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STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

April 2, 2014 - 10:04 a.m.
Concord, New Hampshire

NHPUC APR18'14 PM 1:00

RE: DE 13-177
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE:
2013 Least Cost Integrated Resource Plan.

PRESENT: Chairman Amy L. Ignatius, Presiding
Commissioner Robert R. Scott
Commissioner Martin P. Honigberg

Sandy Deno, Clerk

APPEARANCES: Reptg. Public Service Co. of New Hampshire:
Matthew J. Fossum, Esq.

Reptg. Residential Ratepayers:
Susan Chamberlin, Esq., Consumer Advocate
James Brennan, Finance Director
Office of Consumer Advocate

Reptg. PUC Staff:
Suzanne G. Amidon, Esq.
Leszek Stachow, Electric Division

Court Reporter: Steven E. Patnaude, LCR No. 52

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 RUSSELL JOHNSON
 LESZEK STACHOW

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P R O C E E D I N G

1
2 CHAIRMAN IGNATIUS: We are here today on
3 Docket DE 13-177, which is Public Service Company of New
4 Hampshire's 2013 Least Cost Integrated Resource Plan.
5 And, we're scheduled for a hearing on the merits today.

6 Let's begin first with appearances.

7 MR. FOSSUM: Good morning,
8 Commissioners. Matthew Fossum, for Public Service Company
9 of New Hampshire.

10 CHAIRMAN IGNATIUS: Good morning.

11 MS. CHAMBERLIN: Good morning, Chairman
12 Ignatius and Commissioners. Susan Chamberlin, Consumer
13 Advocate for the residential ratepayers. And, with me
14 today is Jim Brennan.

15 CHAIRMAN IGNATIUS: Good morning.

16 MS. AMIDON: Good morning. I'm Suzanne
17 Amidon here for Commission Staff. With me today is Les
18 Stachow. He will be part of a panel of witnesses
19 presenting the Settlement Agreement in this case.

20 CHAIRMAN IGNATIUS: Thank you. We do
21 have the Settlement Agreement and have reviewed it. And,
22 the panel presenting it, who will that be?

23 MR. FOSSUM: That will be, well, Heather
24 Tebbetts and Russell Johnson from the Company, along with

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 Mr. Stachow from the Staff.

2 CHAIRMAN IGNATIUS: All right. Is there
3 anything to take up before we begin with the panel?

4 (No verbal response)

5 CHAIRMAN IGNATIUS: Seeing nothing, then
6 why don't you go ahead and get seated. And, Mr. Patnaude,
7 you can go ahead and swear the witnesses. Mr. Fossum.

8 MR. FOSSUM: Just so the Commissioners
9 are aware, by agreement we premarked for identification as
10 "Exhibit 1" PSNH's June 21st IRP filing.

11 CHAIRMAN IGNATIUS: February 21st?

12 MR. FOSSUM: No. June 21st, 2013, the
13 initial filing. Sorry.

14 CHAIRMAN IGNATIUS: Oh.

15 MR. FOSSUM: And, premarked for
16 identification as "Exhibit 2" is the March 26, 2014
17 Settlement Agreement. And, then, as "Exhibit 3", is the
18 OCA's testimony has been premarked for identification as
19 well.

20 CHAIRMAN IGNATIUS: All right. Thank
21 you. We'll mark all of those for identification.

22 (The documents, as described, were
23 herewith marked as **Exhibit 1**, **Exhibit 2**,
24 and **Exhibit 3**, respectively, for

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 identification.)

2 (Whereupon *Heather Tebbetts,*

3 *Russell Johnson,* and *Leszek Stachow* were

4 duly sworn by the Court Reporter.)

5 **HEATHER TEBBETTS, SWORN**

6 **RUSSELL JOHNSON, SWORN**

7 **LESZEK STACHOW, SWORN**

8 **DIRECT EXAMINATION**

9 BY MS. AMIDON:

10 Q. Mr. Stachow, would you please state your full name for
11 the record.

12 A. (Stachow) Leszek Stachow.

13 Q. And, please state your employment and what position you
14 hold there.

15 A. (Stachow) I'm an Analyst, a Utility Analyst in the
16 Electrical Division.

17 Q. Thank you. Have you previously testified before this
18 Commission?

19 A. (Stachow) I have.

20 Q. And, did you work as an analyst on this docket and
21 review and investigate the Least Cost Plan filing made
22 by PSNH?

23 A. (Stachow) I did.

24 Q. And, did you participate in the Settlement Agreement

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 regarding this docket?

2 A. (Stachow) I did.

3 Q. And, you agree that Exhibit 2 reflects the Settlement
4 Agreement that was entered into between the Staff and
5 the Company?

6 A. (Stachow) I do.

7 MS. AMIDON: Thank you.

8 MR. FOSSUM: Thank you.

9 BY MR. FOSSUM:

10 Q. And, Mr. Johnson, if you could state your name and
11 place of employment for the record please.

12 A. (Johnson) Russell Johnson, with Public Service of New
13 Hampshire.

14 Q. And, what is your position with Public Service of New
15 Hampshire?

16 A. (Johnson) I'm the Manager of Distribution System
17 Planning and Strategy.

18 Q. And, what are your responsibilities in that position?

19 A. (Johnson) In that position, I'm responsible for
20 distribution system planning, materials and engineering
21 standards, and reliability reporting.

22 Q. And, have you previously testified before this
23 Commission?

24 A. (Johnson) I have not.

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 Q. And, Ms. Tebbetts, for the record, could you state your
2 name and your place of employment for the record
3 please.

4 A. (Tebbetts) My name is Heather Tebbetts. And, I work
5 for Northeast Utilities Service Company.

6 Q. And, what is your position with the Service Company and
7 your responsibilities in that position?

8 A. (Tebbetts) My position is Senior Analyst in our Revenue
9 Requirements Department. And, my responsibilities are
10 revenue requirements, regulatory strategy, and docket
11 management.

