</p> <p>3 gas at Newington and then what you expected</p> <p>4 to be the economic dispatch price for what</p> <p>5 would be the marginal LMP that gets</p> <p>6 dispatched? You got to say "Yes" or "No."</p> <p>7 You can't shake you head.</p> <p>8 A. (By Mr. Carlton) Yes.</p> <p>9 A. (By Mr. Levitan) It's the relationship</p> <p>10 between the LMP, which is reflective of all</p> <p>11 the resources throughout ISO-New England,</p> <p>12 not just Newington, and the marginal cost of</p> <p>13 producing energy at full-load or part-load</p> <p>14 heat rate based on the use of natural gas</p> <p>15 only or oil only or some blend of oil and</p> <p>16 natural gas at the plant, adjusted, of</p> <p>17 course, for non-fuel-variable O & M. That's</p> <p>18 the dispatch arithmetic that dictates the</p> <p>19 output of the plant.</p> <p>20 Q. And as far as gas prices, what was the range</p> <p>21 you assumed? I mean, again, I assume that</p> <p>22 you had many different runs. But what was</p> <p>23 the range on that?</p> <p>24 A. (By Mr. Carlton) I don't know if in the</p>	<p>1 the fuel price scenario, but not very much.</p> <p>2 So, as Mr. Levitan said, another secondary</p> <p>3 important driver is the size of the micro</p> <p>4 basis spread to get the gas to the power</p> <p>5 plant.</p> <p>6 Q. Okay. So, basically what you're saying,</p> <p>7 because the economic dispatch is basically</p> <p>8 based on the price of gas, and the price of</p> <p>9 gas is built into the price that Newington</p> <p>10 would bid in at, that they sort of moved</p> <p>11 together. So, barring something really</p> <p>12 wild, a fairly small movement or even fairly</p> <p>13 good-size movement in the price of gas won't</p> <p>14 really affect the capacity very much; the</p> <p>15 dispatching would be about the same.</p> <p>16 A. (By Mr. Carlton) That's a good assessment.</p> <p>17 A. (By Mr. Levitan) With one exception, and</p> <p>18 that is, occasionally New England's</p> <p>19 pipelines experience, on a coincident basis,</p> <p>20 deliverability constraints due to when cold</p> <p>21 snaps occur. And it has been experienced.</p> <p>22 And when cold snaps occur, gas in the</p> <p>23 day-ahead market and gas in the real-time</p> <p>24 market skyrocket and get blown out of</p>
[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 138	[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLEY] Page 139
<p>1 study -- I don't believe we presented a</p> <p>2 breakdown showing distribution of the</p> <p>3 prices. But we do have graphs of what the</p> <p>4 expected forward prices were. So, for Page</p> <p>5 40, it shows the monthly fuel prices.</p> <p>6 Again, given the volatilities that were</p> <p>7 assumed in the simulation analysis, there</p> <p>8 would be a sizable spread in prices. So it</p> <p>9 shows basically in 2011 that it was somewhat</p> <p>10 above \$5 in winter and below \$5 in the</p> <p>11 summer, looks like. And around that there</p> <p>12 may be a variation that would go down to the</p> <p>13 \$2 or \$3 range and up to \$10 or more. That</p> <p>14 variation may grow somewhat over time. So</p> <p>15 you have a growing -- what's called a</p> <p>16 "growing cone of uncertainty."</p> <p>17 But as I said a little bit earlier, the</p> <p>18 level of the gas prices isn't a prime driver</p> <p>19 of the plant's economics, because gas is on</p> <p>20 the margin throughout ISO-New England much</p> <p>21 of the time, and therefore the power prices</p> <p>22 tend to go up and down in tandem and the</p> <p>23 market heat rates are relatively stable.</p> <p>24 They'll vary a little bit, depending upon</p>	<p>1 anything recognizable the other 355 or 360</p> <p>2 days of the year. On those very days, the</p> <p>3 plant would be expected to burn residual</p> <p>4 fuel oil, much less costly than gas, as a</p> <p>5 raw material for power introduction. So</p> <p>6 with that exception in mind, your statement</p> <p>7 is correct.</p> <p>8 Q. And on the -- we've heard that they buy</p> <p>9 large quantities of oil well in advance,</p> <p>10 which turned out to be pretty economic this</p> <p>11 time. How is the gas purchased? Do you buy</p> <p>12 it in the spot market or --</p> <p>13 A. (By Mr. Smagula) We buy gas on a daily</p> <p>14 market and day-ahead market -- we buy gas on</p> <p>15 the day-ahead market.</p> <p>16 Q. And just trying to get back to some of the</p> <p>17 other things that got built into more or</p> <p>18 less assumptions. You stated -- and we</p> <p>19 don't have to go over it again for many</p> <p>20 reasons -- why you didn't contain Northern</p> <p>21 Pass as a scenario of what happens if</p> <p>22 Northern Pass gets built. And the same</p> <p>23 thing on what happens if there were new</p> <p>24 environmental regulations, such as a cooling</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 1</p> <p>1 tower. So if one of those was to come to</p> <p>2 pass, would that -- would your analysis be</p> <p>3 worth anything, or would it have to be</p> <p>4 redone, if either Northern Pass or whatever</p> <p>5 it was, like a \$120 million cooling tower</p> <p>6 was required?</p> <p>7 A. (By Mr. Levitan) It's our opinion that at</p> <p>8 such time that it's known with reasonable</p> <p>9 certainty that screens or a cooling tower is</p> <p>10 required would be exactly the right time to</p> <p>11 re-run the financial model to figure out</p> <p>12 whether that incremental capital expenditure</p> <p>13 is, counter-balanced by the value of the</p> <p>14 products. It's not so simple as just to</p> <p>15 infer from the existing work, because to the</p> <p>16 extent that Newington, in this environment,</p> <p>17 has a 316(b) compliance problem, then it's</p> <p>18 probable that many other resources in</p> <p>19 sensitive estuaries or rivers with some</p> <p>20 exposure would be likewise challenged to</p> <p>21 make that investment, particularly since the</p> <p>22 owners of those resources, for the most</p> <p>23 part, are not financially healthy generation</p> <p>24 firms. So you can't simply conclude that in</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 3</p> <p>1 re-calibrate.</p> <p>2 Q. Okay. Thank you.</p> <p>3 The question on maintenance, from what we</p> <p>4 heard earlier, the capacity of the plant has</p> <p>5 been going down substantially over the past</p> <p>6 few years; so that, rather than running for</p> <p>7 longer periods of time, it's now running</p> <p>8 shorter periods of times and probably maybe</p> <p>9 starting up and shutting down more often. How</p> <p>10 is this type of running it basically only as a</p> <p>11 peaker now -- what is the effect of that long</p> <p>12 term, do you expect, on your maintenance</p> <p>13 budget?</p> <p>14 A. (By Mr. Smagula) We don't think it will</p> <p>15 cause our maintenance budget to increase.</p> <p>16 We have been in this operating mode now and</p> <p>17 have been experiencing it for a number of</p> <p>18 years. And we've developed certain</p> <p>19 processes and procedures in order make sure</p> <p>20 we exercise equipment that would otherwise</p> <p>21 be idle. And we go through an occasional</p> <p>22 warm-up of the boilers, get the control</p> <p>23 systems operational, rotate some of our</p> <p>24 large pieces of equipment. So we've</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 2</p> <p>1 the current marketplace, that our applicable</p> <p>2 forecast of capacity and energy prices would</p> <p>3 be of equal relevance at such a point in</p> <p>4 time that Newington faces a 316(b) CapEx of</p> <p>5 magnitude that was discussed this morning.</p> <p>6 Q. Okay. You said -- if I get what you're</p> <p>7 saying, if and when that would happen, you</p> <p>8 would have to re-look at it. But it also</p> <p>9 could substantially change market conditions</p> <p>10 as well because of other plants having to</p> <p>11 get the same type of compliance, which would</p> <p>12 tend to drive up prices.</p> <p>13 A. (By Mr. Levitan) Yes, yes. And to have</p> <p>14 postulated the occurrence of heavy CapEx</p> <p>15 spent, for example, a 316(b) compliance in</p> <p>16 2016 or 2017 would have introduced financial</p> <p>17 skewing of the results, which, in our</p> <p>18 opinion, could conclude falsely that the</p> <p>19 right decision is to retire Newington well</p> <p>20 ahead of schedule. Why give up the free</p> <p>21 option that PSNH's customers currently enjoy</p> <p>22 based on a roll of the dice. It's better,</p> <p>23 we believe, to wait until we understand the</p> <p>24 applicability and timing and then</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 4</p> <p>1 developed practices at Newington Station in</p> <p>2 order to make it reliable and not affect its</p> <p>3 efficiency and so on. And we've learned</p> <p>4 from other sister units in New England as to</p> <p>5 what their techniques and practices are. So</p> <p>6 there are many units that can be identified</p> <p>7 in the 4- to 600-megawatt range that have a</p> <p>8 similar position in ISO-New England. One In</p> <p>9 Four(?), of which we are a part owner to, we</p> <p>10 get information on their approach. And we</p> <p>11 try to also learn what other similar units</p> <p>12 are doing. So we don't see that as creating</p> <p>13 any incremental cost. As a matter of fact,</p> <p>14 as I indicated earlier, our expense budget</p> <p>15 has dropped over the last few years by about</p> <p>16 a million dollars also.</p> <p>17 Q. I was more referring to the aging factor</p> <p>18 with -- you know, five hours of start-up is</p> <p>19 usually equivalent to, I don't know, using a</p> <p>20 number of 10, 20, 30 hours of operation when</p> <p>21 it comes towards preventative maintenance</p> <p>22 requiring tear-downs and just general aging</p> <p>23 of the equipment.</p> <p>24 A. (By Mr. Smagula) With the good condition of</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 15</p> <p>1 the unit and the investments we made over</p> <p>2 the last six to eight years -- and I won't</p> <p>3 go through the list of those -- the unit is</p> <p>4 in very good condition, and that the</p> <p>5 incremental cold starts, wear and tear is</p> <p>6 very moderate. It's very low. And we feel</p> <p>7 as though we monitor our equipment pretty</p> <p>8 aggressively now on our oil analysis and</p> <p>9 other issues, on temperatures on start-up,</p> <p>10 make sure they're in proper condition. So</p> <p>11 we haven't seen any degradation and don't</p> <p>12 expect to with the number of starts we</p> <p>13 envision.</p> <p>14 Q. And you mentioned earlier that there was a</p> <p>15 possibility of making a modification to one</p> <p>16 of the boilers?</p> <p>17 A. (By Mr. Smagula) One of the auxiliary</p> <p>18 boilers. We have two light oil-fired --</p> <p>19 No. 2-fired boilers which provide heat to</p> <p>20 the facility. And one of those units we're</p> <p>21 considering may require some maintenance</p> <p>22 over the next few years. We were looking</p> <p>23 into whether we'll do that maintenance, and</p> <p>24 if we do, how. So we're looking whenever</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 17</p> <p>1 project's cash flows and could place the</p> <p>2 resource in that one year "underwater," so</p> <p>3 to speak.</p> <p>4 But what is more important than any</p> <p>5 one-year snapshot of the cash flows that</p> <p>6 deteriorate for incumbent generators across</p> <p>7 the region is the staying power of those</p> <p>8 resources to stay in the resource mix. This</p> <p>9 gets complicated quickly. But the removal</p> <p>10 of the FCA floor -- and I recognize that</p> <p>11 FERC is acquiescent with respect to its</p> <p>12 extension one more year. But the removal of</p> <p>13 the FCA floor will definitely impair the</p> <p>14 financial prospects of a number of incumbent</p> <p>15 generation owners that burn only residual</p> <p>16 fuel oil and are facing CapEx, as well as</p> <p>17 units that are both dual-fuel-capable, but</p> <p>18 using old-style steam-turbine generators</p> <p>19 from the '50s, '60s and '70s.</p> <p>20 I'm sure, Commissioner, that you know</p> <p>21 from your active involvement with ISO and</p> <p>22 other stakeholder groups, that the ISO has</p> <p>23 expressed great concern about the loss of</p> <p>24 these resources. And one good reason for</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 16</p> <p>1 there's an opportunity such as that. We</p> <p>2 also look at what's the alternative we have</p> <p>3 to replace that piece of equipment. We do</p> <p>4 that with any pump or valve. We're looking</p> <p>5 at the possibility of replacing it with a</p> <p>6 boiler that would burn natural gas. And</p> <p>7 that's all.</p> <p>8 Q. Okay. So, presumably there would be savings</p> <p>9 there from not burning oil.</p> <p>10 A. (By Mr. Smagula) That's correct.</p> <p>11 Q. And there was a lot of discussion on the</p> <p>12 Forward Capacity Market, which I regret to</p> <p>13 say I actually understood. I spent too much</p> <p>14 time doing that.</p> <p>15 What would be the effect OF \$1 FCA</p> <p>16 clearing price, say in FCA 7 or 8, on</p> <p>17 Newington?</p> <p>18 A. (By Mr. Levitan) It would be bad.</p> <p>19 Q. How bad is my question? Would that put it,</p> <p>20 at least for that year, out of the black and</p> <p>21 into the red?</p> <p>22 A. (By Mr. Levitan) I hesitate to guess without</p> <p>23 taking a moment to properly consider. But</p> <p>24 it would be a material adverse change in the</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 18</p> <p>1 that concern is simply as a hedge against</p> <p>2 pipeline deliverability constraints which</p> <p>3 could bring the region to its knees during</p> <p>4 cold snaps. Unlike PJM or New York ISO,</p> <p>5 which has greatly benefited by major</p> <p>6 infrastructure spent in pipeline and</p> <p>7 gathering systems to accommodate shale gas</p> <p>8 production, here in New England, we don't</p> <p>9 have that luxury. We are looking at more or</p> <p>10 less the same pipeline configuration. And</p> <p>11 this is really important because almost all</p> <p>12 of the other plants that have been</p> <p>13 identified as candidates for attrition in</p> <p>14 the ISO studies, as well as many of the</p> <p>15 consultant studies referenced here today,</p> <p>16 and that we've used before and that we've</p> <p>17 been responsible for as well, these are</p> <p>18 resources that are located "behind the city</p> <p>19 gates." They're served by all these cities.</p> <p>20 There's very little likelihood during cold</p> <p>21 snaps, or even moderate winter conditions,</p> <p>22 that gas would be deliverable to these</p> <p>23 plants, which is exactly why they are more</p> <p>24 likely to be the first units to retire.</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 11</p> <p>1 Only Newington sits directly connected 2 to PNGTS. There aren't any other old-style 3 STGs, to the best of my knowledge, that are 4 directly connected to interstate pipelines. 5 That is a very important reliability 6 consideration that bodes well for continued 7 benefits to PSNH's customers, as well as 8 those outside the region -- outside the 9 state. 10 Q. And again on this, what did you look at then 11 for forward capacity prices? Was there a 12 range there as well? How did that model -- 13 A. (By Mr. Levitan) We calculated them, and 14 they are revealed in the study. And then 15 there are a number of data responses on 16 this. If you bear with me for a moment... 17 If you would please turn to the CUO study. 18 Q. This is the original, the first one? 19 A. (By Mr. Levitan) Actually, it wouldn't make 20 a different because it didn't change. But 21 if you'd be kind enough to turn, please, to 22 Page 37 of the revised study issued in April 23 of 2011. Here you will see the three 24 distinct cases that we were responsible for</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 11</p> <p>1 to the anticipation concern, the concern 2 that EDCs and states exercise monopsony 3 power to artificially depress capacity -- 4 Q. The other market effect. 5 A. (By Mr. Levitan) Yes. And we know from the 6 PJM that the implementation of the Minimum 7 Offer Price Rule now has direct relevance 8 here in New England. Whether it's an 9 Alternative Price Rule or a Minimum Offer 10 Price Rule, we're contemplating here 11 outcomes in 2018, '19 and '20, where there 12 are adjustments made to the FCA price to 13 account for what could potentially be the 14 addition of new conventional resources prior 15 to the need date. So that's reflected in 16 the high price. And it also accounts for 17 the lessening of imports from New York to 18 New England in response to capacity needs in 19 New York on Long Island, and to a lesser 20 extent, the rest of the state. We did not 21 contemplate the attrition or the loss point 22 2 or 3 in doing -- 23 Q. I'm sorry. You did not -- 24 A. (By Mr. Levitan) We did not --</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 11</p> <p>1 in formulating. And you'll see that 2015 2 has very little separation among the three 3 cases. But starting in 2016 -- 4 Q. Excuse me for one second. When did you 5 assume the floor would disappear? 6 A. (By Mr. Levitan) We assumed the floor would 7 disappear in delivery year 2016 in this 8 analysis. And I think that is one of the 9 key reasons why there's differentiation 10 between the high and low case in 2016. 11 The basic reasoning for the 12 differentiation in the mid case, the high 13 case and the low case is provided on Page 38 14 of the CUO. Simply put: The mid-range 15 forecast reflects an assumption of about 16 2100 megawatts of retired capacity through 17 2016 in response to more restrictive 18 environmental standards. And it also calls 19 for the phase-down of imports from NYISO 20 across the 345 lines. In the high case, 21 we've assumed that the prices escalate back 22 three years in the forecast period. Here, 23 the thought was that the region, in response 24 to FERC, would implement reforms in response</p>	<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 12</p> <p>1 Q. -- participate in -- 2 A. (By Mr. Levitan) Right, but we did consider 3 a reduction in exports from NYISO through a 4 variety -- through a number of import notes 5 in Connecticut. 6 In the low case, we have contemplated 7 some of the same assumptions that you would 8 normally expect to see that are the inferences 9 in the high case. In the low case, 200 10 megawatts of imports persist over the 11 forecast period for NYISO. We've postulated 12 the retirement of the West Springfield 13 facility being delayed one year. We 14 somewhat arbitrarily blended in an 15 additional 200 megs of DR in the capacity 16 mix, all of which helps to sustain a lower 17 trajectory going forward. 18 In handicapping these scenarios, we 19 acknowledge that there's a lot of our N 20 science in this. And we don't know with 21 great confidence what's going to happen, 22 which is exactly why the resource does 23 constitute a hedge against the uncertain 24 capacity price outcomes in the region. So</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 13	[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 15
<p>1 we have said that 50 percent of the sampled</p> <p>2 outcomes are either along the low-price</p> <p>3 trajectory or the high-price trajectory; so,</p> <p>4 50 percent, therefore, on the mid-case</p> <p>5 trajectory as well. And that then gives us</p> <p>6 the primary financial drivers on the</p> <p>7 non-energy part that drives these results.</p> <p>8 Q. Okay. Thank you. And one last question,</p> <p>9 which I think I know the answer to, about</p> <p>10 your discussion on Northern Pass. And you</p> <p>11 didn't consider that even being built as</p> <p>12 part of your study. I assume the same thing</p> <p>13 goes for the Northern Energy Link, the</p> <p>14 proposal by National Grid to come down from</p> <p>15 Canada -- Canadian Power -- Wind power from</p> <p>16 Maine in the HVDC line coming down to --</p> <p>17 A. (By Mr. Levitan) With all due respect, I</p> <p>18 don't want to leave the Commission with the</p> <p>19 view that we just tossed out NPT and didn't</p> <p>20 consider it being built. Again, this goes</p> <p>21 back to the reasons we did the study the way</p> <p>22 we did it in the first place. Had we, for</p> <p>23 the sake of discussion, incorporated a</p> <p>24 1200-megawatt HVDC interface injecting that</p>	<p>1 analysis more than anything else? You know,</p> <p>2 is it the price of gas or -- you know, are</p> <p>3 there certain things that your client, PSNH,</p> <p>4 you know, ultimately you'd want to tell</p> <p>5 them, Look, if this changes significantly,</p> <p>6 you need to pay attention to this?</p> <p>7 A. (By Mr. Levitan) Well, sure. One key driver</p> <p>8 would be the re-tooling of New England's</p> <p>9 FCM, which would result in significant</p> <p>10 changes against our baseline assumptions.</p> <p>11 Another would be the potential applicability</p> <p>12 of onerous environmental CapEx. You've</p> <p>13 heard Mr. Smagula address the firm's view on</p> <p>14 both the uncertainty of those regulations</p> <p>15 and potential timing for implementation.</p> <p>16 If, for whatever reason, those requirements</p> <p>17 visit PSNH with respect to each of the</p> <p>18 EPA-related requirements, that would be a</p> <p>19 time to re-run the model. And a third</p> <p>20 driver would be accelerated attrition</p> <p>21 effects across the resource mix, or a</p> <p>22 deceleration of the plant retirement</p> <p>23 relative to the timing and quantity that we</p> <p>24 forecast. So we'd want to look at that,</p>
[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 14	[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 16
<p>1 quantity of energy in the neighborhood, it</p> <p>2 could and perhaps would have had a clear</p> <p>3 economic depressant effect on Newington's</p> <p>4 future. Why skew the financial results for</p> <p>5 something that may or may not happen? If it</p> <p>6 does happen, it's highly likely to happen</p> <p>7 not before 2016, and perhaps later.</p> <p>8 Q. I understand. I'm not questioning your</p> <p>9 logic. I just want to say the same logic</p> <p>10 applies to other projects that are</p> <p>11 speculative at this time.</p> <p>12 A. (By Mr. Levitan) That's correct.</p> <p>13 Q. Okay. That's all the questions I had.</p> <p>14 A. (By Mr. Levitan) And as well as retirement.</p> <p>15 CMSR. HARRINGTON: Go ahead,</p> <p>16 Cmsr. Scott.</p> <p>17 CMSR. SCOTT: One, hopefully,</p> <p>18 final question.</p> <p>19 INTERROGATORIES BY MR. SCOTT:</p> <p>20 Q. Have you done any -- on your analysis</p> <p>21 itself, have you done any -- I'm sure you've</p> <p>22 done some kind of sensitivity analysis.</p> <p>23 What I'm interested in, are there -- can you</p> <p>24 identify critical components that drive the</p>	<p>1 since that affects the operating revenues</p> <p>2 driving capacity of sales, the key driver of</p> <p>3 the unit's outlook.</p> <p>4 You want to add to that list?</p> <p>5 Q. Before you go on, could you clarify the last</p> <p>6 statement? So, to paraphrase, if less</p> <p>7 plants retire than you predict, that could</p> <p>8 be a negative impact? Is that what you --</p> <p>9 A. (By Mr. Levitan) If, for the sake of</p> <p>10 argument, the floor is extended year over</p> <p>11 year, or there are other modifications to</p> <p>12 the demand curve slope or the supply curve,</p> <p>13 that makes it easier for old-style resources</p> <p>14 to hang in there. We would need to account</p> <p>15 for that and refresh the economic</p> <p>16 determination in an environment where some</p> <p>17 of the capacity price trajectory shown in</p> <p>18 the study may be materially lower.</p> <p>19 Q. Thank you for clarifying.</p> <p>20 A. (By Mr. Carlton) I don't think I have</p> <p>21 anything else to add to the matter.</p> <p>22 CMSR. SCOTT: Thank you.</p> <p>23 CMSR. HARRINGTON: Okay. So</p> <p>24 that's going to be it for this afternoon.</p>

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 157	[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 158
<p>1 We'll go off the record now, and we will</p> <p>2 adjourn and reopen tomorrow at 8:30 and make</p> <p>3 sure we can get through this first thing in</p> <p>4 the morning. I'd like to have an 8:30 actual</p> <p>5 start, not an 8:30 mulling. So, try for 8:30</p> <p>6 in the morning. The meeting is adjourned.</p> <p>7 (Whereupon the AFTERNOON SESSION of the</p> <p>8 hearing was adjourned at 4:34 p.m.)</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>
<p>[WITNESSES: LARGE LEVITAN CARLTON SMAGULA TILLERSON] Page 158</p> <p>1</p> <p>2</p> <p>3 C E R T I F I C A T E</p> <p>4</p> <p>5 I, Susan J. Robidas, a Licensed</p> <p>6 Shorthand Court Reporter and Notary Public</p> <p>7 of the State of New Hampshire, do hereby</p> <p>8 certify that the foregoing is a true and</p> <p>9 accurate transcript of my stenographic</p> <p>10 notes of these proceedings taken at the</p> <p>11 place and on the date hereinbefore set</p> <p>12 forth, to the best of my skill and ability</p> <p>13 under the conditions present at the time.</p> <p>14 I further certify that I am neither</p> <p>15 attorney or counsel for, nor related to or</p> <p>16 employed by any of the parties to the</p> <p>17 action; and further, that I am not a</p> <p>18 relative or employee of any attorney or</p> <p>19 counsel employed in this case, nor am I</p> <p>20 financially interested in this action.</p> <p>21</p> <p>22</p> <p>23 _____</p> <p>24 Susan J. Robidas, LCR/RPR Licensed Shorthand Court Reporter Registered Professional Reporter N.H. LCR No. 44 (RSA 310-A:173)</p>	

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

		14 (3) 56:2,11;58:8	17:22;22:23;24:10,11; 26:16;31:2,11;35:6; 38:13;39:4;40:3,13,16; 47:17;49:23;55:24; 58:24;61:10;67:24;84:5; 87:4;88:20;92:2,13,19, 20;97:1,9,20;117:15; 123:11;124:6	24,945 (2) 18:24;96:12
\$	0	15 (8) 9:2;67:17;69:8;83:6, 22;84:2;99:12,15	25:16;31:2,11;35:6; 38:13;39:4;40:3,13,16; 47:17;49:23;55:24; 58:24;61:10;67:24;84:5; 87:4;88:20;92:2,13,19, 20;97:1,9,20;117:15; 123:11;124:6	25 (1) 128:20
\$0.7 (1) 23:1	07 (1) 12:10	15.7 (1) 30:18	20:97:1,9,20;117:15; 123:11;124:6	25,061 (3) 68:5;96:6,18
\$1 (2) 15:19;146:15	09-180 (1) 68:6	16 (6) 9:2;19:14;20:12; 68:21,21;104:1	2011 (50) 8:14;9:14;10:11,20; 11:17;12:12;13:22;15:4, 6,8,12,18;21:13;22:5,23; 23:3,8,20;24:3,22;25:7, 13,22;26:14;28:7;30:6, 22;31:14,15;35:15; 47:17;66:2;72:2,23; 74:3,8;76:7,17;80:11; 104:2;121:19;122:2; 123:11;124:6;127:5; 134:4;136:2,22;138:9; 149:23	250 (2) 46:22;136:21
\$1,210,000 (1) 15:4	1	17 (1) 68:2	2011-12 (1) 124:5	2500 (1) 102:10
\$1,219,000 (1) 44:19	1 (14) 7:16;25:24;27:18,20, 22;29:4;33:3;44:7;56:2; 60:13;72:22;88:3;92:15; 134:21	18 (4) 96:8,18;97:14;98:1	2012 (8) 10:21;13:5;14:7; 16:15;17:5;80:1;89:10; 136:23	26 (4) 87:14;88:10;90:18; 94:2
\$10 (2) 41:8;138:13	1,034,154 (1) 75:19	1821 (1) 90:24	2013 (3) 10:22;17:6;49:20	27 (2) 34:13;35:3
\$120 (2) 64:19;141:5	1.1 (1) 13:20	18th (1) 35:15	2014 (3) 10:23;40:5;60:21	28 (1) 55:24
\$2 (1) 138:13	1:00 (1) 70:17	19 (6) 34:12;35:3;38:4,17; 69:8;151:11	2015 (9) 9:15;40:5;41:22; 43:22;44:15,18;49:20; 88:3;150:1	2800 (1) 89:6
\$20 (1) 97:13	10 (6) 81:19,22;94:1;110:12; 136:2;144:20	2	2016 (12) 43:22;44:23;60:22; 88:3,12;91:3;142:16; 150:3,7,10,17;154:7	28th (1) 58:1
\$20- (1) 98:8	10,647 (1) 75:16	2 (26) 6:15;7:5;8:13;22:11; 29:1,3,5;42:24;44:9; 49:15;64:14;73:23; 75:16;78:23,24;79:3,5, 17;86:11,23;87:7;92:16; 93:4;94:7;122:1;151:22	2017 (1) 142:16	29 (2) 34:13;35:3
\$200,000 (1) 13:24	10.7 (1) 69:9	2,045 (1) 90:23	2018 (4) 43:22;45:15,23; 151:11	29,886,000 (1) 44:16
\$28 (1) 44:20	10-261 (1) 5:3	2,417,000 (1) 45:24	2020 (1) 136:3	2-fired (1) 145:19
\$29 (1) 45:5	11 (10) 14:6;21:13;23:2; 25:13,20;30:9;90:6,9; 93:1;122:4	2.1 (3) 28:14;48:23;49:15	21 (4) 67:24;103:5,12,19	3
\$3 (1) 138:13	11:30 (4) 5:15,21;6:8,8	2.51 (1) 13:20	2100 (7) 60:8,20;61:22;87:10, 19;102:10;150:16	3 (13) 20:23;21:1;25:18; 26:11;28:23;29:16; 34:24;35:1;42:24;62:12; 95:11;110:14;151:22
\$30 (1) 98:9	11th (1) 5:22	20 (7) 8:13;83:22;84:2; 103:5,12;144:20;151:11	221 (1) 60:14	3.3 (1) 68:18
\$300,000 (1) 16:1	12 (6) 74:7;98:15;99:8,10; 104:7;111:8	200 (2) 152:9,15	23 (1) 92:9	3.4 (2) 74:9,17
\$4 (2) 22:5;26:14	12/16/11 (1) 20:19	2003 (2) 68:17;79:23	232 (2) 27:13;28:1	3:15 (1) 109:16
\$4.48 (1) 28:8	12/16/2011 (1) 36:3	2006 (3) 12:10,22;14:16	236,000 (2) 93:11,12	3:34 (1) 109:17
\$40 (1) 64:20	120 (2) 64:10;67:1	2007 (4) 12:24;13:21;19:1; 69:15	24,323,000 (1) 45:17	30 (1) 144:20
\$450 (1) 16:4	1200 (3) 33:5,13;47:12	2008 (3) 13:2,19;68:18		30,223,000 (1) 45:1
\$5 (2) 138:10,10	1200-megawatt (1) 153:24	2009 (12) 10:3,19;11:2,4,10,17; 13:8,20;15:3;18:24; 67:24;68:7		30,887,000 (2) 45:19,21
\$500,000 (1) 9:23	125 (1) 74:3	2010 (47) 9:5,13,19;10:12,19; 11:19;12:12,12,19;13:1, 21;14:6;15:5,8,12;		30th (1) 89:10
\$500,000 (5) 9:15;10:11;14:7;15:6, 13	125,215,000 (1) 74:5			31 (1) 88:3
\$700,000 (2) 26:17;31:1	125,215-megawatt (1) 74:4			3-1 (1) 65:13
\$750 (1) 16:4	12-hour (1) 82:5			316b (3) 141:17;142:4,15
\$750,000 (1) 16:5	12th (1) 122:2			31st (1) 68:6
\$8 (1) 41:8	13 (3) 56:2,11;104:10			33 (1) 103:19
[34 (2) 33:16;103:19
[sic] (2) 18:23;101:6				

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

345 (1) 150:20	36:9;49:10,12;95:12	81:19;82:2;132:17	147:11	advance (1) 140:9
345KV (1) 71:9	55:4;153:1,4	90 (2) 90:24;94:4	across (11) 31:12,15,17;86:16; 91:18;93:4;114:8;117:5; 147:6;150:20;155:21	advantage (1) 81:4
355 (1) 140:1	147:19	97.32 (1) 75:5	action (2) 105:19;117:10	adverse (3) 132:3,9;146:24
36 (1) 76:7	64:11,13	A	actions (3) 104:24;105:12,14	advising (1) 124:20
360 (1) 140:1	55.9 (1) 68:17	ability (2) 81:3;113:18	active (1) 147:21	advisory (1) 42:17
37 (1) 149:22	6	able (9) 48:8,13,17;78:3;81:9; 85:18;86:21;87:6; 121:10	actual (27) 13:11,18;15:17;16:3; 21:12;22:18;23:8;24:1, 3,22;25:7,8,12;27:20; 29:17,21;31:5,8,13,19, 20,22;46:15;53:24; 85:20;101:16;157:4	Advocate (1) 58:15
38 (5) 60:12,13;75:14;87:12; 150:13	6 (20) 8:2;35:21,24;55:9; 62:11;73:22,23;75:12; 79:3,17;87:24;89:16; 92:15;95:17;132:22,22; 134:22;135:8,9,10	above (2) 97:14;138:10	actually (25) 15:20,22;28:10,15; 29:3;37:10;42:10;45:18; 46:1;50:8;51:16;61:7; 63:15,22;64:11,22; 65:10;76:7;77:1;79:24; 90:21;92:5;120:14; 146:13;149:19	affect (3) 113:6;139:14;144:2
3rd (1) 66:2	600-megawatt (1) 144:7	absence (1) 130:16	add (6) 47:22;53:19;69:18; 78:19;156:4,21	affects (2) 123:16;156:1
4	60s (1) 147:19	Absolutely (3) 52:10;80:11,17	adders (2) 111:3,9	AFTERNOON (7) 5:1;18:19;70:17; 99:18,21;156:24;157:7
4 (16) 8:21,22;9:2;20:18; 26:1,5;35:16,17;48:22; 49:2,5,15;55:9;95:11,16; 98:14	7	abundance (2) 6:21;47:19	addition (5) 33:17;36:23;85:1; 111:20;151:14	again (23) 44:13;45:5;47:20; 48:21;49:21;52:4;54:18, 22;80:8;113:21;119:3; 121:9;123:6;125:16; 130:22;132:14;134:23; 135:22;137:21;138:6; 140:19;149:10;153:20
4- (1) 144:7	7 (19) 7:6;8:4,7,11;9:9; 10:15;26:17;43:6,8; 49:23;65:20;69:9;70:19; 108:1,11,16,21;136:23; 146:16	accelerated (2) 131:8;155:20	additionally (1) 41:17	against (6) 66:13;85:19;87:8; 148:1;152:23;155:10
4.0 (1) 27:4	700,000 (2) 27:3;31:19	accept (4) 50:2;69:11;91:4;97:12	address (2) 32:9;155:13	aggressively (2) 129:22;145:8
4.4 (1) 13:5	70s (1) 147:19	accepted (2) 19:1;92:13	addressed (1) 30:21	aging (2) 144:17,22
4.486 (2) 27:15;30:12	750,000 (1) 13:22	accepting (1) 14:3	adds (1) 94:3	ago (1) 133:14
4/26/11 (1) 28:13	796,000 (1) 45:4	access (1) 48:3	adjust (2) 78:10;137:16	agree (4) 10:2,13;56:10;103:2
4/9/12 (1) 73:10	8	accessibility (1) 53:8	adjustments (1) 151:12	agreed (3) 18:14;39:16;119:7
4/9/12 (1) 73:10	8 (9) 8:13;55:9;65:20,22; 67:18;70:20;108:12; 136:23;146:16	accommodate (1) 148:7	admissible (2) 21:23;36:19	agreement (1) 50:21
4:34 (1) 157:8	8:30 (4) 157:2,4,5,5	accomplish (1) 84:7	admitted (1) 76:12	agreements (2) 125:19,23
40 (4) 64:10;67:1;134:21; 138:5	80 (1) 71:14	account (14) 15:23;16:22;34:10; 46:14;48:18;58:22;61:4, 16;98:7;101:6;105:13; 110:19;151:13;156:14		ahead (4) 91:14;99:24;142:20; 154:15
400 (3) 71:13;107:6;131:24	83 (1) 75:13	accounted (1) 15:24		air (3) 16:24;59:11;77:6
400-megawatt (2) 71:13,18	83,126 (1) 75:13	accounting (4) 22:6,9,13;46:23		allow (2) 119:18;120:22
4-16 (1) 105:10	87 (1) 69:24	accounts (1) 151:16		allowed (1) 106:7
418,000 (1) 13:22	89 (1) 90:24	accuracy (1) 92:2		allowing (1) 33:6
42 (1) 133:6		accurate (6) 45:8;46:12,12,14; 48:10;79:4		almost (3) 90:24;122:12;148:11
43 (1) 132:18		achieve (2) 71:22;77:11		along (2) 125:7;153:2
44 (1) 116:12		acknowledge (1) 152:19		alternate (1) 77:21
49 (5) 28:1;44:3,4,8;136:18		acknowledged (1) 103:13		alternative (3) 20:8;146:2;151:9
5	9	acquainted (1) 92:21		
5 (8) 20:19;32:18,21;33:21;	9 (7) 28:17;67:18;73:7,12;	acquiescent (1)		