12 Q. And, those responsibilities are performed on behalf of
13 PSNH?

14 A. (Tebbetts) Yes.

15 Q. Mr. Johnson, did you prepare or have -- or, was the
16 Least Cost Integrated Resource Plan submitted by PSNH
17 on June 21st, 2013, that has been premarked as
18 "Exhibit 1", was that prepared by you or under your
19 direction?

20 A. (Johnson) Yes, it was.

21 Q. And, you are familiar with its contents?

22 A. (Johnson) Yes, I am.

23 Q. And, did you participate on behalf of PSNH in the
24 discovery and related matters in this docket?

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 A. (Johnson) Yes, I did.

2 Q. And, did you participate on behalf of PSNH in the
3 Settlement that is before the Commission today?

4 A. (Johnson) Yes.

5 Q. And, Ms. Tebbetts, did you likewise participate on
6 behalf of PSNH in the Settlement that's before the
7 Commission today?

8 A. (Tebbetts) Yes.

9 Q. And, you're familiar with the terms of that Settlement
10 Agreement?

11 A. (Tebbetts) Yes.

12 Q. Could you briefly describe what PSNH has agreed to
13 pursuant to the Settlement Agreement that's been
14 premarked as "Exhibit 2" in this docket?

15 A. (Tebbetts) Yes. Under Section 2.1, Staff found that
16 PSNH's plan was adequate under the current statute.
17 Section 2.2, assuming there's no change to the IRP
18 statute, PSNH agreed in future planning that we would
19 outline our planning process in more detail and our
20 least cost considerations, those are also incorporated.
21 And, PSNH provided information through discovery in
22 this docket to show our planning process for
23 distribution and transmission.

24 Section 2.3, the parties that signed

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 this, they acknowledge that there are benefits to
2 customers through the addition of Smart Grid
3 technology, and, in particular, distribution automation
4 to our distribution system. And, that the Settling
5 Parties agree that PSNH will incorporate any
6 considerations of distribution automation and Smart
7 Grid technology into future IRPs.

8 Q. Now, was the -- for clarity, was the Integrated
9 Resource Plan and the resulting Settlement Agreement
10 before the Commission today, were those specifically
11 related to transmission and distribution functions for
12 PSNH?

13 A. (Tebbetts) Yes.

14 Q. Turning to your description of Section 2- -- or, 2.3,
15 could you explain for the Commission what it is that
16 PSNH understands it's doing pursuant to that provision
17 or that it will be doing in its future filings?

18 A. (Tebbetts) Yes. PSNH had discussions during discovery
19 and tech sessions that we would incorporate
20 distribution automation, and Mr. Johnson can go into
21 further detail what exactly that is, into our future
22 filings under what the current statute says. Right
23 now, we found that there are lots of opportunities with
24 distribution automation. And, we believe that having

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 that as part of our planning process in the future will
2 benefit customers and also give more transparency.

3 MR. FOSSUM: Thank you. With that, I
4 would, I guess, make the PSNH witnesses available, subject
5 to any further direct that Staff may have.

6 CHAIRMAN IGNATIUS: Thank you. And, did
7 you have any questions of Mr. Stachow?

8 MR. FOSSUM: Not presently, no.

9 CHAIRMAN IGNATIUS: Okay. Then, Ms.
10 Amidon, any direct?

11 MS. AMIDON: Thank you.

12 BY MS. AMIDON:

13 Q. Mr. Stachow, would you please refer to Exhibit 2. And,
14 I call your attention specifically to Section 2.2, and
15 ask you to explain whether you were involved in
16 drafting that language?

17 A. (Stachow) Yes, I was.

18 Q. And, if you could just briefly explain your reasoning
19 in asking for these specific descriptions of the
20 planning process, the inputs and outputs, *etcetera*.

21 A. (Stachow) As I had done in the previous two cases that
22 have been heard before the Commission with respect to
23 least cost planning, my concern was to make sure that
24 the methodology that was being used is indeed the

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 methodology that the Company employs, and that we're
2 not getting an *ex post* report that is not informed by
3 the methodological approach. So, the intent here was
4 to try and establish a clear methodology that the
5 Company could provide which would enable Staff, in the
6 next filing, to investigate in detail outputs and
7 inputs in each stage of the planning process, to make
8 sure that the document reflects the true process. And,
9 I think we had a lot of useful information with respect
10 to that in two technical sessions that we had with the
11 Company, one relating to distribution planning and one
12 in relation to transmission planning, where the Company
13 was kind enough to bring in experts from Connecticut,
14 as I recall. And, the result of that process is that I
15 think, for the next filing, we will have a document and
16 a process that will enable us to be able to pinpoint
17 inputs and outputs, and be able to ask some specific
18 questions at each stage of the planning process, which
19 the current report doesn't lend itself to.

20 Finally, we're looking, of course, at
21 demand-side management programs, conservation,
22 efficiency improvements, and we want to see those more
23 specifically addressed in the next document. And,
24 that, I think, is what's captured in these

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 subparagraphs.

2 Q. And, so, this section was something that was endorsed
3 by Staff, and you're looking at future plans, not at
4 the plan that's before the Commission today?

5 A. (Stachow) That is correct.

6 Q. And, you did review the Least Cost Plan that was filed
7 in June by the Company. Did you find that plan to be
8 adequate?

9 A. (Stachow) Yes.

10 MS. AMIDON: Thank you. No further
11 questions.

12 CHAIRMAN IGNATIUS: Ms. Chamberlin, do
13 you have questions?

14 MS. CHAMBERLIN: I have a few. Thank
15 you.

16 **CROSS-EXAMINATION**

17 BY MS. CHAMBERLIN:

18 Q. And, this is for PSNH witnesses. PSNH remains a
19 vertically integrated utility, is that correct?

20 A. (Tebbetts) Well, we -- the New Hampshire market is
21 deregulated. We do own generation. But customers do
22 have the option to choose a competitive supplier, if
23 they so want to.