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

alternatives (1) 53:15	142:24;155:11	assists (1) 14:22	22:16;36:24;48:1; 52:15;24;54:9;71:6; 76:19;99:21	110:17;138:9;139:6,7; 143:10
Although (2) 63:19;102:6	142:1	associated (2) 27:8;102:23	Average (8) 79:21;80:21;104:14; 124:8;132:20;133:7; 135:2;136:21	basis (34) 6:21;14:11,16;15:1; 17:11;22:10;24:6;30:4, 7,10;36:15;40:14;53:9, 23;61:21;72:14;88:16; 95:5,23;111:3,14,17,19, 21;115:15;117:11,14,14; 123:17;126:17;129:9; 133:9;139:4,19
amend (1) 129:16	118:17	Associates (9) 32:3;34:9;38:2;39:5; 52:13;61:21;63:5,24; 85:9	avoid (3) 54:18,21;96:1	
America (2) 31:16;126:5	154:10	association (1) 118:23	aware (2) 59:24;119:23	
among (6) 25:2;51:18;94:1; 108:5;112:21;150:2	55:7	assume (4) 57:7;137:21;150:5; 153:12	awareness (1) 129:1	Bates (2) 27:14;28:1
amount (5) 33:6;48:7;78:21;87:1; 107:19	83:14;115:12	assumed (11) 29:22;60:8,20;69:3; 89:19;92:12;136:4; 137:21;138:7;150:6,21	away (1) 134:7	bear (1) 149:16
amounts (1) 134:9	21:16;30:5;92:18; 144:10	assuming (6) 56:9;61:22;109:5; 134:12;135:6;137:1	B	bearing (1) 117:17
analyses (5) 47:23;123:14;125:7, 10,18	appropriate (10) 57:11,16;62:19,20; 63:12;77:12;100:8,23; 129:12;132:15	assumption (5) 87:19;89:1;109:9; 136:6;150:15		beauty (1) 81:1
analysis (35) 17:18,24;18:5,7;20:7; 21:14;35:6;39:10;44:1; 45:8;46:9,18;47:8; 54:12;57:12;84:8,18; 86:17;88:15;95:2; 100:13,23;101:3,9,14; 103:7;126:12;136:12; 138:7;141:2;145:8; 150:8;154:20,22;155:1	appropriateness (1) 39:9	assumptions (12) 83:19;86:11;87:9; 88:6;100:15;102:4; 108:19;115:8;135:20; 140:18;152:7;155:10	back (19) 5:2,8,13,13,22;32:2; 48:20;51:21;79:23; 83:17;92:4;108:23; 113:21;117:21;132:16; 135:22;140:16;150:21; 153:21	become (2) 68:15;81:9
analyst (1) 101:24	approving (1) 67:24	assure (1) 77:18	backcast (4) 85:11,12,13,23	begin (4) 46:11;47:3;49:19; 55:18
analyze (1) 46:10	approximately (6) 15:18;23:1;60:20; 74:9;76:6;94:3	attachment (1) 100:5	Background (4) 49:2,4,15;124:14	beginning (1) 119:8
anchoring (1) 42:21	April (5) 5:13;30:22;89:10; 127:5;149:22	attempt (1) 38:3	back-of-the-envelope (1) 101:16	begins (2) 36:14;60:18
ancillary (2) 94:19;127:10	arbitrarily (1) 152:14	attempted (1) 46:9	backwards (1) 85:15	begun (1) 35:6
and/or (2) 20:10;125:1	areas (2) 83:20;86:14	attention (2) 9:8;155:6	bad (2) 146:18,19	behavior (1) 48:4
annual (5) 30:7,10;97:23,24; 129:9	argument (2) 54:22;156:10	attorney/client (1) 37:5	baked (1) 102:12	behind (2) 12:5;148:18
answered (2) 12:4;128:1	argumentative (1) 36:16	attractive (1) 130:7	ballpark (2) 45:6;72:4	belabor (2) 59:6;83:2
anticipated (3) 68:22;81:8;84:14	arithmetical (2) 79:8;137:18	attributable (1) 107:6	barrels (4) 73:23,23;75:12,16	believes (5) 36:10;45:7;66:10,20; 100:22
anticipates (1) 89:5	around (2) 106:20;138:11	attributed (2) 95:22;96:21	barring (1) 139:11	below (2) 75:3;138:10
anticipation (1) 151:1	articulated (3) 56:24;58:3;61:16	attrition (6) 88:21;89:1;102:9; 148:13;151:21;155:20	base (3) 44:18;45:22;46:3	Bench (1) 96:5
anyways (1) 130:21	artificially (1) 151:3	auction (19) 87:23;88:2,7,11;89:5, 17;94:6,12,16;97:23,24; 101:22;107:14,20,23; 108:20,23;109:4,7	based (30) 14:5;30:19;50:18; 53:3;54:12;55:21;59:16; 63:4;72:11;76:5,21; 84:15;90:19;92:13;95:7; 97:22;106:1,22;122:15, 20;123:21;129:1,11,14; 135:11,19;137:2,14; 139:8;142:22	beneficial (1) 17:13
appear (1) 89:21	aspects (2) 85:22;125:13	Auctions (6) 87:22;92:14;97:3; 98:3,11;107:15	baseline (1) 155:10	benefit (8) 27:24;81:1;95:22; 100:9;101:1,11;104:17; 116:17
appeared (1) 48:9	assess (2) 113:8,19	auxiliary (3) 16:14,18;145:17	baseload (1) 123:18	benefited (1) 148:5
appears (4) 22:2,7;44:19;63:4	assessment (4) 59:19;72:20;129:14; 139:16	availability (5) 59:15;72:9;76:21; 81:6;106:3	basic (2) 85:18;150:11	benefits (16) 21:12,21;25:12;27:8; 29:18,22;45:9;102:16, 22;103:16;104:18,23; 105:12,13;126:21;149:7
Appendix (1) 82:3	asset (6) 47:4;116:1,21;125:5; 127:11;128:2	available (9)	basically (12) 7:20;25:17;30:24; 34:2;56:21;61:18;67:1;	benevolent (1) 94:22
applicability (2)	assist (1) 64:18			best (5) 5:9;52:23;97:21; 127:1;149:3
	assistant (2) 68:11;96:22			better (2) 91:22;142:22

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

beyond (7) 11:17;14:24;41:1; 58:7;92:13;101:3;131:1	62:14;93:4,20;94:7	87:8	84:10,12;85:1,5,13; 86:19;96:7;111:6,16; 112:6,10,22;113:5,11, 14,21;114:4,20;119:20; 121:16;122:17;123:9; 136:2,6,14;137:8,24; 139:16;156:20	155:5,10
bid (6) 76:20;114:14;133:16, 18,19;139:10	Brief (1) 109:16	calibrating (1) 127:9		changing (2) 13:11;14:2
bids (3) 92:14;95:6,10	bring (2) 122:24;148:3	call (1) 40:1		characteristic (1) 131:14
big (2) 13:5;113:2	bringing (1) 105:20	called (1) 138:15		characteristics (1) 77:17
bill (2) 40:11;41:4	broad (1) 126:18	calling (1) 130:9	carried (1) 95:23	characterization (5) 33:12;62:21;70:5; 81:11;88:8
billing (1) 22:14	broke (1) 6:13	calls (1) 150:18	case (25) 6:7;7:3;51:4;52:8; 53:16;64:24;76:9,15; 85:11,12,13,23;87:16, 19;93:10,20;94:7; 150:10,12,13,13,20; 152:6,9,9	characterize (5) 58:6;59:3;62:6;67:11; 71:17
bit (10) 37:14;51:20;63:16; 84:6,13;103:16;126:12; 134:18;138:17,24	BTU (1) 133:8	came (1) 86:15	cases (3) 125:21;149:24;150:3	characterized (1) 57:4
black (9) 116:9;119:9;127:6,6, 16;128:3;130:24;131:4; 146:20	BTUs (2) 41:9;134:18	can (26) 6:8;9:12;12:19;13:3; 19:11;26:20;29:8;30:9; 36:11;64:17;71:19,22; 80:18,20;81:7;99:17,22; 105:18;113:24;119:14; 120:3;121:14;126:11; 144:6;154:23;157:3	cash (3) 127:14;147:1,5	charge (2) 34:2,3
blend (1) 137:15	budget (8) 9:11;10:7,20,21,22; 143:13,15;144:14	Canada (1) 153:15	catch (1) 5:16	Charles (4) 32:3;46:18;47:9;95:1
blended (1) 152:14	budgets (9) 10:8,10,23;12:3,9; 13:14;14:8;129:4,5	Canadian (1) 153:15	categories (1) 83:4	chart (3) 92:11;93:2;132:17
block (3) 88:6;130:3,11	building (1) 88:6	candidates (1) 148:13	cause (4) 37:19;105:21;131:9; 143:15	cheap (1) 134:6
Bloomberg (5) 53:3,9,17;54:12;111:7	built (7) 42:19;105:16;139:9; 140:17,22;153:11,20	capacity (89) 12:23;13:2,16;14:4, 12,17;26:23;33:6,13; 41:5;47:14;60:21;61:22; 67:13,18;68:16,23;69:2, 14,23;70:21;74:9,17; 80:18;81:2;87:10,17,22, 23;88:2;89:5,17;91:1,2, 16,20;92:12,14;93:18, 23;94:19;96:24;97:2,3; 98:9,10;100:16;102:9, 17;103:15;104:16; 105:3,5;106:12;107:3,9, 16;108:3,7,14;109:5; 123:6,14,20;125:6; 126:24;127:10,18; 128:17,18;131:10,15; 135:21;136:4,11,13,22; 139:14;142:2;143:4; 146:12;149:11;150:16; 151:3,18;152:15,24; 156:2,17	caution (2) 6:21;47:20	checked (1) 88:9
blown (1) 139:24	buried (1) 115:23		cents (1) 133:8	choice (2) 53:2;76:18
board (1) 31:12	burn (9) 62:13;80:15,17;81:12; 134:8;135:13;140:3; 146:6;147:15		certain (11) 11:11;40:21;57:15; 60:1;77:4;86:2;100:15; 125:5;135:14;143:18; 155:3	chose (1) 23:15
bodes (1) 149:6	burned (2) 132:20;134:7		Certainly (10) 23:13,18;24:12;36:7; 43:14;57:8,10;79:7; 91:21;131:16	chronological (1) 85:16
boiler (4) 16:15,21;17:8;146:6	burning (4) 33:7;80:10;134:12; 146:9		certainty (1) 141:9	circumstances (2) 85:3;135:14
boilers (6) 16:14,19;143:22; 145:16,18,19	burns (1) 16:21		cetera (1) 48:7	cite (1) 59:12
bolted (1) 40:15	business (3) 78:15;126:4;127:22		Chair (1) 110:3	cited (3) 55:24;58:13,14
booked (1) 15:22	but-for (1) 47:7		Chairman (3) 65:9;81:14;109:24	cities (1) 148:19
both (10) 33:24;34:6;41:5;46:2; 57:19;79:3;91:17;132:1; 147:17;155:14	buy (5) 135:3;140:8,11,13,14		challenged (2) 84:7;141:20	city (1) 148:18
bottom (5) 28:7;50:3;73:24; 74:16;75:3	buyers (1) 105:13		challenges (1) 84:11	clarification (3) 63:21;121:22;122:6
bought (3) 133:14;134:24;135:3	buying (4) 126:14;127:18,20; 134:14		chance (5) 40:3,16,17;88:13; 130:12	clarify (2) 37:22;156:5
box (2) 30:13;44:13			change (5) 16:20;67:10;142:9; 146:24;149:20	clarifying (1) 156:19
breach (1) 54:2			changed (4) 54:23;64:4;122:15; 123:7	clarity (2) 7:14;74:15
break (3) 99:3;120:21;133:4			changes (5) 56:5;108:12;128:14;	Clean (2) 59:11;75:1
breakdown (1) 138:2				clear (12) 25:6,8;40:9;41:13; 52:1;61:14;65:2;94:6, 11,16;95:17;154:2
Bridgeport (4)				cleared (1) 107:20
				clearing (1) 146:16

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

clearly (3) 39:13;50:21;116:9	comments (3) 68:11;90:12;115:13	complete (3) 21:20;24:20;130:16	conjunction (1) 88:24	47:3;151:21
CLERK (6) 26:1;32:16;36:1; 81:20;90:7;104:8	commercial (2) 40:7;126:2	completely (1) 119:15	connected (2) 149:1,4	contemplated (3) 41:8;130:15;152:6
CLF (1) 58:15	commercialized (1) 40:4	completion (1) 83:24	Connecticut (4) 60:19;88:20;118:16; 152:5	contemplating (1) 151:10
client (2) 115:3;155:3	Commission (25) 5:23;6:16;18:24;19:5; 22:20;5:24;10:17,21; 29:9;32:6;50:23,23; 54:10;57:11,21;58:6,23; 61:9;67:23;68:13;89:13; 125:18;129:20;153:18	complex (1) 101:2	Conservation (1) 110:4	context (7) 14:1;87:16;95:19; 103:15;116:7;119:13; 124:17
close (2) 71:19;126:9	commissioned (3) 45:12;48:21;50:7	compliance (10) 55:17;56:7;57:1; 58:12;59:9;61:19;63:9; 141:17;142:11,15	conservative (3) 15:14;95:5,22	contingency (1) 134:19
Club (2) 58:15;110:1	Commissioner (6) 110:7;112:16;119:6; 121:5;129:15;147:20	complicated (1) 147:9	conservatively (2) 95:23;96:4	continually (1) 123:12
CMSR (85) 5:2;6:2,5,19;7:8,19; 8:1,5;18:13;20:22;24:7; 25:3,10,16,23;26:2; 27:16,21;28:21;32:14, 17;34:14,18,23;35:23; 36:2;43:2,5;44:6,11; 49:6,11;51:5,19;61:24; 65:16,19;73:3,6;74:14, 22;75:2,10;81:18;89:23; 90:2,5;92:23;93:8,15,17; 94:5;98:19;99:1,7,14; 104:3,6,12;109:14,18, 21;110:1,4;112:18; 119:5,18;120:2,8,11; 121:1,5,7,8;122:5,7; 132:11,12;134:20; 135:5;154:15,16,17; 156:22,23	committees (1) 124:15	components (2) 91:16;154:24	consider (9) 56:4;91:9;102:4; 104:23;105:11;146:23; 152:2;153:11,20	continue (5) 91:17;99:13,15,24; 108:2
code (1) 83:19	Commissioners (5) 6:11;25:2;51:18; 120:1,21	computation (1) 79:5	considerable (1) 19:18	continued (14) 17:18;19:9,17;68:23; 100:18,21;101:20; 106:11,22;118:19; 126:16;127:14;135:6; 149:6
cognizant (1) 40:23	Commission's (2) 55:24;57:24	concept (1) 70:10	considerably (1) 116:3	continuing (2) 33:19;122:9
coincident (1) 139:19	commit (2) 41:4;58:10	concern (4) 147:23;148:1;151:1,1	consideration (5) 16:12;35:8;40:1;57:9; 149:6	contracts (3) 42:20;118:13;126:13
cold (13) 48:6;70:19;82:5,12, 19;87:5;124:3,9;139:20, 22;145:5;148:4,20	commitment (3) 5:17;40:9;41:2	concerned (2) 86:10;131:18	considered (4) 26:24;27:2;39:14; 87:20	contributes (2) 78:4,5
colder (1) 124:7	commitments (1) 41:3	conclude (3) 46:11;141:24;142:18	considering (2) 39:9;145:21	control (2) 77:15;143:22
cold-start (1) 70:11	committees (1) 91:24	concluded (3) 35:7;120:23;127:3	consistent (7) 15:7;42:8;53:16;57:5, 19;60:19;64:21	controversy (1) 54:19
colleague (1) 84:10	commonly (2) 14:22;54:9	conclusion (6) 33:21;39:16;45:11; 116:8;127:15;130:23	consistently (1) 127:6	conventional (4) 46:20;118:15;124:23; 151:14
column (5) 11:10,12;28:7;73:20, 21	community (1) 77:13	conclusions (3) 33:15,17;122:14	constant (4) 58:18;102:1;109:1; 131:12	conversion (2) 75:24;76:1
combination (1) 71:24	companies (2) 118:2;124:21	condition (4) 59:12;144:24;145:4, 10	constantly (2) 55:12;130:7	cooling (3) 140:24;141:5,9
comfortable (4) 53:19;54:13;59:19; 71:1	Company (16) 5:4,17;6:13;8:19; 10:17;15:2;16:3,9,13; 58:9,11;73:8;118:20; 120:13;128:20;129:21	conditions (7) 123:21;124:3,7,8,11; 142:9;148:21	constitute (1) 152:23	copied (2) 89:11,14
coming (3) 5:22;99:2;153:16	Company's (7) 8:12;10:3;14:11; 15:11,15;18:12;55:8	conduct (1) 120:22	constraints (3) 83:24;139:20;148:2	copies (2) 7:4;96:11
comment (7) 32:1;59:8;63:12,20; 92:22;109:9;128:7	comparable (4) 29:9,12,14;45:18	conducted (4) 19:20;24:9;30:7;118:1	construction (1) 49:19	copy (16) 19:11;20:14;21:5; 32:11,23;35:14;42:22; 49:24;67:22;72:21;75:1; 89:9;96:5;98:13;103:24; 110:13
commented (1) 98:1	compare (2) 21:14;85:19	cone (1) 138:16	constructive (2) 83:15;115:9	corporate (1) 114:23
	compared (1) 100:21	confer (1) 112:17	consultant (5) 24:19;88:19;128:22; 129:9;148:15	corrected (13) 28:10,15,17,21,24; 29:2,6;30:16,22;44:4,10; 64:13;69:9
	comparing (1) 62:17	Confidential (6) 6:15;7:1,4,15,21;37:5	consultants (1) 54:9	correction (1) 63:24
	comparison (1) 127:13	confidentiality (1) 6:17	consultation (2) 36:8;43:15	corrections (5) 83:1,4,9,13;85:8
	comparisons (1) 126:8	configuration (1) 148:10	consulting (1) 39:21	correctly (5) 68:19;73:19;75:12; 111:13;132:19
	compel (4) 23:14,17,20;32:6	confirm (3) 8:14;9:17;77:3	Consumer (1) 58:14	correlated (3)
	competitive (1) 105:22	confirmed (1) 6:14	contain (1) 140:20	
		Congestion (1) 32:18	contained (1) 64:12	
			contemplate (2)	

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

114:9,10;117:4 correspond (4) 24:23;27:11;29:20; 30:4 Cost (29) 5:4;19:1;20:6;39:12; 41:20;42:2;75:5,7;77:8; 79:15;100:9;101:1,17; 106:2;107:9;112:3,4; 113:24;116:23;126:9; 127:14;131:5;132:20; 23;133:7,23;137:2,12; 144:13 costly (1) 140:4 costs (12) 16:2,3;17:15;22:18; 43:21;47:1;48:6;86:13; 101:7;117:22;128:19; 129:10 Counsel (1) 8:23 counter-balanced (1) 141:13 counterpart (1) 127:22 counter-parties (1) 130:2 couple (4) 51:7;69:17;86:13; 107:13 course (7) 30:7;31:10;40:24; 86:20;91:12;95:16; 137:17 Court (1) 28:18 cover (3) 50:5;122:2;134:19 CRA (14) 43:21;44:1,17;45:2,7, 12,22;46:1;47:24;48:8, 20;49:8;92:4,17 creates (1) 69:21 creating (1) 144:12 credit-worthy (2) 127:22;130:1 critical (7) 116:20,23,24,24; 117:1,4;154:24 criticism (1) 115:10 criticisms (2) 83:15;115:13 criticized (3) 59:4;103:6;111:13 cross-examination (5) 5:8;18:17;54:16; 98:20;110:9 crushed (1) 47:11	CSO (1) 102:24 CUNNINGHAM (1) 110:2 CUO (37) 9:7,21;18:1;19:19; 24:8,20;29:2,5;34:4; 36:23;38:1;51:12,13,17; 52:6,53:2;59:3;60:14; 61:12;64:12;65:2,8; 82:2;87:12;100:24; 116:6,13;119:4,12,14, 16,22;124:16;125:15; 129:19;149:17;150:14 curious (2) 122:11;128:9 current (4) 72:19;123:21;129:10; 142:1 currently (1) 142:21 curtailed (1) 78:10 curve (5) 107:4;131:13,14; 156:12,12 customer (2) 18:8;126:10 customers (17) 16:23;17:13,15;66:12, 14;77:9;78:5;100:10; 101:1;102:23;104:18; 106:5;126:21;127:24; 133:22;142:21;149:7 customers' (3) 66:7,22;116:10 cyclone-fired (1) 62:13	8:13;20:19;35:15; 36:3;49:22;66:2;67:23; 68:6;73:9;89:10;104:1 dates (2) 79:23;93:5 day (7) 91:22;106:3,3;114:13, 13;129:22,23 day-ahead (6) 117:8;127:19;132:2; 139:23;140:14,15 days (11) 5:24;6:3;22:7;51:11; 80:22;81:5;104:13; 111:23;134:17;140:2,2 DE (2) 5:3;68:6 deal (1) 84:7 death (1) 85:5 debt (1) 124:20 deceleration (1) 155:22 December (11) 22:23;26:16;35:15; 49:23;55:24;58:1,24; 61:10;67:24;68:6;104:1 decided (2) 15:2;114:18 deciding (1) 61:3 decision (7) 17:11;18:4;34:8; 40:13;47:20;54:20; 142:19 decisions (1) 78:15 decline (1) 102:7 declined (1) 68:17 deep (1) 83:18 defects (5) 83:16;108:7;115:10, 15,20 defer (1) 84:10 deficiency (1) 72:8 definitely (1) 147:13 degradation (1) 145:11 delayed (1) 152:13 delist (4) 92:13;95:6,10,12 deliverability (2) 139:20;148:2 deliverable (1)	148:22 delivered (1) 135:2 delivery (3) 88:3;120:19;150:7 delta (1) 103:3 demand (2) 131:14;156:12 deny (1) 95:14 depending (2) 136:8;138:24 depress (1) 151:3 depressant (1) 154:3 derive (1) 31:24 derived (1) 27:8 describe (3) 85:4;126:7,11 described (12) 8:6;20:24;26:3;32:20; 35:20;43:7;65:21;73:11; 81:21;90:8;99:9;104:9 describes (2) 68:10;69:24 design (3) 40:14;70:5;106:23 Designed (3) 70:1,7;71:15 desired (1) 59:7 detail (1) 59:23 deteriorate (1) 147:6 determinant (1) 117:7 determination (2) 128:2;156:16 determine (3) 16:19;21:15;129:9 determined (3) 14:5;87:1;116:14 determining (1) 128:11 develop (3) 111:3;129:4,5 developed (4) 11:14;12:9;143:18; 144:1 development (2) 84:19,22 deviate (1) 105:21 dialogue (1) 19:18 dice (2) 47:16;142:22 dictate (1)	113:1 dictates (1) 137:18 differ (1) 100:17 difference (5) 26:21;44:20;45:6; 47:23;122:13 differences (4) 11:23;66:17;86:21; 92:22 different (23) 7:9;9:10;11:21;22:9; 46:5,6,8;47:6;48:11; 56:23;57:2;58:2;61:2, 20;81:11;83:4;92:18; 111:17;113:22;114:12, 13;137:22;149:20 differential (6) 101:20,24;102:1,18; 109:2;110:19 differentials (1) 102:8 differentiation (2) 150:9,12 difficult (1) 85:21 digits (3) 14:5;123:24;136:15 direct (2) 117:17;151:7 directed (1) 34:9 directing (1) 34:3 direction (1) 57:20 directional (1) 131:9 directive (1) 108:6 directly (6) 22:11;62:22;64:4; 119:11;149:1,4 director (3) 65:3;68:12;96:22 disappear (3) 103:4;150:5,7 disbenefit (1) 101:11 disbenefit' (1) 100:8 disbenefits (1) 100:21 disclose (2) 111:2;114:19 disclosed (1) 53:22 disclosure (1) 54:16 discourage (1) 94:20 discovered (1)
	D			
	daily (6) 22:10,13,14;48:18; 113:23;140:13 Data (47) 8:12;15:16;16:8;17:2; 20:15;29:11;30:3;35:15; 36:2;38:24;42:23;43:20; 48:2,4,7,10,11;52:13; 53:17,24;54:5,8,8,20; 65:4;77:11;88:18;98:14; 103:24;106:24;111:2,7, 8,10,15,16;113:8,12,12, 15,20,24;114:1,7,18; 121:20;149:15 databases (1) 128:24 date (13) 37:18;49:20,22;50:1; 55:18;56:7;57:1;61:19; 63:9;73:10;84:9;121:19; 151:15 dated (11)			

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

115:23 discovery (5) 10:16,18;21:22;36:18; 83:8 discussed (1) 142:5 discussing (3) 111:18;114:12;129:19 discussion (13) 9:3;25:2;38:8;39:15; 50:20;51:18;52:17; 57:13;112:21;133:5; 146:11;153:10,23 discussions (3) 57:9;84:15;133:3 dispatch (19) 22:2,7,12,20;78:17; 112:13;113:1,3,6;117:1, 18;123:23;124:9;130:9; 131:19;136:7;137:4,18; 139:7 dispatched (3) 48:14;77:2;137:6 dispatching (1) 139:15 dissipate (1) 102:18 dissipates (1) 102:14 distinct (2) 87:17;149:24 distinction (2) 31:6,7 distribute (1) 7:5 distributed (1) 8:11 distribution (4) 86:5;118:2,5;138:2 dive (1) 83:18 Division (2) 68:12;96:23 Docket (15) 5:3;19:19;20:16; 24:18;31:22;32:6;39:12; 42:4;50:12;51:22;56:1, 22;57:21;68:6;92:7 dockets (2) 57:6,12 document (32) 6:16;8:6,10;20:24; 21:7;26:3;27:17;32:20; 35:20;41:19;42:1,4;3:7; 49:7;65:21;72:22;73:7, 11,16;74:19;79:22;80:2; 81:21;89:10,11;90:8; 92:10;97:17;99:9;104:9; 120:18,20,24 documented (1) 127:8 documents (1) 120:15	dollar (4) 101:22;102:22; 108:24;109:5 dollars (2) 19:10;144:16 dollars-per-million-BTU (1) 133:9 done (21) 22:9;24:11;52:22; 57:17;75:8;84:24;88:19; 90:20,21;92:5,19,20; 109:19;121:17,18; 124:15,16;125:17; 154:20,21,22 double-check (1) 56:12 doubt (14) 36:11;37:12,19,20; 38:5,8,12,18,23;39:2,3,6, 8;94:20 doubts (1) 38:22 down (19) 33:4;40:15;45:20; 60:17;71:9;73:24;82:3; 116:2;122:24;132:18; 135:7,8,12;138:12,22; 143:5,9;153:14,16 downs (1) 48:18 downshift (1) 15:3 downshifted (1) 14:14 downward (1) 107:8 dozen (1) 134:17 Dr (6) 30:20;82:22;84:10; 96:7;102:5;152:15 Dracut (12) 110:20;111:5,19,22; 112:2,11,24;113:6,9,16; 116:20;117:11 drastic (1) 134:13 drive (3) 112:11;142:12;154:24 driven (2) 78:14;102:1 driver (5) 138:18;139:3;155:7, 20;156:2 drivers (2) 128:18;153:6 drives (3) 13:14;103:3;153:7 driving (2) 14:23;156:2 drop (1) 122:9 dropped (1)	144:15 dual (1) 81:2 dual-fuel-capable (1) 147:17 due (4) 60:23;102:7;139:20; 153:17 duration (1) 136:9 during (8) 10:4;11:3;80:11; 133:4;135:2;136:5; 148:3,20 E earlier (10) 53:10;77:1;111:1; 123:10;125:16;128:5; 138:17;143:4;144:14; 145:14 Early (2) 19:6;36:21 earned (1) 76:11 easier (1) 156:13 easily (1) 54:19 eastern (1) 71:9 easy (3) 40:1;111:9;115:24 economic (21) 16:20;17:18;19:7; 20:7,47;14:71;7:76;19; 78:15;104:17;116:10; 123:21;125:3;126:20; 132:9;134:5;136:7; 137:4;139:7;140:10; 154:3;156:15 economically (4) 17:12;78:3,8;105:20 economics (7) 16:22;72:11,12; 123:17;124:22;127:3; 138:19 EDCs (1) 151:2 effect (7) 33:19;96:2;108:13; 143:11;146:15;151:4; 154:3 effects (2) 102:9;155:21 efficiency (1) 144:3 effort (1) 108:8 efforts (1) 108:5 EIA (1)	54:8 eight (2) 82:13;145:2 eight-hour (1) 82:12 either (9) 17:5;46:4;78:14; 79:13;88:17;96:7; 120:20;141:4;153:2 Electric (4) 68:12;73:9;96:23; 112:11 electronic (1) 54:1 Eleven (1) 90:7 else (4) 91:8;94:10;155:1; 156:21 elsewhere (2) 42:18;126:5 embedded (1) 54:14 Emera (3) 111:15,16,23 emergency (1) 71:2 emerging (2) 128:13,14 emission (1) 20:9 employed (1) 30:5 encountered (1) 124:12 encourages (1) 91:21 end (3) 48:23;96:24;126:12 energy (45) 16:3;21:12,21;22:4, 24;25:12;26:13,18,24; 27:1;29:18,22;41:5,6; 44:15;45:9,24;47:11,12; 48:19;53:12;64:9;67:24; 80:19;94:18;95:21; 105:21;106:1,2;112:8; 116:24;117:5;118:13; 120:4;126:22;127:10; 129:7;130:4,11,18; 131:18;137:13;142:2; 153:13;154:1 engagements (1) 115:3 engineering (3) 125:2;126:4;127:2 England (24) 31:17;33:20;37:2; 72:10;76:23;87:21; 102:3;108:5,8;112:8; 114:8;115:2;117:6; 118:3;127:1,23;129:2; 137:11;138:20;144:4,8;	148:8;151:8,18 England's (2) 139:18;155:8 enhance (1) 20:10 enjoy (1) 142:21 enough (4) 61:15;96:10;106:6; 149:21 ensue (1) 94:24 ensure (1) 105:19 entails (1) 19:9 enter (4) 41:3;89:24;126:6; 130:2 entering (6) 65:17;99:4;102:5; 104:4;118:12;127:20 entire (3) 25:19;89:11;132:8 entirely (2) 102:2;119:23 entitled (4) 104:23;105:3,11,23 entity (2) 37:13;41:2 environment (3) 55:6;141:16;156:16 environmental (13) 40:8;41:12;55:7; 58:21;60:24;61:4,17; 63:7;77:10;78:14; 140:24;150:18;155:12 environmentally (1) 78:7 envision (1) 145:13 EPA-related (1) 155:18 equal (1) 142:3 equally (1) 36:24 equations (1) 115:22 equipment (10) 14:19;59:13,21;77:19; 129:6;143:20,24; 144:23;145:7;146:3 equivalent (1) 144:19 erroneous (1) 30:20 error (1) 110:19 errors (1) 86:9 ES (4) 21:15;22:22;31:2,22
--	--	--	---	--

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

escalate (1) 150:21	120:17	experts (1) 103:2	68:23;69:2,14,20,23; 80:18;135:21	54:24;82:23;110:7; 134:16;143:6;144:15; 145:22
especially (2) 86:3;127:4	107:16;108:3	explain (9) 12:6;13:10;26:20; 27:3;52:21;81:12;82:8; 84:1;85:11	failed (1) 98:6	fifty (1) 16:6
established (2) 38:24;55:17	40:13;79:5	excluded (3) 35:8;39:12,18	fair (5) 17:22;94:13;107:17; 115:18;124:13	figure (5) 31:20;44:18;75:3; 76:2;141:11
estimate (10) 5:10;26:10,16;31:2, 21;75:7;86:7;87:6; 100:14,20	excluding (1) 22:1	explanation (2) 11:22;91:6	fairly (4) 80:6;134:13;139:12, 12	figures (1) 9:14
estimated (2) 22:24;31:1	excuse (6) 13:21;16:5;34:14; 40:18;74:14;150:4	explode (1) 130:13	faith (2) 58:10;90:22	filed (10) 23:19;24:9,9;28:12; 41:19;42:3;50:14;55:1; 57:18;95:11
estimates (3) 22:3;26:8,12	exercise (2) 143:20;151:2	exportation (1) 40:11	falling (1) 122:17	filing (8) 22:22;23:16;84:9,22; 89:15,21;90:16;129:7
estimation (3) 31:8;88:21;111:14	exhausted (1) 125:2	exports (1) 152:3	false (1) 6:12	filings (3) 34:6;52:10;77:12
estuaries (1) 141:19	Exhibit (37) 6:15;7:5,6,16;8:2,4, 11;9:9;10:15;25:18; 26:11;27:18,22;28:5,22; 30:13;32:13;34:15,18, 21;43:1;44:7;60:13; 64:14;65:15;73:1;81:16; 89:24;92:7,24;98:17; 100:14;101:6;110:12; 116:12;122:4;136:18	expressed (1) 147:23	falsely (1) 142:18	fill (4) 71:4,4;72:10;107:5
et (1) 48:6	existing (3) 19:6;105:17;141:15	expressions (1) 40:23	familiar (21) 13:3;18:23;19:3,11; 27:12;32:3;43:17;55:10; 60:7,10;63:23;64:5; 65:24;66:3;67:12,21; 73:15;75:24;87:21;88:1; 108:15	final (8) 22:22;32:19;55:17,21; 56:6,24;63:9;154:18
evaluated (1) 123:9	expect (5) 102:24;134:3;143:12; 145:12;152:8	extended (2) 54:21;156:10	familiarity (3) 32:8;62:10;73:18	finalized (1) 17:1
evaluating (1) 118:14	expectation (2) 6:22;53:11	extension (2) 95:15;147:12	family (1) 85:6	financial (9) 41:3;127:12,21;130:6; 141:11;142:16;147:14; 153:6;154:4
even (13) 6:22;13:9;42:20;47:3; 48:10;101:15;122:24; 124:8;131:3,4;139:12; 148:21;153:11	expectations (2) 14:12;41:6	extent (6) 37:2;51:3;107:12; 119:2;141:16;151:20	far (10) 11:10;18:7;41:1; 46:13;73:20;107:15; 123:8;131:10,18;137:20	financially (1) 141:23
event (1) 46:6	expected (17) 12:20;14:14;28:8; 30:13;31:5;44:14;49:19; 64:9;66:6,21;88:24; 107:5;116:5;125:7; 137:3;138:4;140:3	extenuating (1) 85:2	fared (1) 88:10	financing (2) 40:9,10
events (1) 122:16	expended (1) 15:21	extreme (2) 124:1,3	fashion (1) 16:9	find (2) 46:13;120:3
eventually (1) 134:6	expenditure (3) 17:23;19:9;141:12	eye (1) 84:9	fast (1) 70:7	fine (3) 30:1;121:11;123:5
everybody (2) 5:12;121:13	expenditures (5) 12:11;13:19;14:15; 15:17;17:7	F	fault (1) 101:14	fingertips (1) 94:17
everyone (2) 5:14;59:6	expense (3) 22:6;53:13;144:14	faces (1) 142:4	FCA (16) 95:12,16,17;97:23; 101:21;106:21;108:11, 12,16,21;109:3;146:15, 16;147:10,13;151:12	finish (3) 5:10;6:3;40:19
everyone's (1) 9:8	expenses (1) 97:4	facilities (2) 33:10;128:21	FCM (2) 107:15;155:9	finite (1) 134:10
evidence (1) 99:5	expensive (2) 52:19;107:4	facility (8) 14:20;59:13;62:14; 69:22;101:17;117:12; 145:20;152:13	feed (1) 128:24	fireside (1) 106:13
evolving (2) 91:19;126:24	experience (6) 53:4;55:5;58:17; 114:7;129:1;139:19	facing (1) 147:16	feel (5) 53:19;59:18;65:6; 71:1;145:6	firing (1) 71:22
exact (3) 54:7;60:11;121:19	experienced (2) 124:6;139:21	fact (27) 6:13;8:14;9:3,17; 13:16;14:3;15:17;17:15, 19;39:10;46:13;47:10; 59:16,21;60:7;67:21; 71:7;78:23;80:22;81:4; 83:9;89:4;92:17;98:7; 103:20;133:23;144:13	feels (1) 121:10	firm (1) 39:21
exactly (9) 7:23;47:9;76:10; 119:22;125:17;131:10; 141:10;148:23;152:22	experiencing (1) 143:17	factor (17) 26:23;67:18;68:16; 71:11;74:9,17;75:24; 86:21;123:7,24;128:17, 18;136:4,11,13,23; 144:17	FERC (6) 89:15;90:16;91:17; 108:15;147:11;150:24	firms (3) 126:3,4;141:24
examination (1) 51:14	expertise (2) 42:17;122:11	factors (15) 12:23;13:2,16;14:4, 12,17;46:24;67:13;	FERC's (1) 108:6	firm's (2) 42:17;155:13
examine (1) 52:23			few (7)	first (24) 21:13;23:2;25:13,18, 20;30:8;41:16;48:23; 49:1;51:8;68:10;69:7; 82:4;83:7,8,15;85:12; 93:2;106:17;119:7; 148:24;149:18;153:22; 157:3
example (5) 11:10;64:7;136:19,22; 142:15				first-order (1)
exceed (1) 17:8				
exception (2) 139:17;140:6				
excerpt (1)				

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

118:17 five (10) 10:10;14:23;32:16; 33:3;50:10;13;92:5; 135:23,24;144:18 five-year (3) 9:10;14:21;128:12 fix (1) 115:24 fixed (2) 86:13;102:21 flaws (1) 30:21 fleet (2) 124:22;125:24 flexibility (1) 78:16 flight (1) 5:16 floor (6) 108:11;147:10,13; 150:5,6;156:10 flows (2) 147:1,5 flush (1) 84:10 focus (2) 51:14;66:23 focused (2) 65:7;126:15 followed (2) 107:2;123:22 following (3) 47:11;114:22;131:1 follows (1) 100:13 Footnote (5) 87:14;88:10;90:18; 91:2;94:2 forbearance (1) 105:7 forecast (14) 17:23;31:11;88:22; 89:2;101:12;109:1; 111:4;113:9;118:18; 142:2;150:15,22; 152:11;155:24 forecasting (1) 114:23 forecasts (2) 9:11;87:18 foreseeable (1) 56:5 forgive (1) 112:19 form (4) 53:23,23;72:22; 134:21 format (1) 54:1 formulated (2) 87:18;101:18 formulating (1)	150:1 forum (1) 50:24 forward (24) 14:16;38:7;85:18; 87:22;91:16,20;92:14; 95:24;96:24;97:3; 110:16,21;113:16; 117:19,23;118:1,22; 119:21;122:19;131:15; 138:4;146:12;149:11; 152:17 fossil (1) 33:7 found (3) 53:14;83:20;84:6 foundation (2) 65:11;110:5 foundational (1) 51:8 Four (4) 26:2;60:17;82:3;144:9 fractional (2) 132:5,7 frame (3) 40:5,18;121:15 frames (1) 42:5 framework (1) 84:16 Frankly (1) 54:14 free (1) 142:20 fresh (1) 115:21 Friday (2) 5:23;6:1 friendly (2) 78:7,8 friends (2) 21:5;53:6 from-scratch (1) 84:19 front (3) 34:21;56:9;88:7 fuel (29) 22:6,9,11,14;31:10,13; 69:20;75:5,7;76:19; 77:21;79:21;80:17;81:2; 86:11,11,24;87:6; 104:14;117:22;125:3; 128:15;132:20;133:23; 135:16;138:5;139:1; 140:4;147:16 fuels (1) 33:8 full (11) 26:10;68:10;71:19,20, 22,23,24;81:3,4;82:4; 120:20 full-load (2) 134:17;137:13	further (9) 13:9;18:12;24:5,5; 64:18;67:11;81:9;90:18; 133:4 future (16) 18:4;20:5;47:15;57:6, 12,12,23;58:12;59:15, 24;60:2;97:2;98:10; 108:13;122:10;154:4 G G12 (1) 116:12 G17 (5) 28:5;30:13;44:13; 69:10;136:18 galvanized (2) 115:20;116:1 gap (4) 71:4;72:10;97:4;107:5 gas (81) 16:16,21;22:13,17,18, 18;31:15;41:8;47:1,1; 62:14;71:19,20,21;72:1, 4,7,14,17,20;73:23; 75:20;76:8,14,17,20,21, 21,24;77:23;78:1,2,9,14; 80:8,23;81:5,7;110:16, 21;111:4,20,24;113:9; 114:1;116:20;118:1,22; 122:9,18,23;132:22,24; 133:8,17,18,20;135:7,8, 12,16;137:3,14,16,20; 138:18,19;139:4,8,9,13, 22,23;140:4,11,13,14; 146:6;148:7,22;155:2 gas/steam (1) 125:1 gas-fired (1) 59:17 gates (1) 148:19 gathering (1) 148:7 GE (1) 47:24 general (4) 17:21;19:4;70:4; 144:22 generally (6) 17:16;19:2;60:18; 64:6;103:11;135:17 generate (2) 79:1,15 generated (2) 33:7,9 Generating (2) 73:9;90:17 generation (9) 60:9;65:3;86:23; 124:21;125:9,23; 132:21;141:23;147:15	generators (5) 48:2;91:21;125:1; 147:6,18 generic (1) 88:16 generically (1) 62:17 geometry (1) 131:12 gets (7) 74:3;113:21;129:8; 134:7;137:5;140:22; 147:9 given (19) 10:8;16:12;17:7; 23:23;36:20;42:13; 54:17;56:20;58:17,23; 87:2;91:6;122:10,12; 126:21,22,23;131:13; 138:6 gives (3) 136:20,22;153:5 glad (1) 12:1 global (1) 124:20 go-ahead (1) 84:13 goal (1) 6:3 goes (7) 20:12;41:1;100:12; 101:3;134:7;153:13,20 going-forward (1) 124:21 good (11) 11:15;18:19;58:10; 63:18;67:10;85:22; 117:21;139:16;144:24; 145:4;147:24 good-size (1) 139:13 Granite (1) 109:22 granted (1) 7:1 graphic (1) 53:23 graphs (1) 138:3 grasped (1) 130:20 great (3) 84:7;147:23;152:21 greater (1) 42:18 greatly (2) 123:16;148:5 Grid (1) 153:14 grinding (1) 46:22 ground (1)	121:13 grouped (1) 83:3 groups (1) 147:22 grow (1) 138:14 growing (2) 138:15,16 guess (30) 27:14;28:16;29:19; 37:24;50:9,17;51:9; 52:1;57:7;58:4;59:3; 60:13;63:1,10;64:12; 67:4,9;72:16;73:10; 75:14;76:10;77:3;92:3; 93:3;99:12;106:5;123:3; 131:1;132:16;146:22 H Hachey (4) 101:18;102:19; 108:22;115:19 Hachey's (8) 83:14;90:20;98:2; 101:14;103:6;108:18; 115:7,13 half (6) 31:14;41:16;67:5,5; 116:15,17 half-million-dollar (1) 17:9 Hampshire (6) 5:4;73:8;107:11; 118:21;120:4;124:18 Hampshire's (1) 121:24 hand (2) 74:17;120:19 handed (1) 21:7 handicapping (1) 152:18 hand-numbered (1) 90:14 hang (2) 91:22;156:14 happen (5) 142:7;152:21;154:5,6, 6 happened (1) 37:16 happens (2) 140:21,23 happy (7) 12:6;20:3;30:2;36:13; 63:2,19;91:9 Harbor (7) 62:10,14;92:15;93:4, 21;94:7;95:11 hard (2) 50:17;101:13
---	---	--	--	---