24 Q. And, does the Settlement Agreement require five- to

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 ten-year strategic plans for PSNH to be filed as part
2 of the next IRP?

3 A. (Tebbetts) Excuse me. I'm just looking for the wording
4 of "five to ten years" in the Agreement. I don't see,
5 in the Agreement, the wording "five to ten years".
6 Specifically, I do see "future distribution system
7 needs", but I don't see the actual "five to ten years"
8 in here.

9 MS. CHAMBERLIN: Thank you. That's all
10 I have.

11 CHAIRMAN IGNATIUS: Questions from the
12 Bench? Commissioner Scott.

13 CMSR. SCOTT: Thank you. Good morning.

14 BY CMSR. SCOTT:

15 Q. This is mostly directed at the PSNH witnesses. And,
16 probably my questions are in keeping with Mr. Stachow's
17 comments about methodology and, really, use of the
18 product. Well, before I question you, I'll -- when I
19 go back to 2012 for the LCIRP, I know that was
20 complicated with the Continuing Unit Operation Study,
21 so that was a little bit of a different animal, if you
22 will. But I did ask, and I think it was Mr. Large at
23 the time, how the plan was effectively used by the
24 utility. You know, was it a living document that's

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 used or, you know, what was the thing that came before
2 us, where did that come from? And, the short answer
3 was, and the way I interpreted it, was it was used to
4 meet the legal requirement, and then possibly for other
5 things. So, I'm interested in finding out how you
6 integrate this plan on your utility operations. And,
7 maybe if you could just talk a little bit about that.
8 I mean, this is a fairly, compared to the last filing,
9 this is certainly more of a truncated version,
10 obviously. And, I can restate that, if it helps.

11 A. (Johnson) I'll do my best.

12 Q. Okay.

13 A. (Johnson) Again, this filing was primarily the planning
14 aspects for capital planning for distribution and
15 transmission. I mean, we incorporate into our planning
16 studies certain criteria that are required, you know,
17 through the Least Cost Integrated Resource Plan. You
18 know, we consider costs, we consider environmental
19 impacts, as we evaluate the various options to meeting
20 the capacity needs of the system. I mean, our
21 processes are primarily procedurally driven, in that we
22 have established procedures for forecasting, for
23 planning for each of these, which are referenced within
24 our filing.

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 Q. Let me ask the question another way. So, what you have
2 submitted, is that something you -- I'm sorry, wrong
3 document. In Exhibit 1, is that something you -- the
4 details in there, is that something you actually use
5 within the Company for planning purposes?

6 A. (Johnson) Yes.

7 Q. Okay. That's the answer I wanted. Thank you. And,
8 let me tease it out a little bit more. And, with the
9 current legislation going on that may amend the LCIRP,
10 one thing that became very apparent, from the
11 legislators who were involved with the original
12 legislation that required an LCIRP, they had
13 articulated that the intent was to be to serve as a
14 mechanism to ensure that energy efficiency and demand
15 response were included in longer term planning. I was
16 curious, how do you integrate that into your plans?
17 For instance, obviously, you have a CORE Program,
18 you're part of the CORE Program for energy efficiency.
19 Is there a feedback loop? How do you decide, when you
20 look at distribution planning, where the best bang for
21 the buck is, for -- whether in the type of energy
22 efficiency or the location demand response? How does
23 that -- is there a feedback loop to "Are we spending
24 enough money?" "Would it be better spent elsewhere?"

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 A. (Johnson) My familiarity with the CORE Programs anyway
2 is, the way that they're spread across the system, the
3 way that they tend to be directed towards industrial
4 and commercial tend to be on new processes, new
5 equipment that are coming in that may impact future
6 growth more so than reducing the existing. So, with
7 respect to the CORE Programs, they don't have a
8 significant impact on our planning processes, for
9 projecting forecasts, demand forecasts.

10 With respect to using conservation and
11 load management, we have a couple of points in our
12 process where we evaluate the feasibility of utilizing
13 conservation/load management as a means to defer
14 capital investment. And, that's done through -- that's
15 referenced in the procedures TD190, which is provided,
16 which each January we sit with the Conservation and
17 Load Management Department, we provide them with items
18 that have been identified as capital projects out in
19 the five-year time frame, and go through a process to
20 evaluate those to determine whether or not
21 conservation/load management is a feasible means to
22 defer those projects.

23 Now, often projects that we're
24 undertaking also improve reliability, address aging

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 infrastructure. So, there are other benefits to these
2 projects. And, oftentimes, it's determined that
3 conservation and load management is not the optimal
4 solution for our customers, in that they don't address
5 those other interests.

6 Q. So, is there a feedback loop, for instance, with the
7 CORE Program that, --

8 A. (Johnson) No.

9 Q. -- "if you did this instead, it may be more
10 beneficial"?

11 A. (Johnson) Not for the CORE Program. I have, you know,
12 I pursued the question of, with respect to the CORE
13 Programs and the estimated reduction in demand as a
14 result of those programs, that, from our planning
15 perspective, those impacts are negligible to, you know,
16 the area of forecasting that we're doing.

17 Q. How about time-of-use issues, you know, potential for
18 metering and demand response reductions in that
19 respect, is that something you've been looking at?

20 A. (Johnson) No, it's not.

21 Q. Do you feel that's a productive area to look at?

22 A. (Johnson) I'm not sure that, again, our planning --
23 we're looking at a planning arena with respect to this
24 at the 34 and a half kV level, where our geographic

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 areas that we're looking at are 200, 300 megawatts of
2 generation. So, when you're looking at a 2 percent
3 growth rate on that, it's still -- it's a significant
4 amount of capacity that you have to plan for. So, I
5 think it would be difficult just through time-of-use
6 rates, and especially where the driving on demand is on
7 air conditioning primarily. We are now a summer
8 peaking utility. This is just simply my opinion. I'm
9 not sure that that would have a -- I don't know that it
10 would have a significant impact or not.