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

HARRINGTON (77) 5:2;6:2,5,19;7:8,19; 8:1,5;18:13;20:22;24:7; 25:3,10,16,23;26:2; 27:16,21;28:21;32:14; 17:34;14,18,23;35:23; 36:2;43:2,5;44:6,11; 49:6,11;51:5,19;61:24; 65:16,19;73:3,6;74:14; 22:75;2,10;81:18;89:23; 90:2,5;92:23;93:8,15,17; 94:5;98:19;99:1,7,14; 104:3,6,12;109:14,18, 21;110:1,4;112:18; 119:5,18;120:2,8,11; 121:1,5;132:12,13; 135:5;154:15;156:23	15:24;81:5;136:15; 150:10,12,20;151:16; 152:9 higher (9) 11:18;31:12;48:15; 69:13;72:13;76:13;80:7; 24;124:11 highest (1) 53:1 highlighted (4) 89:20;90:14;93:9,21 highly (2) 114:9;154:6 high-price (1) 153:3 hire (2) 128:21,22 hired (1) 24:19 historic (3) 53:4;111:2;113:20 historical (2) 113:12;114:1 historically (2) 117:13;134:23 hold (2) 101:24;131:12 holding (1) 94:17 HOLLENBERG (1) 120:9 hope (1) 129:20 hopefully (2) 120:24;154:17 horizon (5) 14:21,21;41:16,21; 128:13 horizons (2) 128:8,11 hot (3) 48:6;82:18;87:5 hour (5) 47:13;75:7;117:8,8; 132:21 hourly (1) 22:10 hours (12) 70:24;74:4,4;79:1,6, 10,11,15;80:23;82:19; 144:18,20 house (1) 79:2 HQ (1) 40:9 HQ's (1) 41:2 Hub (11) 79:21;104:14;110:20; 111:19,19;112:2,11,24; 113:5;122:19,19 humidity (1) 124:2	hundred (2) 16:6;89:12 HVDC (3) 42:18;153:16,24 hydroelectric (1) 33:9 hypothetical (1) 106:24 I ICR (1) 107:20 idea (3) 72:2;85:18;99:2 ideal (1) 84:5 idealized (1) 101:19 identification (12) 8:8;21:2;26:6;32:22; 35:22;43:9;65:23;73:13; 81:23;90:10;99:11; 104:11 identified (7) 21:19;22:1;38:22; 62:8;91:1;144:6;148:13 identifies (2) 33:22;133:7 identify (1) 154:24 idle (1) 143:21 illustrate (1) 18:6 immediate (1) 105:18 impact (4) 40:7;113:2;132:3; 156:8 impacts (2) 32:4,18 impair (1) 147:13 implement (2) 55:6;150:24 implementation (3) 124:18;151:6;155:15 implication (1) 47:14 imply (1) 85:14 import (1) 152:4 important (7) 31:7,10;71:11;139:3; 147:4;148:11;149:5 importantly (2) 47:5;102:8 imported (1) 33:8 imports (5) 102:6,7;150:19;	151:17;152:10 impression (1) 129:21 improperly (2) 15:22;19:24 improve (2) 17:19;71:3 improved (1) 18:7 include (8) 20:5;39:5;41:1;47:8; 50:6;92:15;101:15; 118:10 included (5) 41:21;57:14;78:24; 86:12;91:2 includes (1) 22:11 including (3) 22:6;39:23;43:16 inclusion (2) 40:2;47:16 inconsistent (1) 82:6 incorporated (2) 125:12;153:23 increase (4) 123:1,22;134:13; 143:15 increasing (1) 13:15 increasingly (3) 60:24;63:7;68:15 incremental (4) 77:8;141:12;144:13; 145:5 incumbent (4) 91:21;106:18;147:6, 14 indeed (1) 18:22 independent (2) 24:19;39:20 indicate (1) 6:1 indicated (8) 16:4;18:6;33:23;35:5; 41:20;50:15;80:4; 144:14 indicates (3) 11:11,13;12:12 indicating (1) 14:10 indication (1) 117:21 indicators (1) 136:19 indices (1) 122:21 industry (2) 101:24;103:2 inevitably (2) 102:14;103:4	infer (1) 141:15 infers (1) 152:8 information (24) 6:24;12:5;21:23; 22:14,15,15;23:6;24:12, 13;36:16,18,23;37:3; 52:15,24;53:3,5,9,17,22; 69:19;97:11;123:13; 144:10 infrastructure (1) 148:6 initial (2) 84:16;127:4 initially (3) 6:14;41:7;84:14 injecting (1) 153:24 injection (1) 47:12 input (2) 63:11;65:4 inputs (2) 52:18,20 in-service (1) 49:20 insofar (1) 88:15 installed (2) 59:14,21 instance (2) 15:15;119:7 instantaneously (1) 133:12 instructed (1) 52:12 instructions (1) 22:20 Integrated (5) 5:4;17:24;19:2;20:6; 118:23 intend (1) 129:6 intent (1) 52:9 interest (1) 60:23 interested (2) 73:22;154:23 interests (2) 116:10;126:2 interface (1) 153:24 interject (1) 121:22 internal (2) 41:24;105:17 interpretation (1) 38:21 INTERROGATORIES (3) 121:8;132:13;154:19 interrupts (1)
--	---	---	---	--

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

28:18 interstate (1) 149:4 into (34) 13:4;16:22;34:10; 41:3;48:18;51:21;53:13; 56:15;57:8;58:22;59:15; 22:61:3;16:71:9;78:11; 79:14;83:3;18;98:7; 102:12;105:16;109:6; 112:3;7;118:12;122:10; 126:6;127:20;130:2; 139:9;140:17;145:23; 146:21 introduced (1) 142:16 introduction (1) 140:5 investment (9) 9:4;14;18;13:4;16:23; 17:20;19:10;20:8; 141:21 investments (4) 12:18;21;128:17; 145:1 investor (1) 126:1 investors (2) 124:20;125:8 invite (1) 63:13 invoice (2) 111:16;23 involved (1) 87:7 involvement (2) 65:7;147:21 IRP (24) 27:13;20;29:1,4;34:2; 50:11;16;22;51:3;12,21; 52:3;6;56:22;57:6;58:9; 60:19;61:11;63:6;64:11; 13:69;24;88:20;119:3 irrespective (2) 59:15;77:8 Island (1) 151:19 ISO (19) 40:7;8;41:10;70:24; 71:3;79:22;80:1;87:21; 89:5;16;90:16;91:24; 105:17;106:6;108:6; 147:21;22;148:4;14 isolate (1) 86:22 ISO-New (6) 37:2;76:23;112:8; 137:11;138:20;144:8 issue (3) 5:7;20;53:12 issued (1) 149:22 issues (3)	53:14;125:4;145:9 Items (1) 36:14 ix (1) 36:14 J job (1) 85:22 joint (1) 117:12 jointly (1) 55:4 juice (1) 127:19 July (1) 122:2 June (3) 35:6;66:2;88:3 justification (1) 18:2 justified (1) 17:14 K key (8) 31:16;46:24;114:7; 117:3;5;150:9;155:7; 156:2 kilowatt (5) 74:4;101:22;102:22; 108:24;132:21 Kilowatts (3) 93:14;16,18 kind (6) 54:18;21;96:10; 127:12;149:21;154:22 knees (1) 148:3 knew (2) 40:2;87:3 knowledge (4) 37:12;69:20;97:22; 149:3 Knowlton (20) 5:5;6;6:4;10;8:20; 23:12;24:4;8;37:21; 42:10;51:1;10;56:14; 61:7;64:22;68:3;8; 119:1;120:13;121:4 known (3) 85:20;92:1;141:8 knows (1) 131:11 L labeled (1) 93:3 labeling (1) 93:1	lack (5) 41:10;11;53:8;81:6; 113:7 lacked (1) 113:18 LAI (1) 100:22 LAI-18 (1) 101:6 LAI-8 (3) 100:5;14;101:10 language (1) 63:4 large (87) 12:11;13;14;17;13:1,4; 18:19;22;19:4;13;16; 20:2;12;21:4;7;10;18; 23:5;9;25:8;26:9;15;18; 22;27:5;28:5;12;29:8; 14;32:2;8;24;33:12,21; 23;34:5;11;35:3;4;12; 36:7;13;37:11;38:3;14; 19;39:7;41:17;42:2,22; 43:12;14;19;24;44:16; 19;22;45:1,4;7;13;17,20; 46:8;47:22;48:20;49:2; 18;21;24;50:5;13;51:10; 52:2;9;22;78:19;79:4; 80:20;96:9;12;15;17; 102:24;122:21;140:9; 143:24 largely (1) 113:23 larger (1) 122:21 Large's (1) 39:20 largest (1) 117:7 last (11) 48:24;49:15;76:11; 107:24;112:23;121:14; 16;144:15;145:2;153:8; 156:5 late (1) 84:6 later (10) 19:22;37:14;53:7; 63:16;84:14;92:6;99:17; 22;129:17;154:7 law (2) 110:5;119:16 lay (1) 65:11 lays (1) 56:21 lead (2) 21:22;36:18 leading (1) 116:7 leads (1) 47:18 learn (3)	76:6;89:3;144:11 learned (1) 144:3 Least (15) 5:4;19:1;20:6;39:11; 41:20;42:2;80:6;9;83:3; 91:3;7;114:9;11;117:15; 146:20 leave (3) 5:15;129:20;153:18 leaves (1) 5:20 left (5) 11:11;13;53:18;96:5; 134:11 Legislature (1) 95:14 legitimate (2) 40:6;83:6 lender (1) 126:1 lenders (1) 124:20 lengthy (2) 12:15;16 less (13) 13:7;27:7;46:13;67:5; 84:5;102:11;116:15;17; 131:5;140:4;18;148:10; 156:6 lessening (1) 151:17 lesser (2) 107:11;151:19 letter (8) 5:23;56:1,3,21;58:1; 24;61:10;122:2 level (3) 102:7;125:14;138:18 Levitan (138) 9:6;20;17:24;21:15; 24:24;27:10;29:12,20; 23;24;30:2;14;19;31:3; 24;34:8;9;38:1;39:5;15; 19;40:16;21;42:16; 43:16;44:2,24;45:16; 46:7;16;17;52:12,22; 53:6;20;54:5;60:4,5; 61:21;62:4;63:5;15,19; 24;66:5;15;19;21;69:3; 82:22;83:13;84:2,4,12; 85:8;87:15;88:1,5,14; 89:7;19;90:11;91:9,12; 15;92:20;94:10;15;96:7; 16;20;97:10;16,21;98:5; 12;100:3;12;101:9,18; 103:9;13,21;104:21; 105:6;15;106:9;15,17; 107:13;18,22;108:4,17; 22;110:11,15;18,23; 112:16,19;114:6;22; 115:6;12,18;116:4,19; 22;118:4,8;123:23;	124:17;125:12,21; 126:15;129:15,18; 131:7;133:6;137:9; 139:2;17;141:7;142:13; 146:18,22;149:13,19; 150:6;151:5,24;152:2; 153:17;154:12,14; 155:7;156:9 Levitan's (1) 100:6 license (1) 95:15 licensee (1) 53:20 light (2) 90:11;145:18 likelihood (3) 96:3;124:9;148:20 likely (10) 6:23;17:6,10;27:6; 94:23;95:9,24;108:11; 148:24;154:6 likewise (1) 141:20 limited (5) 5:18;48:7;59:18; 72:11;120:14 limp (1) 125:7 line (31) 9:4;12,19;10:3,14; 11:1,7,9,17,19;13:17; 35:9;40:10;44:14;45:20; 51:2;64:23;68:21;71:9; 74:7;75:14;83:22;84:2; 21;103:10,11;105:10; 119:9;132:18;133:6; 153:16 lines (11) 8:16;33:4;34:12;35:3; 37:4;55:9;60:17;67:18; 82:3;103:19;150:20 Link (1) 153:13 linkage (1) 62:21 list (4) 34:21;120:3;145:3; 156:4 listed (5) 36:5;43:12;66:1; 88:10;98:15 listen (1) 51:20 little (13) 37:14;51:20;61:1,20; 63:16;84:13;99:22; 126:12;134:2;138:17; 24;148:20;150:2 LMP (6) 32:18;79:21;104:14; 117:8;137:5,10 LMPs (5)
---	--	---	---	---

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

131:21;132:4,5,5,8 load (7) 71:19,20,22,23,24; 81:3;132:8 located (1) 148:18 logic (2) 154:9,9 long (7) 23:18;89:6;106:20; 125:5;131:16;143:11; 151:19 longer (7) 48:13,14;82:20,21; 97:19;98:20;143:7 long-term (5) 14:20;118:10,12; 126:13;128:8 look (39) 12:8;14:18,21,24; 16:18;21:10;23:3;44:2; 46:2;48:22;50:3;57:16; 17:59:1;60:12;62:5,8; 64:15;68:2;82:1;85:24; 92:4,9;96:8;98:23; 100:3;102:9;115:21; 128:13,14,15,16,19; 133:10;136:17;146:2; 149:10;155:5,24 looked (4) 87:13;108:23;133:3; 135:23 looking (16) 33:2,3;44:3;48:20; 55:8;67:17;69:10;75:14; 87:11;111:12;117:20; 129:22;145:22,24; 146:4;148:9 Looks (4) 34:23;74:2;75:19; 138:11 look-ups (1) 122:19 loose (1) 127:18 loss (6) 94:19;107:6;131:24; 132:6;147:23;151:21 lost (1) 130:18 lot (12) 52:17;72:13,17;95:18; 99:18;123:15;127:2; 129:11;131:16;136:16; 146:11;152:19 lots (1) 54:5 low (9) 113:24;123:20;124:8; 134:1;145:6;150:10,13; 152:6,9 lower (13) 14:12,13;26:23;27:1,	6:68;23;72:17;97:1; 106:12;122:23;123:11; 152:16;156:18 lower-cost (1) 78:6 lowest-cost (1) 80:17 low-price (1) 153:2 low-priced (1) 133:15 lunch (1) 6:13 luxury (1) 148:9 M MAC (1) 59:12 magnitude (5) 64:19;102:2,13,20; 142:5 main (1) 85:23 Maine (1) 153:16 mainly (2) 22:2,8 maintain (2) 20:10;129:6 maintenance (11) 12:13,14,20;13:1; 128:16;143:3,12,15; 144:21;145:21,23 major (6) 12:20;49:19;108:4; 114:24;132:4;148:5 makes (7) 78:6,7;101:23;111:24; 131:6;135:18;156:13 making (6) 48:1;79:9;94:18; 120:11;132:19;145:15 managing (1) 59:14 manipulate (1) 105:5 manipulation (2) 106:13,21 many (16) 58:17;79:1;85:21; 87:3,5,5;91:15;108:9,12; 124:23;135:4;137:22; 140:19;141:18;144:6; 148:14 maps (1) 47:24 margin (7) 22:4,24;26:13;27:1; 31:9;133:24;138:20 marginal (5) 106:1;112:4;116:23;	137:5,12 marginis (1) 27:7 margins (2) 43:21;47:11 mark (1) 133:21 marked (36) 8:7,18;9:4,12,19;10:3; 18;11:1,9,17,19;20:18; 21:1;26:4;32:12,21; 35:19,21,24;42:24;43:8; 56:1;65:14,22;73:1,12; 81:15,17,22;90:9;92:7; 98:17;99:10;104:10; 110:12;120:15 market (43) 27:5;31:9;33:20;41:6; 46:24;47:15;54:10; 66:13;72:20;80:19; 91:16,20;94:21;96:24; 97:9;105:4,5,17,18,21; 106:12,13;108:7;117:9; 9;123:1;126:14,19,19; 127:20;130:13;131:15; 132:2;138:23;139:23; 24;140:12,14,14,15; 142:9;146:12;151:4 marketplace (4) 41:5;129:2;130:18; 142:1 markets (5) 104:24;105:13;125:6; 126:22;127:1 marking (2) 43:3;73:4 Mass (1) 122:19 Massachusetts (1) 71:10 material (4) 6:18,23;140:5;146:24 materialized (1) 31:13 materially (1) 156:18 math (3) 46:19;90:19;127:2 matter (7) 46:12;88:15;119:16; 121:22;126:3;144:13; 156:21 maximize (1) 78:16 May (25) 8:13;18:5;24:5;39:19; 57:15;63:13;82:18; 85:14;88:3;91:3;92:3; 97:1,3;103:22;105:13; 112:17;117:21;121:21; 123:19;138:12,14; 145:21;154:5,5;156:18 maybe (10)	61:14;63:1;75:5; 80:11;82:8;90:11;91:7; 97:14;99:21;143:8 MCF (2) 75:19,20 mean (20) 7:15;23:23;37:23; 51:10;63:4;64:7;65:5; 69:7;70:22;73:19;74:8; 75:23;76:12;82:24; 94:12;97:19;103:18; 132:23;137:1,21 meaning (1) 35:7 means (3) 59:14;133:10;134:24 meant (5) 72:18;104:15;105:2; 106:23;130:14 measure (1) 62:19 measured (1) 39:24 meet (6) 20:9;60:2;78:17; 126:10;130:10;135:14 meeting (1) 157:6 megawatt (10) 75:7;79:1,6,10,10,15; 90:23;102:2,13,20 megawatts (19) 33:5,13;47:12;60:8, 10,21;61:22;62:7;71:14, 14;87:10,19;89:6; 102:10,11;107:6; 131:24;150:16;152:10 megs (1) 152:15 member (1) 37:1 members (2) 43:15;112:21 memorialize (1) 129:3 memory (1) 69:6 mention (1) 17:3 mentioned (3) 15:16;124:14;145:14 merit (2) 118:14;130:8 Merrimack (2) 19:17,20 met (1) 94:21 methodologies (1) 125:11 methodology (1) 115:11 metrics (1) 40:15	micro (3) 117:11,14;139:3 microphone (2) 18:20;56:16 mid (4) 87:16,18;114:11; 150:12 mid-2010 (1) 36:22 Mid-Atlantic (1) 115:2 mid-case (1) 153:4 Middletown (3) 62:12;93:10,13 midpoint (1) 114:16 mid-range (3) 130:10,16;150:14 might (5) 5:10;22:12;57:23; 114:14;126:8 mild (1) 124:5 million (30) 13:5,20,20;15:19; 16:5;22:5;23:1;26:14, 17;27:4,15;28:9,17; 30:12,18;41:9;44:20; 45:5;64:10,10,20,20; 67:1,1;75:13;97:13; 98:9;133:8;141:5; 144:16 mind (3) 31:6;80:8;140:6 minimum (6) 48:5,12,14;70:19; 151:6,9 minute (2) 61:8;98:23 minutes (2) 99:13,15 mischaracterization (1) 42:12 misnomer (2) 103:16,23 misplaced (1) 103:8 misstated (1) 53:18 mistaken (1) 129:21 mix (4) 102:5;147:8;152:16; 155:21 MMBTu (3) 72:14;75:24;76:2 mode (1) 143:16 model (23) 22:22;30:3,21;46:16, 20;48:1;84:19,21;85:16, 18,19;86:3,4;87:8;
--	---	--	--	---