11 A. (Tebbetts) Commissioner Scott, if I could just add to
12 that. PSNH does offer a time-of-use rate to
13 residential customers and small commercial customers
14 today. So, the options are there in our tariff.

15 Q. Thank you. Another, let's talk about the legislation,
16 we had some changes this last session to our net
17 metering requirement or net metering laws. Has that
18 been looked at? Is there any impact to what you're
19 doing regarding net metering?

20 A. (Johnson) One of the areas of responsibilities I have
21 are with generation interconnections. So, those
22 impacts tend to be much more localized, in that, you
23 know, for the general small scale interconnection, it
24 doesn't have a significant impact. We are seeing some

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 proposals where, to meet the net metering requirement,
2 they're putting in a significant number of smaller
3 units all in the same location. And, those do have
4 localized impacts out on the -- downstream in our
5 distribution system, but not at the level of our
6 distribution substations, power substations, and main
7 feeder lines.

8 CMSR. SCOTT: Okay. And, I think that's
9 all I have for now.

10 CHAIRMAN IGNATIUS: Thank you.

11 Commissioner Honigberg?

12 BY CMSR. HONIGBERG:

13 Q. Referring to Section 2.3 of the Agreement, Ms. Tebbetts
14 testified, Mr. Johnson, that you could talk more on
15 that subject. So, I guess I'd like to hear you talk
16 more about that subject.

17 A. (Johnson) Sure. I mean, PSNH, in one form or another,
18 has been performing distribution automation for over 30
19 years. But the technology continues to improve, and we
20 see opportunities there to expand significantly on our
21 investment in distribution automation. And, we're
22 continuing to invest in the communications
23 infrastructure to promote distribution automation.
24 And, we have been -- recently, we're completing a

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 three-year pilot on implementing a distribution
2 management system, which actually, in real-time, taking
3 data from the field, is constantly modeling the system,
4 and should a system event occur, is preparing
5 recommended switching steps for restoration, ultimately
6 which would lead to a truly self-healing system, once
7 it's integrated and allowed to, you know, perform its
8 own decision-making and action. So, that pilot
9 included installing a significant number of more
10 advanced equipment, electronic reclosers, etcetera, to
11 bring back significant more information to us.

12 We're also piloting sensors on the
13 system to bring back more information. Going forward,
14 we're talking about automating, providing SCADA control
15 over more of lower point voltage breakers, and, again,
16 putting more and more equipment out in the field that
17 brings back real-time information to operators and
18 allows you to restore service, and to isolate outages
19 to small numbers of customers and restore them more
20 quickly.

21 Q. And, so, your expectation is that these pilots will be
22 expanded or --

23 A. (Johnson) Yes.

24 Q. -- will be used as the basis for expanded projects?

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 A. (Johnson) Yes.

2 Q. Have you read the OCA's testimony?

3 A. (Johnson) I have.

4 Q. Do you have any comments on the information they
5 provided? And, I'm not sure I would characterize them
6 as "proposals", but their descriptions of the benefits
7 of some of the things that can be done?

8 A. (Johnson) I guess my only comment is, at this point we
9 feel we have real opportunities with respect to the
10 distribution automation side of Smart Grid, and
11 investments in those areas are in the best interest of
12 our customers.

13 CMSR. HONIGBERG: Thank you.

14 CHAIRMAN IGNATIUS: A couple more
15 questions.

16 BY CHAIRMAN IGNATIUS:

17 Q. In looking at the Plan, which is marked as "Exhibit 1",
18 and, Mr. Johnson, this is probably to you, a number of
19 pages are the regional forecasts of the state broken
20 out into different regions and the different growth
21 rates that they have experienced. And, just in order
22 to understand how to read them better, can you just
23 pick, you know, you can pick any of them, Lakes Region
24 is the first one on Page 5, if you could just walk

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 through the different things that are being shown
2 there, at different lines?

3 A. (Johnson) Sure.

4 Q. And, what is the most important information to take
5 from that?

6 A. (Johnson) Okay. The solid line represents historical
7 peak demands for this regional area. Those regional
8 areas are established, a combination of geography and
9 the actual electrical infrastructure that allows us to
10 really isolate that particular area. So, what you'll
11 see is the black line represents, by year, the peak one
12 hour megawatt demand for that region. We, as far as
13 our forecasting methodology, we use a combination of
14 historical actuals, which are a pretty good indication
15 of how load growth was proceeding in an area, as well
16 as input with respect to our field engineering
17 disciplines and people that work with larger customers,
18 to recognize, you know, either areas of growth or a
19 reduction in demand. So, from that, what you'll see is
20 there's a top dotted line, which, frankly, is how we
21 used to establish our forecast, prior to the 2008
22 economic slowdown. Because that dotted line, where we
23 would hit the peaks, really ended up being a very
24 accurate representation of what we expected for future

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 load growth.

2 Now, I will point out that you'll notice
3 there's significant fluctuations from year to year.
4 Our demand is highly driven by the weather that we
5 experience, primarily significant days of an extended
6 heat wave. But you'll notice that, in 2006, was
7 probably the most extreme weather date that we had,
8 with respect to a combination of cooling degree days
9 and the heat index that was experienced in that summer.

10 Q. So, none of this has been weather-normalized?

11 A. (Johnson) No.

12 Q. This is actual data?

13 A. (Johnson) This is actual, actual data. So, we've
14 revised, and, you know, the bottom of the envelope, the
15 bottom dotted line is just a representation of, if you
16 did that same compounded growth rate, based off the
17 minimums that you see from year to year, which kind of
18 forms the bounds of any anticipated demands.

19 Now, what we've done recently in our
20 methodology is, normally, what we would experience is,
21 within a couple of years of an economic turndown, the
22 demands would rebound to actually be on that top curve
23 that we've seen before. This has been a very different
24 experience this time. So, now, we only go back five

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 years with respect to when we're establishing that
2 forecast for the next five years coming up. And, 2011
3 was a good summer year for us, from a weather
4 perspective, to initiate where that growth curve comes
5 from. So, what you'll see in here is the 2013, the
6 solid line picks up again, where that is our forecasted
7 peak demand. And, it really comes off the year 2011
8 peak in this particular example.

9 Q. So, when you use a 2 percent forecast in that blue line
10 starting in 2013, is that what you -- your best
11 estimate of what the actual growth rate will be?

12 A. (Johnson) Yes.

13 Q. And, yet, you still show the 3.3 percent growth rate
14 that you used to assume. Why do you continue to show
15 that?

16 A. (Johnson) I'll be honest, it tends to be a carryover of
17 previous practice. And, it does help us represent the
18 bounds of a high and low, and give us an indication of
19 where we fall within those bounds.

20 Q. And, the use of 2006, is that because that's when you
21 had -- that's the peak that you had on your system or
22 is that because you're just counting back five years
23 and that's sort of coincidental?

24 A. (Johnson) Well, actually, that's going back -- what we

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 tend to do now is, the first five years are as I
2 described. We continue with our forecast for years six
3 through ten. Our experience has been that, when you're
4 looking out into that 10-year forecast area, the growth
5 rates are not as high as you would expect. Now, we
6 have to plan a little more conservatively in the 5-year
7 time to be able to meet construction deadlines in order
8 to meet demand. But, in years 6 through 10 now, we go
9 back and we use an actual compounded growth rate over
10 the previous 10 years.

11 So, in this particular case, that 2006
12 just represents had we continued on the track that we
13 had been on previous -- prior to the 2008 economic
14 slowdown, that would have been the growth rate assumed.

15 Q. In the Lakes Region one, you noted that a large
16 customer was going to be increasing its load in the
17 year 2013. Did that occur?

18 A. (Johnson) It did. And, they are continuing to add
19 additional load at that location.

20 Q. And, it shows you how much a large customer in or out
21 can impact the system, doesn't it?

22 A. (Johnson) Oh, significantly. I mean, much of that has
23 to do with the area, in that, if you look at an area
24 like Manchester, it represents well over 300 megawatts

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 of load. And, it also determines -- is impacted by the
2 size of the substation that's feeding a given customer.
3 And, if we have a very large substation, you know, a
4 2-megawatt increase may not be significant. But, if it
5 tends to be a smaller substation, that's already
6 pushing the limits of its capacity, then that one
7 customer can push us to require us to do something.

8 Q. I'm wondering if there's data that you have that we
9 don't that explains why all of the charts have a break
10 between 2012, and then it picks up again in '13 with
11 your -- a break in the actuals, then the forecasting
12 begins and it's higher than the actuals have been. Is
13 that based on what you actually see in '13?

14 A. (Johnson) In this particular document, no. This was
15 based on, at the time that this 10-year study was being
16 performed, the last actual data that we had was 2012.

17 Q. All right.

18 A. (Johnson) Okay?

19 Q. Well, tell me why, in I think all of them, the '12 data
20 ends, the '13 going forward forecast begin, and, in
21 every case, the forecast is above where the '12 data
22 ends?

23 A. (Johnson) 2012 was a mild weather year, and just
24 didn't -- it did not result in the demands that a

1 hotter summer would result in.

2 Q. So, it may not reflect growth in the sense of increased
3 load due to the economy or --

4 A. (Johnson) Well, that is an important difference. The
5 planning is done based on peak demand. It is -- the
6 kilowatt-hour consumption is not a consideration when
7 we're looking at it. We have to construct the system
8 in order to meet that peak demand. So, that's why it
9 is so weather-driven, literally based on a couple of
10 days a year where we end up with our peak in any given
11 year.

12 Q. That's all very helpful. Thank you. One just very
13 minor, this may be just a typing issue. On Page 4, it
14 refers to "Appendix B". And, I couldn't find an
15 Appendix B. Maybe the version in my file is truncated.
16 But do you know? It says "The summer peak demand
17 history by area is shown in Appendix B." And, I think
18 those are the -- maybe what's then got built into the
19 body of the report itself and not made an appendix?

20 A. (Johnson) Right. I mean, it was submitted. Basically,
21 it's a document that shows all of the historical data
22 by year, as well as the forecast.

23 Q. Maybe they figured I couldn't understand it, so they
24 left it out of my file. I'm not sure what that would

1 be.

2 A. (Johnson) There is, on Page 3, there is also a chart
3 which demonstrates, but this doesn't give it by year.
4 This just gives the compound growth rate over a 10-year
5 period. But there is another spreadsheet, which, by
6 year, dating all the way back to 1996, gives the yearly
7 peak demand for each of these areas.

8 Q. All right. Let me ask you a question about distributed
9 generation, if you turn to Page 18 of the report,
10 Exhibit 1. In the paragraph describing "customer-owned
11 generation", "small scale PV and wind", and a few other
12 things, you described a few things that customers have
13 done. Is there anything that you've partnered with
14 customers on? I mean, under our distributed generation
15 statute, that's a possibility, of a combined effort
16 between a customer and the utility. Is there anything
17 you've partnered with?

18 A. (Johnson) Not that I'm aware of, no.

19 Q. Is there anything you're thinking about that might be
20 proposed?

21 A. (Johnson) Not that I'm aware of. I mean, we -- I know,
22 at one point, we pursued a large solar installation
23 located at the Manchester landfill area, which I'm
24 assuming would be considered a partner, but that was

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 not -- that did not proceed. So, at this time, I'm not
2 aware of any.