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

110:17;112:12;115:21; 22:121:16;136:7; 141:11;149:12;155:19 modeling (8) 41:14;102:4;110:13; 115:7,8;121:12,14;137:2 models (1) 54:14 moderate (3) 14:20;145:6;148:21 moderated (1) 13:16 modest (1) 134:9 modification (1) 145:15 modifications (2) 77:16;156:11 modified (1) 19:22 modify (1) 16:20 MOFFETT (1) 109:23 moment (6) 70:14;76:4;112:17,20; 146:23;149:16 money (1) 15:21 monitor (2) 105:18;145:7 monitoring (3) 55:5,13;58:18 monopsony (1) 151:2 month (3) 101:23;102:22;108:24 month-by-month (2) 113:15,19 monthly (7) 22:10;79:21;80:21; 104:14;111:8;119:21; 138:5 months (9) 21:13;23:2;25:13,20; 30:9;50:11,13;92:5; 117:16 Montville (1) 62:11 more (33) 12:5;16:19;46:12; 55:4;56:15;71:5,6;78:3; 6,8;79:4;90:22;99:13; 101:2;107:4,13;108:11; 114:14;116:6;123:19; 124:2;131:4;134:2; 138:13;140:17;143:9; 144:17;147:4,12;148:9; 23;150:17;155:1 morning (8) 6:6;50:19;52:17;64:2; 65:1;142:5;157:4,6 most (13)	6:22;12:16;14:22; 47:5;76:19;102:8;103:2; 121:10;124:4;131:20; 24;132:14;141:22 mostly (1) 131:11 motion (3) 23:16,20;32:5 motivated (1) 83:17 move (2) 38:7;120:3 moved (3) 23:14;83:21;139:10 movement (2) 139:12,13 Moving (1) 16:11 much (20) 8:23;18:10;46:9; 48:13,14;54:6;57:13; 76:16;87:6;92:1;97:8; 98:20;124:1;131:19; 134:11;138:20;139:1, 14;140:4;146:13 Mullen (3) 68:11,14;96:22 mulling (1) 157:5 multiple (1) 115:3 multiply (1) 132:7 must (1) 55:20 myself (1) 76:10	73:24;81:3 necessarily (3) 15:10;22:17;94:12 necessary (1) 113:8 need (10) 60:2;75:8;77:17; 81:13;83:2;99:19; 131:23;151:15;155:6; 156:14 needed (5) 35:10;38:7;70:18; 71:21;84:18 needing (1) 99:3 needs (7) 5:14;14:19,19;55:16; 126:10;128:16;151:18 negative (1) 156:8 neighborhood (1) 154:1 Neither (1) 37:11 NEPOOL (1) 87:10 net (18) 21:12,21;25:12;28:6, 14,16;29:17,22;30:6; 31:9;64:8,9;100:7,15; 101:10;116:13;117:18; 132:21 neutral (1) 107:8 New (38) 5:4;20:9;31:17;33:19; 72:10;73:8;87:21;102:3, 6;107:11;108:5,8;114:8; 115:2,2;117:6;118:3,21; 120:4;121:24;123:13; 124:18;125:20;127:1, 23;129:2;134:14; 139:18;140:23;144:4; 148:4,8;151:8,14,17,18, 19;155:8 Newington (81) 9:5,7,11,19,21;10:5; 11:3;14:13;15:5,18; 16:14;21:13;22:19,21; 24:20;25:13;28:2,29:18; 36:22;43:20;46:15; 48:17;58:22;59:9;62:18, 22;66:7,11,16;67:14; 68:14;69:15;70:1,11,18; 71:8;72:3,9,23;73:22; 81:2;97:5,8,18;98:8,9; 100:10,16;101:8; 104:19;106:4,18;107:1; 111:21;112:5,14;113:2, 3;115:17;116:2,8; 117:10,13,19;127:14; 128:6;129:24;130:5,9, 16;133:13;136:1;137:3,	12;139:9;141:16;142:4, 19;144:1;146:17;149:1 Newington's (11) 17:18;22:4,24;26:12; 45:9;47:10,15;66:22; 73:20;117:22;154:3 next (17) 10:10;32:13;56:22; 57:2;60:22;65:15;73:1, 21;85:8;93:8;98:17; 107:23;109:21;127:16; 135:24;136:2;145:22 non-disclosure (3) 50:20;125:19,22 none (2) 65:19;90:5 non-energy (1) 153:7 non-fuel-variable (1) 137:17 non-winter (1) 117:16 nor (3) 37:11;47:2;88:14 normal (3) 114:23;124:2,7 normally (2) 134:3;152:8 North (2) 31:15;126:5 Northeast (5) 41:18;42:19;45:13; 48:21;50:8 Northern (15) 32:4,18;33:1,4,18; 36:11;37:4,13,17;42:6; 140:20,22;141:4;153:10, 13 Norwalk (1) 62:10 note (3) 31:10;95:2,8 noted (3) 42:16;68:14;95:5 notes (1) 152:4 noting (1) 91:13 Notwithstanding (1) 37:7 NPT (16) 35:8;39:23;40:13,18, 20,21;41:1,20;46:2,4; 47:7,8,21;95:2,22; 153:19 nuclear (1) 70:16 number (48) 11:24;13:8;14:8; 27:10,11,12,14;28:7; 29:10,12,14,20;30:12, 15,16,17,24;31:5,19,20, 22;32:1,34:15,19;44:18,	23;45:2,15,18,22;60:11; 64:17;67:5;68:4;69:6; 77:13;82:17;92:9; 105:15;128:15,23; 132:22;143:17;144:20; 145:12;147:14;149:15; 152:4 numbers (31) 11:13;12:6,8;14:23; 23:8,21,24;24:1,3,22,23, 24;25:7,9;28:20,22,24; 40:15;46:3,4,4;47:5; 54:4;64:3;67:9;69:13; 70:21,23,24;76:5;79:7 numerals (1) 49:5 numerous (1) 118:1 NYISO (3) 150:19;152:3,11
O				
				object (6) 23:13;36:15;42:11; 51:2;64:23;119:2 objected (2) 21:19;23:5 objection (5) 21:24;24:5;61:8;73:3; 99:4 objections (4) 43:3;65:17;90:3;104:4 objective (1) 39:21 obligated (1) 88:12 obligation (6) 54:3;77:10;93:23; 102:17;105:24;127:18 obligations (4) 78:18;91:3;98:10; 100:17 observe (1) 48:8 obtain (2) 113:24;133:17 Obviously (8) 29:21;37:14;43:18; 76:13;80:5;82:24;122:8; 126:8 OCA (2) 15:16;120:8 occasional (1) 143:21 occasionally (2) 77:1;139:18 occur (2) 139:21,22 occurred (2) 87:3;134:3 occurrence (1) 142:14

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

off (3) 109:15;126:14;157:1	46:7;58:14;93:9;94:2; 6	144:2	overall (4) 34:5;60:15;74:8; 136:20	112:2;119:17;121:23; 123:13;124:4;131:20; 141:23;144:9;153:7,12
offer (6) 22:4,16,17;26:13; 151:7,9	one-year (2) 122:12;147:5	Organization (2) 41:19;45:14	overdue (1) 23:18	partial (1) 7:1
offers (1) 22:21	ongoing (2) 14:15;101:7	original (14) 28:14,16;29:1,4,5; 30:15,17;38:20;44:7; 66:5,15,18,20;149:18	over-estimating (1) 96:1	participants (1) 54:11
Office (1) 120:4	online (2) 70:18;71:11	originally (3) 26:24;116:15,18	overhang (4) 102:3,14,21;103:3	participate (1) 152:1
officials (2) 40:20,22	only (14) 22:19;54:4;78:22; 81:13;83:10;86:16; 87:18;134:8,9;137:15, 15;143:10;147:15;149:1	others (1) 83:11	overview (1) 110:14	particular (15) 31:14,16;36:6;37:18; 41:10;60:23;61:4;73:16; 86:17;88:2,11;89:4,20; 90:15;92:10
offline (1) 70:16	open (1) 80:19	otherwise (2) 130:4;143:20	own (6) 5:9;39:17;83:10,14; 86:16;101:15	particularly (2) 130:11;141:21
Off-the-record (3) 25:2;51:18;112:21	operate (8) 27:7;77:10,21;78:13; 81:7;106:8;131:23; 134:2	ought (1) 57:22	owner (2) 125:23;144:9	parties (4) 57:15;113:7,18; 120:16
often (3) 12:17;122:22;143:9	operated (3) 26:23;72:3,5	ours (1) 126:3	owners (3) 125:9;141:22;147:15	part-load (1) 137:13
oil (62) 22:11;47:1;59:18; 71:15,21,23;72:4,6,13, 17;73:23;75:12,16;76:8, 12,16;77:2,7,11,24; 78:11,21,23,24;79:2,5, 23;80:4,10,16,24;81:7, 12;86:23;87:7;125:1; 132:22,24;133:7,13,14, 18,20,21,24;134:4,5,6, 14,17,18;135:3,9,10,13; 137:15,15;140:4,9; 145:8;146:9;147:16	operating (13) 22:3,8;48:3,4,16; 77:19;95:15;101:7,17; 106:11;132:1;143:16; 156:1	ourselves (1) 84:6	P	Pass (15) 32:4,18;33:1,5,18; 36:11;37:4,13,17;42:6; 140:21,22;141:2,4; 153:10
oil/gas (1) 71:23	operation (11) 17:19;19:9;46:15; 65:5;100:19,22;106:22; 126:16;135:6,24;144:20	out (29) 5:16;7:20;13:6,9,13; 14:3,23;16:2;24:17; 30:10;39:22;46:17; 56:21;84:11;98:6;106:3; 108:7;114:13;127:23; 129:23;132:18;133:18; 134:20;135:23;139:24; 140:10;141:11;146:20; 153:19	page (61) 9:8;19:14;20:12; 25:19;26:11;27:13;28:1, 1,6,10;33:3,16;34:12; 35:3;38:4,17;44:3,4,8; 48:22;49:2,5,15;50:4; 55:9;56:11;58:8;60:12, 13,14,16;64:11,13; 67:17;68:2,21;69:24; 70:7;79:7;82:2;83:5,22; 84:2;87:12;92:9;93:2,3, 9;95:3;96:8,18,19; 97:14;98:1;103:19; 110:14;116:12;136:18; 138:4;149:22;150:13	passage (1) 122:15
oil-fired (3) 62:11,11;145:18	operational (6) 41:15;42:7,15;77:16; 80:14;143:23	outage (2) 12:15,16	Pages (11) 9:2;27:13;29:2,6; 44:10;56:2;59:22;89:12; 90:15;103:5,12	passed (1) 132:18
older (3) 48:9,10;62:14	operations (7) 13:14,15;19:17;55:8; 69:22;118:20;127:14	outcome (7) 97:23;101:21;103:1; 105:22;106:22;109:3; 132:9	panel (10) 5:8,10,19;18:15;21:6; 94:11;112:21;119:3; 121:9;136:20	past (9) 57:17;70:13;73:18; 80:6;85:17;122:22; 123:6;134:24;143:5
old-style (4) 124:24;147:18;149:2; 156:13	opinion (5) 67:3;71:2;100:7; 141:7;142:18	outcomes (10) 66:11,17;108:9;123:8; 126:19,20;127:13; 151:11;152:24;153:2	panels (1) 119:9	PATCH (84) 18:16,18;20:17;21:3, 9;23:19;24:12,16;25:4,5, 14,21;26:7;27:17,19,24; 28:3,22,23;29:7,15; 32:11;34:17,20;35:1,2, 18;36:4;37:9,21,24;38:4, 11;43:10,11;44:6,9,12; 49:3,7,8,13,14;50:1; 51:5,6,15,23,24;56:19; 61:13;62:3;65:9;68:3,5, 9;72:24;73:14;74:15,20, 24;75:6,11;78:20;81:14, 24;89:23;90:1;92:23; 93:7,14,16,24;94:8,9; 98:16,19,22;99:12; 100:1,2;109:12,18,20
once (3) 47:20;83:21;115:23	opinions (1) 129:13	outline (1) 58:1	paper (1) 7:9	pay (2) 79:16;155:6
one (60) 5:6;7:17,20,21;10:19; 16:13,18,21;17:12; 24:17;26:9;29:10;31:3; 33:15,16;34:16;43:24; 45:7;50:17;56:23;58:2; 63:12;83:4;84:19;85:23; 86:1,21;87:9;93:3;96:7; 98:23;103:11;104:13; 107:24;111:18;112:20; 113:24;114:16;120:15, 16;121:17;123:19; 131:11;132:16;139:17; 141:1;144:8;145:15,17, 20;147:2,12,24;149:18; 150:4,8;152:13;153:8; 154:17;155:7	opportunities (1) 129:24	outlining (1) 9:9	paragraph (7) 26:10;48:24;49:1,16; 66:4;68:10;82:4	payback (2) 17:17;18:9
one- (1) 17:16	opportunity (4) 39:22;54:17;63:16; 146:1	outlook (1) 156:3	paraphrase (1) 156:6	payments (2) 97:1,9
onerous (1) 155:12	opposed (2) 76:17;123:18	out-of-pocket (1) 127:13	paraphrasing (1) 130:23	peaker (1) 143:11
ones (5)	option (12) 19:8;21:16;30:5; 46:21;84:17;125:13; 130:6,6,10,17;131:3; 142:21	output (2) 53:1;137:19	Pardon (1) 93:15	peaker-type (1) 123:18
	options (1) 129:22	outputs (1) 52:20	parity (1) 47:1	peaking (4) 70:2;118:15;130:11,
	order (31) 6:16;18:24,24;19:6, 12,15,24;20:4;32:7; 48:13;55:6,18;57:21; 64:19;67:23,23;68:2,4,5; 77:11,18;78:10,16; 85:16;96:6,11;108:15; 128:24;134:21;143:19;	outset (1) 114:21	part (22) 10:16;41:19;42:3; 44:4;59:10;64:14;86:3, 14,24;91:7;109:9;111:7;	
		outside (3) 107:12;149:8,8		
		over (24) 13:11,24;14:9,20; 18:8;54:18;60:21;67:1; 88:21;89:12;94:23; 101:11;109:1;127:7; 128:20;135:23;138:14; 140:19;143:5;144:15; 145:1,22;152:10;156:10		

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

17 People (1) 99:16 people's (1) 60:1 per (9) 9:23;41:8;47:12;75:6; 101:22;102:22;108:24; 132:21;133:8 percent (15) 68:17,18;69:8,9;74:9, 17:76;7:79:6;90:24; 94:1,4;136:23,23;153:1, 4 percentage (2) 72:3;111:9 perception (1) 60:1 PERESS (5) 110:6,10;119:5,6,24 perfectly (1) 53:15 perform (1) 95:20 performance (6) 20:11;31:8;48:4,17; 85:19;136:19 perhaps (7) 18:2;48:10;59:23; 62:20;103:17;154:2,7 period (14) 12:11;14:9;18:8; 24:13;42:14;60:21;71:4; 85:17,24;88:22;101:12; 109:2;150:22;152:11 periodically (2) 77:6;135:13 periods (3) 78:9;143:7,8 permanent (1) 95:10 permit (2) 77:6;129:16 permits (4) 35:10;38:9;40:9;41:12 permitting (1) 16:24 persist (1) 152:10 phase (2) 51:4;84:22 phase-down (1) 150:19 phrase (2) 60:22;66:23 physical (2) 66:13;130:6 physically (1) 7:9 picked (1) 134:1 piece (2) 7:9;146:3	pieces (2) 129:5;143:24 pinpoint (1) 46:19 pipeline (3) 148:2,6,10 pipelines (2) 139:19;149:4 PJM (2) 148:4;151:6 place (10) 17:5,8;54:7;56:7;64:6; 92:12;106:7;130:3; 147:1;153:22 placed (1) 19:24 Plan (14) 5:5;19:2;21:20;39:13; 41:20,21;42:2;55:6; 58:19;60:15;118:24; 119:13,15,17 planned (1) 99:22 planners (1) 19:8 planning (14) 14:18;36:21;39:12; 55:18,20;56:4;57:18; 58:11;118:6,10,11; 120:5;128:8,10 Plans (1) 20:6 plant (23) 14:13,15;20:10;47:19; 48:5;65:5;73:9;87:2; 88:21;123:7,18,19,23; 124:10;126:9;130:10; 136:13;137:16,19; 139:5;140:3;143:4; 155:22 plant-related (1) 97:4 plants (8) 19:7;33:7;88:22; 126:11;142:10;148:12, 23;156:7 plant's (1) 138:19 Platts (1) 54:7 please (11) 8:14;9:17;29:17;44:2; 49:17;53:19;90:1; 103:10;112:20;149:17, 21 pm (4) 70:20;109:16,17; 157:8 PNGTS (1) 149:2 point (20) 5:18;6:7;10:13;13:23; 23:22;24:17;37:20;39:1;	46:17;47:9,22;53:7; 64:8;80:5;83:20;103:9; 117:12;135:17;142:3; 151:21 pointed (1) 98:6 points (4) 31:17;114:8,11;117:6 poll (1) 103:2 portfolio (2) 104:23;105:12 portion (3) 39:11;51:21;63:5 portions (3) 89:15,17;90:15 portrayed (1) 13:18 position (2) 41:11;144:8 positioned (1) 60:3 positions (1) 40:8 positive (1) 59:20 possesses (1) 37:11 possibility (3) 6:24;145:15;146:5 possible (3) 22:12;53:2;126:19 possibly (2) 16:15;22:14 postulated (3) 131:7;142:14;152:11 postulating (1) 127:17 potential (7) 58:12;108:9;125:4; 131:2,21;155:11,15 potentially (2) 108:10;151:13 power (16) 19:7;27:6;33:7,8,14, 20;70:20;76:7;122:24; 138:21;139:4;140:5; 147:7;151:3;153:15,15 practical (1) 19:8 practiced (1) 125:14 practices (2) 144:1,5 preceding (2) 10:9;57:6 precipitate (1) 62:12 predict (1) 156:7 predicted (1) 66:18 predominantly (1)	33:9 prefer (2) 63:22;74:24 premature (2) 39:13;47:18 prematurely (1) 107:1 preparation (2) 52:3,10 prepared (10) 10:4;11:3;37:15,18; 38:1;50:9,11;58:9,20; 82:23 preparing (1) 50:16 present (4) 10:3;64:8;69:14;108:4 presented (8) 44:1;50:22;52:7,16; 100:14;101:10;121:23; 138:1 presently (1) 91:23 presents (1) 11:2 pressure (5) 102:15,16;107:8,9; 109:8 pressures (1) 84:20 Presumably (3) 95:20;134:6;146:8 pretty (5) 46:9;54:6;58:2; 140:10;145:7 preventative (1) 144:21 previously (4) 18:14;27:2;67:6; 114:17 price (57) 27:5;31:11;72:12,13, 16;76:12,14,21;79:21, 22;80:4,7;87:17;101:21; 102:8;103:16,22;104:14, 16;106:19,19;108:24; 109:3,4;111:22,23; 112:12;113:9,16,20; 114:1;116:20;118:1,22; 130:5;133:20,20,21,24; 134:5,22;135:2;137:4; 139:1,8,8,9,13;146:16; 151:7,9,10,12,16; 152:24;155:2;156:17 prices (50) 22:4,16,17;26:13; 27:1;31:13,15;66:13; 80:23;81:6;97:2;101:22; 102:16,21;105:21; 106:12;107:3,9;108:14; 109:8;110:20;111:4; 112:8;113:23;114:3; 116:24;117:5;119:21,	23;122:9,18,23,24; 123:20;130:13;131:10, 18;133:17;135:7; 137:20;138:3,4,5,8,18, 21;142:2,12;149:11; 150:21 price-suppression (3) 95:21;96:2;103:7 price-wise (1) 103:3 pricing (7) 31:17;108:20;110:17; 114:8;117:6,11;128:15 primary (1) 153:6 prime (1) 138:18 principle (1) 17:21 prior (3) 129:16;133:2;151:14 privilege (1) 37:6 pro (1) 109:3 probabilistic (2) 30:4;86:3 probable (2) 126:19;141:18 probably (6) 18:1;75:23;90:21; 101:2;123:4;143:8 problem (7) 52:11;76:23;83:20; 115:23;127:3;131:22; 141:17 problems (1) 72:7 procedural (1) 5:7 procedure (1) 114:23 procedures (1) 143:19 proceeded (1) 12:22 proceeding (2) 36:19;101:4 proceedings (1) 115:1 process (7) 14:18;56:4;57:18; 84:4;86:4;128:19; 130:21 processes (1) 143:19 produce (3) 22:8;52:24;106:1 produced (4) 74:2,18,20;76:8 producing (4) 70:20;79:10;106:2; 137:13
--	---	--	---	---