3 Q. You're not part of the Airport PV Project, are you, the
4 Manchester Airport?

5 A. (Johnson) A part of? I mean, we -- I'm aware of it
6 from a planning perspective. I'm aware of it in that
7 we performed an interconnection study, yes.

8 Q. But you're not owners of any of the facilities?

9 A. (Johnson) No. No.

10 Q. Which hasn't gone all that well, so, maybe that was a
11 good decision. Mr. Stachow, can you give a little more
12 explanation of what you're looking to see in the next
13 filing? I mean, I see the language here, but what is
14 it that you want to see more of or that you found not
15 as detailed or robust enough in the current filing?

16 A. (Stachow) Commissioner, before I respond to that, can I
17 respond to your previous question?

18 Q. Please do.

19 A. (Stachow) And, I don't know how relevant it is, but it
20 seems that, in response to a Staff data request, Data
21 Response 14, the Company -- a question about
22 distributed generation that the Staff filed, the
23 Company indicated the following: "There's currently
24 91.8 megawatts of biomass interconnected with the PSNH

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 distribution system, comprising five merchant power
2 plant projects of 89.6 megawatts, and three
3 behind-the-meter cogeneration projects representing
4 2.2 megawatts." I don't know whether that qualifies a
5 response to your question. But I think, in trying to
6 understand better where distributed generation was,
7 that was the response that we got from the Company.

8 Q. Thank you.

9 A. (Stachow) Okay. In response to the question that you
10 have just formulated, the answer is the following:
11 Once again, and I guess this is not unique to the
12 electric utilities, the sense that one has is that the
13 documents that have been submitted are an *ex post*
14 narrative account of a planning process. Whereas, what
15 one would hope to see and what Staff would hope to see
16 as part of a subsequent filing would be a document that
17 would be more a reflection of the operational approach
18 to least cost planning. In other words, at each stage
19 of the planning process, I would like to see how
20 consideration of least cost planning issues takes
21 place.

22 Now, I understand, and the Company has
23 made it clear, and PSNH is not unique in this respect,
24 that their primary concerns are reliability, in the

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 first instance, and meeting customer demand in a
2 reliable fashion. So, that has to take precedence in
3 the planning process. But what we want to see is, in
4 trying to respond to that need, how going forward the
5 Company will condition its decisions about alternative
6 projects by energy efficiency, conservation strategies,
7 and the following.

8 Q. Are you anticipating working with the companies to help
9 them really understand what you're looking for, if they
10 have questions along the way, since it sounds different
11 from what they may have done in the past?

12 A. (Stachow) The Company has been very responsive so far
13 in trying to provide a better understanding of the
14 business process flow that takes place in planning.
15 The next stage will be to work with them to try and see
16 how that business planning process actually informs the
17 report. And, so, Staff would welcome that opportunity
18 to do so, yes.

19 Q. This is to anyone. As I recall in another one of these
20 dockets, and a somewhat similar settlement agreement,
21 there was a provision that said "Acceptance of the Plan
22 didn't constitute approval of any particular
23 investment." And, it may be here and I just haven't
24 found it. But, if it's not contained here, is that --

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 is that something that you would all agree with? That
2 acceptance of the Plan by the Commission isn't the same
3 thing as approval of an investment decision made by the
4 Company in any particular instance?

5 CHAIRMAN IGNATIUS: Mr. Fossum?

6 MR. FOSSUM: I don't know if the
7 witnesses would be exactly the proper people. But, yes,
8 that would be our understanding. That this is not a
9 proceeding in which the Commission would be passing upon
10 the -- on any particular project or agreeing to anything
11 relative to any specific projects, no. This has to do
12 with the specific planning criteria that are considered,
13 and that's what the Agreement is meant to reflect.

14 CHAIRMAN IGNATIUS: Thank you.

15 BY CHAIRMAN IGNATIUS:

16 Q. At the top of Page 3, there's a reference, and, Ms.
17 Tebbetts, you noted it, that there's an understanding
18 that, because there's legislative action still pending,
19 the contents and timing of the next plan may reflect
20 whatever the Legislature does this session. What's the
21 time -- lead time needed in order to prepare a plan?

22 A. (Tebbetts) Well, I think Mr. Johnson would probably be
23 better off to explain his lead time that he would need.

24 A. (Johnson) Again, from a distribution planning

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 standpoint, six months is a reasonable time frame for
2 us to adapt.

3 CHAIRMAN IGNATIUS: That's it for me, I
4 think. Commissioner Scott.

5 CMSR. SCOTT: Thank you.

6 BY CMSR. SCOTT:

7 Q. Another question that came to me. I was curious if you
8 could outline a little bit how you deal with your
9 commercial and industrial customers, as far as do you
10 have dialogues with them, as far as what they're
11 projected growth is, as part of your planning process?
12 I assume you do, but I --

13 A. (Johnson) Not directly, but indirectly. In that our
14 Field Engineering Departments are actually located out
15 in the field. They're working next to the key account
16 executives that work with those large customers. Any
17 expansions that require changes to electric service are
18 brought very early to our Field Engineering Department.
19 And, therefore, that information is available to us and
20 is part of our planning process, that we would meet
21 with them to discuss that.

22 Certainly, if there is other
23 information, that's either made available through the
24 press, regarding a plant closing, you know, that is

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1 incorporated.

2 But I would say that most of it is the
3 result of requirements for electric service or
4 requirements to provide backup electric service for
5 someone who was on generation who is now
6 interconnected, and those types of situations.

7 Q. You had alluded earlier, and I understand, out of
8 necessity, you have to plan for the peaks, because,
9 obviously, kind of a -- I was going to say "worst case"
10 planning, but it's just reality. Do you -- is there a
11 dialogue that goes on with these larger customers about
12 when their peaks are and are there opportunities to
13 move the peak, to the extent they have one, to a more
14 cost-efficient time for distribution planning purposes?