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

product (2) 53:1;127:10 production (3) 84:4;130:19;148:8 products (3) 127:21;130:3;141:14 professional (1) 5:17 profit (1) 94:18 profitability (1) 117:18 profitable (1) 131:4 profound (1) 108:13 programming (2) 83:18;84:8 progress (1) 120:12 project (11) 17:14;32:19;33:18; 34:10;36:21;38:7;40:4, 24:41;15:42;21;69:23 projected (9) 10:9,12;12:11,13; 14:6;60:2;116:16,18; 129:10 projection (17) 10:19;12:19;15:3,5, 12,13;17:9;18:3;69:21; 110:21;112:3,4,7; 113:16,20;118:22; 136:24 projections (13) 9:4,18;10:4,7;11:2,16, 18;13:12;14:2;79:24; 112:13;118:2;122:10 projects (3) 36:24;42:18;154:10 project's (1) 147:1 prominent (2) 125:8;126:4 pronounced (1) 33:19 proper (1) 145:10 properly (5) 65:6;66:6,21;77:20; 146:23 proposal (3) 84:15,16;153:14 proposed (1) 58:13 proposition (1) 119:16 prospects (1) 147:14 protect (2) 53:22;126:2 protected (1) 52:18	prove (1) 77:19 proven (1) 78:12 provide (18) 21:11;25:11;29:9,17; 33:2,5;52:19;53:14; 63:13;65:4;77:12;108:2; 111:8;113:10,11; 118:21;126:20;145:19 provided (23) 9:6,20;10:16;21:17; 22:19;23:4,6,6;25:1; 26:8;29:10;30:15,17; 46:7;49:24;54:1;63:10; 69:19;113:15;114:3; 119:20;121:20;150:13 provides (4) 66:12,17;71:8;136:18 providing (1) 66:14 provincial (1) 41:2 prudence (1) 58:10 PSNH (45) 8:21,22;9:2,6,20;20:5; 22:3;24:24;26:12;27:20, 21;28:23;29:3,4,5; 30:24;31:21;34:24;35:1, 14;36:10;37:11;39:22; 44:9;55:16;56:22;61:16; 64:14;65:3;66:4,10,20; 76:16;100:10;101:1; 106:11;110:12;111:24; 119:13,20;122:3; 126:10;131:5;155:3,17 PSNH's (9) 47:4;48:3;99:19; 102:23;106:5;126:21; 127:24;142:21;149:7 Public (14) 5:3;6:15,23;37:3; 50:23,24;53:9;54:16,20; 73:7;74:19;118:20; 120:12;121:24 publicly (5) 41:23;42:9;48:1;52:7, 15 PUC (1) 129:13 pump (1) 146:4 purchase (1) 80:19 purchased (2) 22:19;140:11 purchases (1) 111:24 purchasing (1) 124:22 purpose (3) 100:13,23;123:14	purposes (8) 31:21;87:2;118:6,9,9, 12,14;124:19 pushed (3) 13:4,9;14:3 put (6) 14:1;26:22;107:8; 114:11;146:19;150:14 putting (1) 34:2 <div style="text-align: center;">Q</div> qualified (1) 107:19 quality (2) 53:1;55:20 quantifies (1) 66:16 quantities (1) 140:9 quantity (5) 62:7;134:10;135:13; 154:1;155:23 Quebec (2) 33:10;40:10 queue (2) 40:8;41:10 quick (2) 70:2;98:23 quickly (3) 71:12;83:20;147:9 quick-start (1) 118:15 quite (3) 71:24;116:2;134:18 quote (2) 68:22;70:1 <div style="text-align: center;">R</div> RA (3) 102:16,21;109:8 radically (1) 41:7 raise (2) 5:7,19 raised (2) 83:7,11 raises (1) 80:9 ramp (1) 48:6 ran (3) 40:15;134:4;136:7 range (9) 66:11,16;70:14;86:6; 137:20,23;138:13; 144:7;149:12 rate (8) 21:15;22:22;26:19; 68:1;123:2;129:7; 134:11;137:14	rated (1) 109:3 ratepayer (2) 115:16;116:17 ratepayers (3) 79:16;107:10;131:5 rates (4) 14:13;46:24;48:6; 138:23 rather (4) 13:21;85:15;129:17; 143:6 ratings (1) 90:23 ratios (1) 47:1 raw (1) 140:5 reach (1) 45:11 reaching (1) 40:12 read (13) 19:14;21:16;26:15; 30:16;36:12;48:24; 49:16;60:4;66:9;68:18; 75:12;97:15;100:11 readily (2) 22:16;71:6 reading (3) 73:19;105:8;132:19 ready (2) 23:21;40:17 real (6) 21:15;30:5;46:21; 84:17;125:13;130:12 realized (5) 21:12;25:12;29:18; 31:9;133:5 really (10) 47:16;62:4;65:5; 78:24;80:2;85:10;92:22; 139:11,14;148:11 real-time (5) 22:1;117:9;127:19; 130:12;139:23 reason (3) 13:10;147:24;155:16 reasonable (6) 14:7;23:7,22;86:6; 129:11;141:8 reasonableness (2) 39:23;109:10 reasonably (5) 21:21;36:17;56:5; 67:9;85:22 reasoning (1) 150:11 reasons (14) 12:1;19:7;41:9;77:14; 78:13;80:15,16;81:11; 86:2;117:20;127:8; 140:20;150:9;153:21	rebooked (1) 15:23 rebuttal (7) 8:15;9:1;32:10;34:12; 83:22;100:6;103:5 recalculated (3) 115:16;116:11,13 re-calibrate (1) 143:1 recall (11) 15:15;16:10;19:5; 20:1,2;49:9;60:11; 77:22;92:8;98:3;121:19 recalled (1) 82:18 receive (1) 120:19 received (8) 35:9;38:6,10,13;97:8, 22;100:18;120:24 receives (1) 97:19 recent (4) 67:13,19;80:6;122:18 recently (1) 86:22 recess (2) 109:15,16 recognizable (1) 140:1 recognize (4) 40:6;80:22;87:17; 147:10 recognized (1) 19:23 recollection (1) 82:11 recommendation (1) 39:17 reconcile (1) 86:20 reconfiguration (8) 98:3,11;101:21; 107:14;108:20,23;109:4, 6 record (12) 5:3;22:6,13;23:11,22; 25:6,24;49:17;52:1; 104:4;109:15;157:1 red (1) 146:21 redacted (1) 110:13 redirect (8) 5:18;6:9;9:7;99:19; 120:12,14,21,22 redone (1) 141:4 redound (2) 104:18;107:10 reduce (1) 17:15 reduced (6)
---	--	---	--	--

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

12:23;13:2;14:9;64:9; 67:18;70:12 reduction (3) 66:24;67:2;152:3 refer (6) 37:22;39:2;69:5; 70:23;87:23;110:11 reference (3) 8:16;28:6;97:16 referenced (7) 31:18;59:2;62:6; 90:17;95:3;97:14; 148:15 references (1) 30:8 referencing (1) 64:11 referred (2) 67:16;68:22 referring (9) 27:17;28:1;37:8; 38:16;44:7;49:3;63:6; 78:22;144:17 refine (1) 22:13 refinement (1) 127:4 reflect (2) 22:18;59:23 reflected (2) 88:15;151:15 reflecting (1) 133:2 reflective (1) 137:10 reflects (2) 117:10;150:15 reforms (2) 91:23;150:24 refresh (2) 76:10;156:15 regard (15) 37:16;52:13;56:24; 57:22;58:22;59:8,10,20; 61:15;72:22;89:16; 92:24;107:14;108:18; 123:10 regarding (3) 36:23;100:5;101:5 regardless (2) 79:17;102:20 regards (1) 7:2 region (8) 48:2;91:18;108:14; 147:7;148:3;149:8; 150:23;152:24 regress (1) 51:21 regret (1) 146:12 regular (1) 49:5	regulation (3) 56:6;59:8;128:14 regulations (16) 55:7,13,21;57:1; 58:13,19,21;59:2,5,6,10; 61:5,17;63:9;140:24; 155:14 regulatory (9) 55:5;56:5;77:5,9,13; 78:17;80:15;115:1; 129:13 reimbursed (1) 133:22 reject (1) 40:2 rejected (2) 95:7,16 rejection (1) 103:7 relate (2) 89:18;90:16 related (3) 6:17;61:11;119:11 relates (3) 7:11;37:3;51:17 relation (1) 116:4 relationship (2) 122:23;137:9 relative (6) 67:7,8,8;124:2;130:8; 155:23 relatively (7) 66:19,23;67:2,6; 113:24;123:20;138:23 relevance (3) 24:6;142:3;151:7 relevant (5) 24:15;36:22;40:12; 89:14,17 reliability (3) 77:18;95:7;149:5 reliable (1) 144:2 relied (3) 24:24;52:14;88:18 re-look (1) 142:8 rely (1) 63:8 remainder (1) 21:5 remaining (1) 104:19 remains (1) 116:9 remarkably (1) 31:12 remarks (1) 63:13 remedies (1) 24:18 remind (2)	5:12;6:6 removal (3) 108:10;147:9,12 renewable (1) 118:13 reopen (1) 157:2 repeat (2) 63:3;112:22 replace (1) 146:3 replaced (1) 33:8 replacement (1) 17:4 replacing (2) 16:13;146:5 report (8) 32:12,19;33:13;49:21; 50:9;52:16;84:23;88:18 Reporter (2) 28:18;38:19 repowering (1) 125:4 represent (5) 31:7;47:5;89:13; 90:13,19 representation (1) 45:8 representatives (1) 133:6 represents (2) 66:6,21 Request (24) 8:12;15:16;17:2; 20:15;21:19;23:11,22; 25:4,6,24;26:5,5;29:11; 32:12;35:16;36:3,15; 38:24;42:23;81:16; 85:10;86:8,98:14;104:1 requested (5) 24:18;81:15;86:17; 95:13;121:18 requestor (1) 37:1 require (5) 20:5;77:5;101:2; 125:19;145:21 required (5) 53:21;125:22;126:1; 141:6,10 requirement (1) 116:14 requirements (6) 16:24;41:13;53:21; 77:5;155:16,18 requires (1) 12:15 requiring (1) 144:22 reread (1) 38:20 re-run (3)	121:23;141:11;155:19 reserves (3) 22:3,8;132:1 reserving (1) 5:24 residual (2) 140:3;147:15 resolve (1) 53:13 resolved (1) 95:8 Resource (19) 5:5;19:2;20:6;88:23; 94:16,22;102:5;106:5, 11,18;107:4;118:10,11, 23;125:6;147:2,8; 152:22;155:21 resources (16) 41:4;58:11;71:5; 95:24;107:19;109:6; 118:15;124:23;137:11; 141:18,22;147:8,24; 148:18;151:14;156:13 respect (11) 32:9;41:12;54:23; 95:1;116:10;122:17; 129:23;132:1;147:11; 153:17;155:17 respond (4) 38:3;63:2;80:12,13 responded (1) 58:4 responding (1) 77:20 response (50) 8:12;10:16,18;15:16; 16:8;20:14;21:17;23:7, 15,17,17;26:9;29:11; 35:15;36:6,12,13;38:15; 39:20;42:23;43:4,13,17; 53:19;65:13,18;66:1,9; 70:8;73:5;85:10;90:4; 98:13;99:6;100:11,12; 101:8;104:5,15;105:9; 106:24;108:6;111:8; 121:20,24;129:16; 150:17,23,24;151:18 responses (4) 20:19;50:18;88:18; 149:15 responsibilities (1) 34:6 responsibility (3) 39:17;50:16;52:2 responsible (2) 148:17;149:24 rest (1) 151:20 restrictive (1) 150:17 restructuring (1) 91:19 result (13)	12:18;31:4;66:20; 68:16;86:8;87:8;89:4; 97:3;98:8;107:3;108:10; 123:1;155:9 resulted (1) 136:24 resulting (6) 97:2;104:19;105:14; 132:6;136:10,13 results (11) 21:14;30:11;54:23; 83:17;85:20;89:16; 115:8;127:5;142:17; 153:7;154:4 resumed (1) 109:17 retire (8) 87:11;88:23,24;94:13; 95:24;142:19;148:24; 156:7 retired (3) 62:16;89:19;150:16 retirement (19) 19:6;20:7;47:18;60:8, 20;61:23;87:20;94:23; 100:8,9,20;101:1,11; 107:1;131:8,22;152:12; 154:14;155:22 retirements (5) 88:16;92:12;95:4,9; 126:23 retiring (1) 98:7 re-tooling (1) 155:8 revealed (2) 83:16;149:14 revenue (10) 28:6,14,16;30:6; 44:15;45:24;66:14; 94:20;98:9;116:14 revenues (9) 43:21;45:9;64:9;97:5, 18,22;100:16,18;156:1 reverse (1) 85:16 review (3) 57:10;59:4;115:7 reviewed (3) 59:5;60:5;129:8 reviewing (1) 130:8 revised (4) 66:15,18;69:10; 149:22 revisited (1) 91:17 revisiting (1) 18:3 RFO (1) 78:23 Ridge (1) 109:22
--	--	--	--	---

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

Right (37) 6:4;7:7,24;9:1;11:5; 12:16;7:25;21;28;11,20; 44:11;47:10;51:19;58:8; 72:15;73:20;74:3,10,11; 75:10,20;76:13;79:16; 18:86;19:88;8:93;7; 94:8;97:20;102:19; 103:20;110:22;114:16; 19;141:10;142:19;152:2	running (8) 13:7;47:6,24;79:12; 123:14;143:6,7,10 runs (2) 121:13;137:22 run-up (2) 107:2;132:4 rush (1) 5:11	7;132:11;134:20; 154:16,17,19;156:22 scramble (1) 109:6 screens (1) 141:9 second (7) 26:10,11;31:14;50:3; 105:7,10;150:4 secondary (1) 139:2 section (9) 20:12;28:8;33:21; 42:2;48:23;49:2,4,15; 100:4 sector (1) 54:21 seeing (3) 12:23;65:19;90:5 seeking (1) 24:13 seeks (1) 36:16 seem (4) 7:3;14:10;63:8;85:14 seemed (1) 41:13 seems (1) 67:4 self-described (1) 58:18 sellers (5) 104:22;105:3,11,19,23 selling (1) 125:23 sense (3) 101:23;131:6;135:18 sensitive (1) 141:19 sensitivity (1) 154:22 sentence (4) 49:1,16,18;60:18 separated (1) 119:15 separation (1) 150:2 September (4) 24:10;80:1;84:9;116:6 series (5) 9:13;10:10;12:8;93:5; 114:1 served (1) 148:19 Service (11) 5:3;26:18;68:1;73:8; 74:19;104:20;118:20; 120:12;121:24;128:23; 129:7 services (1) 127:11 serving (1) 127:23	SESSION (6) 5:1;83:8,16;115:14; 122:1;157:7 Set (6) 8:13;20:18;35:16; 42:24;85:8;98:14 sets (3) 54:8,20;114:7 setter (1) 106:20 Seven (8) 8:5;16:6;70:24;82:13, 14,15,16,19 seven- (1) 82:11 seven-hour (2) 70:14;82:7 shake (1) 137:7 shale (1) 148:7 share (1) 96:10 shed (1) 98:10 shedding (4) 100:16;102:17,23; 127:17 sheet (2) 75:17;133:4 shifted (4) 13:5,6,13;41:7 short (3) 18:9;53:18;109:15 shorter (3) 78:4;84:21;143:8 short-term (2) 118:11;128:8 show (10) 20:14;35:14;42:22; 48:12;72:21;79:20;89:9; 98:13;103:24;105:24 showing (2) 12:3;138:2 shown (2) 15:14;156:17 shows (7) 43:20;74:13;79:22; 100:20;101:10;138:5,9 shutting (1) 143:9 Sierra (2) 58:15;110:1 signed (1) 42:20 significant (14) 15:2;19:10;20:9; 26:21;33:6;47:13;87:1; 100:20;102:15;117:15, 16,17;132:3;155:9 significantly (11) 11:18;12:5;46:5,6; 70:12;76:13;80:7; 107:16;122:15;124:10; 155:5 similar (4) 125:10;133:10;144:8, 11 similarly (1) 14:8 simple (2) 100:19;141:14 simplifying (1) 109:8 simply (7) 26:22;84:20;101:10; 115:20;141:24;148:1; 150:14 simulated (1) 31:3 simulation (2) 46:20;138:7 single (5) 14:5;117:7;123:24; 136:15,15 single-point (1) 86:7 sister (1) 144:4 sit (1) 23:9 site (2) 134:5,18 sits (1) 149:1 situation (1) 24:2 six (11) 33:4;50:10,13;70:24; 82:13,15,16,19;92:5; 108:3;145:2 six- (2) 70:14;82:7 sizable (1) 138:8 size (2) 136:8;139:3 skew (1) 154:4 skewing (1) 142:17 skyrocket (1) 139:24 slash (1) 75:5 slate (1) 127:10 slight (1) 123:1 slope (3) 107:3;131:13;156:12 Smagula (113) 5:12,14;7:11;8:10; 9:22;10:1,2,6,13,24; 11:5,7,16,21,24;14:10, 17;15:7,10,20;16:7,8,10,
rightness (1) 41:11 rigid (2) 53:21;105:16 rigor (1) 125:14 risk (1) 127:23 risk-adjusted (2) 31:4;126:17 River (4) 32:3;46:18;47:10;95:2 rivers (1) 141:19 road (1) 135:7 role (1) 65:1 roll (2) 47:15;142:22 Roman (12) 21:10,18;25:11,18; 26:12;29:16;37:8,10; 38:15;49:5;100:4;101:5 room (3) 7:7;27:24;126:5 rotate (1) 143:23 rough (1) 100:19 roughly (1) 44:21 round (2) 69:7;83:7 row (1) 123:20 RT (2) 79:21;104:14 RTO-wide (1) 89:1 rule (6) 55:17;59:11,12;151:7, 9,10 rules (2) 59:16;106:6 ruling (1) 57:10 run (16) 47:21;48:5;71:19; 76:19;81:3;85:16,17; 90:12;121:14,16; 130:15;131:10,16; 132:23;133:16,19	S safeguards (1) 105:16 sake (2) 153:23;156:9 Salem (2) 92:15;95:11 sales (3) 94:18,19;156:2 same (27) 11:19;15:6;20:4; 30:24;34:16;54:7;55:23; 70:7,9;97:14;101:5; 107:7;116:7;123:3,5; 125:17;132:22,23; 134:21;135:11;139:15; 140:22;142:11;148:10; 152:7;153:12;154:9 sample (1) 126:18 sampled (1) 153:1 satisfied (1) 62:19 savings (1) 146:8 saying (12) 15:1;40:20,22;41:23; 42:9;93:22;103:8;105:2; 106:6,8;139:6;142:7 scenario (12) 100:19,22;101:19; 102:12;113:6;130:15; 136:9,16,17;139:1; 140:21 scenarios (7) 46:22;113:1,3;117:1; 128:15;136:21;152:18 schedule (2) 7:2;142:20 scheduled (1) 107:24 scheme (1) 128:10 Schiller's (1) 73:21 science (1) 152:20 scope (1) 101:3 SCOTT (12) 7:14;121:6,7,8;122:5,		