15 A. (Johnson) Again, not directly. Historically, the
16 Company had rates in place that did that. Now, others
17 may be able to speak better to this, but there are
18 programs through the ISO that are available for
19 customers to reduce demand or start generation to
20 reduce system peaks. Typically, the PSNH peak and ISO
21 system peaks, at least from a state peak level, tend to
22 fall in line pretty closely. But, as far as, you know,
23 a direct, you know, beyond the appeals that go out from
24 ISO to reduce, there's not a direct discussion from my

1 department to those customers.

2 Q. Is my presumption correct that, on a more localized
3 basis, as you're -- you may be -- you mentioned that
4 maybe having upgraded substations and that type of
5 thing, that there may be some, just looking at the
6 cost/benefits, if you have a commercial customer that's
7 going to drive an upgrade to a substation more locally,
8 if they were able to move their peak, that could save
9 that from having to happen, for instance. So, I guess
10 what I'm suggesting here, are there not localized
11 benefits that could drive this type of engagement that
12 would make sense?

13 A. (Johnson) That would have to be -- you're probably
14 better to respond to this, Matthew.

15 MR. FOSSUM: Well, I guess, from an
16 engineering perspective, I wouldn't presume to answer. I
17 mean, I think, as a matter of logic, if a customer was to
18 move -- a large customer was to move its peak to some
19 other period, that would potentially defer investment.
20 But I don't know what obligation that customer would have
21 to maintain that shifted peak. That customer may move its
22 peak back or to some other period to suit its business,
23 and I don't know that PSNH's planning process would be
24 able to assume that a customer shifting its peak would

1 always remain that way.

2 **BY THE WITNESS:**

3 A. (Tebbetts) And, if I could just add to that. Customers
4 of PSNH who would specifically need an upgrade to serve
5 them, they would actually have to pay for that upgrade.
6 So, if -- we've had instances where a customer needed
7 an upgrade to a substation. And, so, we worked with
8 that customer to deal with costs. And, I'm not sure if
9 that actually has been completed yet, but a few years
10 ago it was looked into. So, if a customer is causing
11 the upgrade, they would have to pay for it, unless our
12 system was just overall unreliable in that area.

13 CMSR. SCOTT: Thank you.

14 CHAIRMAN IGNATIUS: Thank you. Any
15 redirect, Mr. Fossum?

16 MR. FOSSUM: Yes, just one or two.

17 **REDIRECT EXAMINATION**

18 BY MR. FOSSUM:

19 Q. Mr. Johnson, you had said that you believed it would
20 take about six months to incorporate this new direction
21 into planning. Am I remembering that correctly?

22 A. (Johnson) Yes.

23 Q. And, that would be for distribution planning, correct?

24 A. (Johnson) That's correct.

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 Q. That wouldn't necessarily reflect changes to the LCIRP
2 requirements or other portions of PSNH's business, is
3 that correct?

4 A. (Johnson) That's correct.

5 MR. FOSSUM: Thank you.

6 CMSR. SCOTT: Okay. I'll ask then.

7 CHAIRMAN IGNATIUS: You've been
8 pondering that one.

9 BY CMSR. SCOTT:

10 Q. So, can you estimate? I guess maybe you're going to
11 say it's imponderable, because you don't know what the
12 requirements are. But, to the extent that we've had --
13 Staff has had some suggestions and the Settlement
14 Agreement, is that still six months to incorporate
15 those things or are you --

16 A. (Johnson) Yes. As represented in the Settlement, I
17 would say "yes".

18 Q. Okay. So, to parse out Attorney Fossum's question
19 then. So, the difference would be if the legislation,
20 is that what we're saying, has any marked change,
21 that -- is that what you're saying?

22 MR. FOSSUM: Well, if I, I guess, may
23 speak a little bit freely for a moment. The order on
24 PSNH's last Least Cost Integrated Resource Plan set out a

[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 series of requirements for the next what it called "full
2 plan". My understanding is that those requirements would
3 remain in effect for the next "full plan". But that this
4 plan, the one that's before you today, is an abbreviated
5 plan, brought down to simply transmission and
6 distribution. The purpose of the question was to point
7 out that that's what the focus of this is. So, to the
8 extent that the requirements of a "full plan" would still
9 need to be incorporated pursuant to that order or pursuant
10 to a new statutory requirement, that may involve people
11 who are not here and involve planning processes that were
12 not considered as part of this specific docket, depending
13 on how it references things like the use of PSNH's
14 generation, for example, which we understand is beyond the
15 scope of this docket. But it would be a consideration in
16 future LCIRP plans, pursuant to what I understand is the
17 effective -- the order on our last plan.

18 CMSR. SCOTT: So, to extend that, can
19 you -- does PSNH have an estimate or desire, as far as to
20 the extent we require a full plan, and there are no
21 unanticipated changes in the legislation, of what the lead
22 time would be? When would be -- when would you like to
23 see us require the next plan, full plan?

24 MR. FOSSUM: Well, I don't know that I

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[WITNESS PANEL: Tebbetts~Johnson~Stachow]

1 can answer that. The order, to my recollection, said that
2 the next full plan would be required sometime both after
3 the completion of this review and after the completion of
4 the review that's ongoing pursuant to Docket 13-020. My
5 understanding is that a study has been issued on that,
6 that was just issued yesterday. I don't know what further
7 proceedings the Commission may undertake following on that
8 plan. I don't know what other actions the Legislature may
9 undertake following the issuance of that plan. So, I
10 don't know that I can answer that as I sit here today.

11 CMSR. SCOTT: Thank you.

12 CHAIRMAN IGNATIUS: Thank you. Any
13 redirect, Ms. Amidon?

14 MS. AMIDON: Yes. Just to circle the
15 wagons on this issue.

16 BY MS. AMIDON:

17 Q. Mr. Stachow, insofar as you found that the Plan was
18 adequate, you did not interpret that to mean that you
19 approved any particular investment?