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

11,17;17:4,10;18:4,10, 23:55:1,11,15,19,22; 56:8,13,14,17;57:3;58:4, 16;59:1;60:5,16;61:6, 14;62:2,4,5,24;63:1,10, 18,23;64:3,16,24;65:14, 24;66:3,10;67:4,12,15, 20;68:20;69:1,4,12,16, 18;70:4,9,23;71:16,18; 72:5,16,19;73:15,17; 74:1,6;75:15,17,21;76:3, 9,18;79:14,19;80:13; 81:8;82:1,10,15;87:13; 128:4,12;129:4;133:1; 134:8,15;135:1,10,16; 140:13;143:14;144:24; 145:17;146:10;155:13	111:10 sourced (1) 130:4 sources (2) 52:24;118:13 sparingly (1) 72:6 spark (4) 48:16,19;122:20; 136:8 speak (4) 7:5;56:15;78:20;147:3 speaking (1) 38:1 specific (5) 7:2;8:16;53:16;81:10; 108:16 specifically (6) 62:9,18;63:8;87:23; 95:10;110:14 specification (1) 30:20 specifics (1) 64:5 specified (1) 84:17 spectrum (2) 126:18;127:12 speculative (1) 154:11 SPEIDEL (14) 6:11,20;7:10,17,23; 8:3,9,22,24;18:11;27:23; 28:4;49:10;121:21 spend (1) 59:22 spent (4) 13:23;142:15;146:13; 148:6 spot (3) 113:23;114:2;140:12 spread (12) 48:16,19;111:3,17,19, 22;112:2,24;122:20; 136:8;138:8;139:4 spreads (3) 53:24;111:14;114:15 Springfield (1) 152:12 stable (1) 138:23 Staff (17) 6:15;7:4,6,15;8:4,7,11, 12;9:9;10:15;18:11; 54:10;85:10;86:8,16; 120:17;121:17 Staff's (1) 111:13 stage (1) 36:21 stakeholder (2) 91:24;147:22 stakeholders (2)	91:18;108:5 stand (4) 5:11;33:24;51:11; 64:24 standard (10) 56:21,23;57:2,3,22,24; 61:2,9,15,18 standards (4) 20:10;61:1;63:7; 150:18 standpoint (1) 131:9 start (18) 6:12;18:20;48:6; 70:19;77:24;78:2,3,4; 82:12,18,20;84:6;86:10, 24;99:16;121:2;135:22; 157:5 started (1) 12:23 starting (5) 10:7;12:9;14:16; 143:9;150:3 starts (5) 87:3,5;93:11;145:5,12 start-up (10) 70:2,8;77:23;78:6,9, 11;82:5,8;144:18;145:9 state (11) 24:5;36:9;61:8;86:1; 95:21;107:11,12;115:1; 132:8;149:9;151:20 stated (11) 8:15;25:11,17;35:12; 61:9;84:12;86:22;88:17; 96:4;116:5;140:18 statement (4) 38:9;62:20;140:6; 156:6 statements (1) 96:21 states (2) 47:6;151:2 stating (1) 95:4 station (39) 9:5,11,19;10:5;11:3; 15:22;16:2,14;19:20; 43:20;46:16;58:23;60:3; 62:18;67:14;68:14;70:1; 79:12;81:1;82:5;86:12; 97:5;98:8;106:4,18; 107:2;111:21;116:9; 117:13,19;128:6; 129:24;131:6,8;132:6, 24;133:14;136:1;144:1 station's (2) 130:24;131:3 Statistics (1) 73:9 status (4) 36:20,24;55:13;59:9 stay (5)	99:17,22;102:21; 135:7;147:8 staying (2) 94:21;147:7 steadily (1) 68:16 Steam (1) 73:8 steam-turbine (1) 147:18 STELTZER (1) 120:6 step (1) 127:17 stepped (1) 72:9 Steve (2) 68:11;96:21 STGs (1) 149:3 still (6) 7:1;12:24,24;66:4,10; 134:18 stochastic (1) 30:5 stochastically (1) 126:18 stop (1) 105:1 stopped (1) 97:19 straight (1) 104:13 straightforward (1) 127:15 strength (1) 71:8 strict (2) 60:24;63:7 strike (2) 116:11;130:5 strip (1) 127:23 strongly (2) 114:9,10 structural (2) 91:23;108:12 structure (3) 105:17;115:21;129:19 structured (2) 127:21;130:2 studies (7) 32:4;40:8;43:22; 66:19;83:1;148:14,15 study (66) 9:7,21;16:17;18:1; 19:18;24:20;28:2,12; 29:2,5;31:2;32:23;33:1, 16;34:4;37:15,17,23,23; 39:24;40:14;41:16;44:3; 45:2,12;46:1,19;48:9,20; 49:9;52:6;60:4,6,14; 63:12;64:1;66:15;69:5;	82:2;84:1;92:4,6,17,22; 95:19;96:3;100:24; 106:23;115:10;118:20; 119:22;121:12;123:8, 13;124:16;127:8; 135:19,24;136:17; 138:1;149:14,17,22; 153:12,21;156:18 studying (1) 87:4 style (1) 6:14 styled (1) 7:6 subject (12) 20:3;32:5;37:5;50:2; 69:7,10;70:15;75:23; 91:4,10;97:12;106:2 submit (1) 75:1 submitted (4) 21:20;22:21,23;122:3 subscribe (1) 128:23 subsequent (2) 22:20;24:14 substantial (3) 42:17;53:12;107:19 substantially (4) 80:24;135:9;142:9; 143:5 substitutable (1) 113:23 success (1) 40:7 successfully (1) 17:14 sufficient (1) 23:15 sufficiently (1) 92:21 suggest (1) 119:14 suggests (1) 131:15 summer (10) 24:11;31:11;38:13; 39:3;40:3;70:17;84:5; 90:23;121:18;138:11 summertime (1) 124:2 sums (1) 20:9 supplant (1) 130:18 supplement (2) 39:19;71:21 supply (9) 72:7;76:24;93:23; 100:17;102:17;107:4; 127:18;131:13;156:12 support (2) 40:11,24
--	--	---	---	--

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

supported (1) 41:17	teammates (1) 39:15	6:22;23:3;67:4,7;74:2; 75:19;83:23;122:24; 131:3;145:7	totalled (1) 15:18	149:17,21
suppression (3) 103:15,22;104:17	tear (1) 145:5	thought (6) 38:16;57:15;65:2; 82:13;130:21;150:23	toward (1) 84:9	turned (1) 140:10
sure (32) 5:20;6:6;24:7;28:20; 30:2,3,9;51:6;56:13; 58:5;63:11;64:17;74:3; 75:4,8;81:15;82:16; 87:16;88:17;112:18; 128:7;129:17,18; 131:11;132:19;134:15; 143:19;145:10;147:20; 154:21;155:7;157:3	tear-downs (1) 144:22	thousand (1) 16:6	towards (1) 144:21	Turning (1) 96:8
surprise (3) 76:6;89:3,7	technical (5) 83:8,16;84:8;115:14; 122:1	thrash (1) 39:22	tower (3) 141:1,5,9	two (15) 5:24;6:3;13:6;16:13; 18:47;23:51;11;55:3; 67:9;83:4;96:11;113:22; 122:21;131:17;145:18
surrounding (1) 125:4	technically (1) 94:15	three (4) 87:17;149:23;150:2, 22	town (1) 5:16	two- (2) 17:17,17
sustain (1) 152:16	technique (1) 46:21	three-year (1) 17:17	traditional (1) 57:18	type (4) 101:2;126:14;142:11; 143:10
sustained (1) 101:20	techniques (1) 144:5	threshold (1) 126:16	traditionally (1) 77:24	typically (5) 73:17;88:23;125:24; 126:6;136:14
sworn (1) 7:13	temperatures (1) 145:9	throughout (7) 48:2;115:1;118:3; 125:9;131:20;137:11; 138:20	trajectory (6) 108:14;152:17;153:3, 3,5;156:17	
system (9) 40:7;71:2,3;72:7; 76:22,23;77:15;110:13; 117:12	Ten (1) 81:20	throw (1) 127:2	Trans (1) 120:16	U
systematically (1) 130:8	tend (2) 138:22;142:12	thus (3) 105:20;107:15;109:2	TransCanada (44) 18:14;20:15,18,22; 21:1;23:13;25:18;26:4, 11;29:16;32:15,17,21; 35:16,21,24;42:23;43:6, 8;49:10,11;56:2;65:13, 20,22;73:2,7,12;74:21; 81:19,22;83:10;90:6,9; 92:8;93:1;98:14,18; 99:8,10;104:1,7,10; 132:17	ultimately (2) 113:1;155:4
systems (3) 78:12;143:23;148:7	term (4) 104:16;115:9;116:13; 143:12	tied (1) 123:3	transfer (1) 78:1	unaffected (1) 131:21
T	terministic (1) 46:19	Tillotson (1) 55:1	transferred (1) 16:2	uncertain (1) 152:23
table (4) 9:9;10:15;13:12,18	terms (7) 30:21;46:24;47:4; 48:5;54:15;79:9;114:11	times (6) 14:24;72:8;76:22; 77:7;132:8;143:8	transition (2) 97:1,9	uncertainty (6) 46:23;126:22,23,24; 138:16;155:14
taker (1) 106:19	test (2) 47:7;77:11	timing (3) 142:24;155:15,23	transmission (13) 15:23;32:19;33:2,18; 36:20;37:4;39:10,11; 41:14,18;42:3;45:14; 125:3	unclear (2) 53:7;78:19
talk (1) 5:22	testified (6) 42:14;114:2,6,17; 115:6;117:24	today (6) 23:10;51:12,14;58:20; 92:2;148:15	transport (1) 59:11	uncovered (5) 86:9,14;115:10,16,19
talked (1) 23:24	testify (1) 119:4	together (4) 34:3;55:2;123:4; 139:11	treatment (1) 7:2	under (7) 19:16;26:12;48:22; 53:21;66:11;100:15,18
talking (7) 11:8,9;30:23;42:6; 45:5;62:16;128:5	testifying (1) 61:12	told (2) 39:5;80:14	tried (1) 6:14	underlying (2) 113:12,14
talks (1) 132:20	testimony (34) 8:15;9:1;32:10;33:24; 34:1,12;35:13;38:5,17, 23;39:1;42:12;55:2,3, 23;56:3,11;58:3;64:2; 67:16;68:21;82:7;83:6, 23;98:1,2;100:6;103:6, 14;105:8,9;108:18; 110:24;111:13	tomorrow (5) 5:15,21;6:6;99:21; 157:2	triggers (1) 40:6	underneath (2) 92:10;93:5
tandem (1) 138:22	testing (4) 77:6,23;78:1;84:22	tomorrow's (1) 133:17	true (7) 15:10;16:11;19:21; 71:14;92:3;113:7;128:7	underscore (1) 80:3
tank (2) 133:24;135:12	therefore (5) 27:1,7;117:7;138:21; 153:4	tonight (1) 99:23	trust (1) 56:17	understood (4) 50:21;51:23;52:5; 146:13
tanks (1) 133:13	thinking (2) 99:16;123:8	tool (1) 46:20	try (2) 144:11;157:5	undertaken (1) 125:8
target (1) 49:20	third (2) 9:8;155:19	toss (1) 7:20	trying (10) 5:9,11;53:13;76:15; 85:15;86:20;99:2; 123:12;135:20;140:16	underwater (1) 147:2
TC (1) 105:10	third-party (1) 129:8	tossed (1) 153:19	turbine (1) 125:1	underway (2) 16:18;108:9
TC4-4 (2) 35:16;36:3	Thirteen (1) 104:8	total (5) 27:13;87:6;88:21; 89:1;91:1	turn (2)	uneconomic (3) 68:15;106:4,10
team (5) 36:8;39:10;41:14; 43:15,16	though (10)			unique (1) 86:2
				Unit (39) 19:17;20:7;26:22; 27:6;59:19;62:12,13; 70:2,16;71:7,13,18;74:2; 76:20;77:10,17,18,21, 23;78:17;88:16;95:9; 106:3,22;118:19;

DAY 3 - AFTERNOON SESSION ONLY - May 8, 2012
DE 10-261 PUBLIC SERVICE COMPANY OF N.H. Least Cost Integrated Resource Plan

125:24;126:20;127:5; 130:19;131:19,22,23; 133:16,18,19;134:1,4; 145:1,3 units (19) 62:6,8,10,16;78:3; 88:9;89:18,21;90:17,24; 93:12;124:24,24;144:4; 6,11;145:20;147:17; 148:24 unit's (2) 126:15;156:3 unless (2) 59:7;80:10 Unlike (1) 148:4 unlikely (1) 133:19 unresolvable (1) 53:14 up (22) 40:10;54:15;77:24; 78:2;79:8;88:20;94:3; 96:5;99:2;105:24;115:4; 131:10,16;133:21; 134:1;135:9,22;138:13; 22;142:12,20;143:9 update (1) 123:12 updated (2) 16:9;23:24 updating (1) 18:2 upgrade (1) 17:8 upon (6) 17:11;53:3;59:23; 127:4;136:8;138:24 ups (1) 48:18 uptick (2) 132:5,7 up-time (2) 48:12,15 upward (4) 102:15,15;107:8; 109:7 use (24) 14:13;22:15;38:5; 47:4;48:1;53:4;54:20; 56:22;57:2,8,23;59:18; 86:11,11;87:7;103:14; 112:11;114:18;125:10; 126:13;128:9,11,12; 137:14 used (30) 9:6,20;21:14;22:11; 27:10;46:19;54:4,6; 57:4,5;61:3,21;63:5; 86:23,24;87:2;89:2; 104:16;111:2,4,17; 113:13;114:3,24;115:9; 118:5,8;119:21;135:21;	148:16 useful (1) 24:21 uses (3) 16:15;29:12;119:13 using (14) 22:4,5,13;26:13;30:4; 48:9;53:3;54:13;111:14; 112:14;128:20;136:12; 144:19;147:18 usually (2) 12:15;144:19 Utilities (6) 41:18;45:13;48:21; 50:8,23;118:6 utility (1) 19:8 utilize (1) 56:23 utilized (2) 76:16;78:22 V validation (1) 86:4 validity (2) 113:8,19 valuation (11) 30:6;46:21;84:17; 100:9,24;116:2,21; 117:2,3;125:13;126:7 value (20) 16:23;18:8;21:16; 22:9;28:8;30:13;44:14; 47:4;64:8;66:6,12,16,22; 79:9;115:17;116:5; 127:9,11;134:16;141:13 values (2) 80:21;86:5 valve (1) 146:4 variability (1) 123:16 variable (1) 46:10 variables (1) 129:12 variation (2) 138:12,14 varies (1) 136:16 variety (3) 114:24;118:9;152:4 various (4) 50:19;52:18;78:15; 91:24 vary (1) 138:24 vendor (3) 114:15,15,18 vendors (1) 114:12	vendors' (1) 113:22 venues (1) 129:13 verbal (6) 43:4;65:18;73:5;90:4; 99:6;104:5 Vermont (4) 71:9;95:13,14,17 version (1) 69:9 versus (6) 31:8;72:4;76:8;109:4; 130:9;133:7 vertical (1) 131:14 VI (8) 21:11,18;25:11,18; 26:12;29:16;30:8;37:8 view (4) 43:24;72:16;153:19; 155:13 vintage (2) 15:5;17:22 vintages (1) 9:10 virtually (1) 94:18 visibility (1) 59:11 visit (1) 155:17 volatilities (1) 138:6 voted (1) 95:14 W wait (4) 55:16;63:22;91:22; 142:23 waiting (2) 120:18,19 warming (2) 86:12;87:2 warm-up (1) 143:22 way (7) 24:23;46:4;79:13; 101:7;114:10;124:1; 153:21 weak (2) 41:5;47:14 weakened (1) 31:16 wear (1) 145:5 weather (2) 124:7,11 welcome (1) 39:21 weren't (1)	86:15 West (1) 152:12 what's (12) 25:17;44:17,23;45:2; 15:70;11;75:17;93:11; 110:11;138:15;146:2; 152:21 whenever (1) 145:24 whereas (5) 22:16;46:21;48:3,16; 63:8 Whereupon (1) 157:7 whole (1) 52:9 widening (1) 97:4 wider (1) 114:14 wild (1) 139:12 Wind (1) 153:15 winter (5) 117:15;124:4,5; 138:10;148:21 withdraw (3) 7:4;28:19;65:10 withhold (3) 105:3,20,23 without (7) 46:2;47:7,21;62:12; 113:20;126:11;146:22 withstanding (1) 21:24 witness (12) 10:17;20:20;36:5; 43:12;51:11;62:2;65:14; 66:1;98:15;104:2; 112:16;135:1 witnesses (4) 7:12;18:12;42:13; 99:20 wondering (1) 105:6 word (1) 103:14 words (2) 33:22;38:5 work (11) 15:24;24:10;52:22; 66:5,21;88:19;105:24; 119:11;124:15;129:14; 141:15 working (2) 17:21;18:21 works (1) 121:3 world (2) 44:1;127:17 worth (2)	91:12;141:3 writing (1) 74:15 written (2) 34:1;74:16 wrong (1) 50:10 X XII (1) 101:5 Y Yankee (2) 95:13,17 yard (1) 15:24 year (44) 9:15,23,24;10:5,8,9; 11:3,13;12:13,14;13:1,6, 23;15:4,6;17:5,6,7; 25:19;44:15,23;45:15; 76:11;85:24;87:4,94;22, 23;122:12;123:6;127:7, 7;131:17,20;135:2; 136:10,10;140:2; 146:20;147:2,12;150:7; 152:13;156:10,11 year-over-year (1) 123:17 years (25) 9:14;10:10,12;11:11, 19;13:6;14:23;24:1; 43:22;58:17;67:13,19; 123:19;128:20;133:14; 135:4,23,24;136:2; 143:6,18;144:15;145:2, 22;150:22 years' (1) 55:4 year-to-year (1) 123:15 yellow (1) 89:20 York (5) 102:6;115:2;148:4; 151:17,19 Z zero (2) 67:8;134:22 zeros (2) 93:5,22
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