20 A. (Stachow) That's correct.

21 MS. AMIDON: Thank you.

22 CHAIRMAN IGNATIUS: Thank you. Then,
23 the witnesses are excused. Thank you very much for your
24 testimony. It was very helpful.

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[WITNESS: Brennan]

1 So, as they're getting settled, am I
2 right that Mr. Brennan will be testifying?

3 MS. CHAMBERLIN: Yes.

4 CHAIRMAN IGNATIUS: All right. Then,
5 why don't you go ahead and get settled there.

6 (Whereupon **Jim Brennan** was duly sworn by
7 the Court Reporter.)

8 **JIM BRENNAN, SWORN**

9 **DIRECT EXAMINATION**

10 BY MS. CHAMBERLIN:

11 Q. Mr. Brennan, will you please state your name for the
12 record.

13 A. Jim Brennan.

14 Q. And, please state your employer and your position.

15 A. I'm the Finance Director for the New Hampshire Office
16 of Consumer Advocate.

17 Q. I'm not sure the microphone is working. I can hardly
18 hear you.

19 A. I'm the Finance Director for the New Hampshire Office
20 of Consumer Advocate.

21 Q. Thank you. Have you testified at this Commission
22 before?

23 A. Yes. In November 2010, as a Smart Grid Analyst for New
24 Hampshire PUC, I submitted prefiled testimony in Docket

[WITNESS: Brennan]

1 DE 10-055, a rate case, and the topic was analyzing
2 their AMI system.

3 Q. On February 21st, 2014, did you file testimony in this
4 case?

5 A. Yes, I did.

6 Q. And, do you have any corrections you wish to make to
7 that testimony?

8 A. Yes. There is a small correction.

9 Q. And, could you read that into the record for us.

10 A. Yes. Page 10, Lines 1 and 2. On Line 1, I'll read the
11 correct sentence: "Smart Grid applications are built
12 by the utility or third parties."

13 Q. And, this corrects a typographical error?

14 A. Yes.

15 Q. And, with that correction, is the testimony true and
16 accurate to the best of your belief?

17 A. Yes.

18 Q. And, as you have not formally testified live before the
19 Commission, does that testimony include a description
20 of your education and financial expertise?

21 A. Yes, it does.

22 MS. CHAMBERLIN: The testimony has been
23 premarked for identification as "Exhibit 3".

24 CHAIRMAN IGNATIUS: Thank you.

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1 BY MS. CHAMBERLIN:

2 Q. Mr. Brennan, please summarize the main points of your
3 prefiled testimony.

4 A. My testimony recommends Smart Grid technologies be
5 added to PSNH's strategic distribution planning
6 process. I briefly define Smart Grid. When we say
7 "Smart Grid", it is the use of Web II technologies,
8 basically, the infusion of three technologies into the
9 Grid: Communications, software, and sensors.

10 I briefly gave descriptions and examples
11 of communications being wired, wireless, two-way
12 bidirectional, real-time, near-time. These
13 communication systems carry messages, which could be
14 energy usage, could be a command. The second
15 technology is software; databases, applications that
16 issue commands, perform calculations using algorithms,
17 often service-oriented architecture. And, the third
18 technology is sensors, some of which were already
19 discussed by the panel, in-line sensors or a meter.
20 So, to varying degrees, those three types of
21 technologies, many are not heavily used in a
22 traditional distribution -- utility distribution
23 system.

24 I broke Smart Grid out into two parts:

[WITNESS: Brennan]

1 Infrastructure and applications. Smart Grid
2 infrastructure is primarily, to a large extent, built
3 by the utility, such as PSNH. And, that infrastructure
4 includes a lot of the items I just mentioned, in the
5 way of communications, software, and sensors. The
6 other half of Smart Grid is the application side or the
7 functionality side, which may be built by the utility,
8 but often done by third parties. These are
9 applications, such as time-of-use rates, demand
10 response applications, voltage conservation, electric
11 vehicle charging, and so on.

12 So, that was a basic definition of Smart
13 Grid. There's many more. But what was the relevance
14 of Smart Grid to the consumer? The key point is that
15 the Grid is really being defined more by functionality
16 of what it delivers, not defined by all these
17 technologies that I just listed.

18 Q. Mr. Brennan, if I can just jump in with a question. Is
19 strategic planning required to incorporate Smart Grid
20 technologies?

21 A. Yes. Strategic planning is a critical part of it,
22 given that Smart Grid functionality does not exist
23 today, in some of these cases. And, if you want it to
24 exist five to ten years out, that really defines a

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[WITNESS: Brennan]

1 strategic plan of how you get to a new future state.

2 For the consumer, of which many
3 consumers have never heard of Smart Grid, heard of
4 demand response. But, looking out in this five to ten
5 year period, consumers will want new options offered to
6 them, new types of functionality from the Grid. And,
7 just putting on a project planner hat for a moment, I
8 would call that functionality a business requirement of
9 PSNH's future distribution system.

10 So, an example of what I mean by a
11 "business requirement" or a "new type of functionality
12 for a consumer", I give three short examples. One
13 could be the ability of a consumer to run their
14 appliance or charge their electric vehicle at a time
15 when rates are cheaper. A second example would be the
16 ability for a homeowner to be both a energy consumer
17 and an energy generator, but on a large scale. And, a
18 third example of a potential business requirement could
19 be the ability to audit -- for a consumer to automate
20 their response. For example, going down to Lowes and
21 buying five years out a GE refrigerator, taking it
22 home, plugging it in, instantly seeing a real-time cost
23 of energy from the ISO, potentially pressing a button
24 saying "I want to be in active saver mode", and the

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[WITNESS: Brennan]

1 refrigerator would be cycled down during the peak
2 period, for example. That's what I meant by "automated
3 response".

4 Q. Mr. Brennan, are there risks for not including this
5 type of planning for a utility?

6 A. There are risks. Let's assume for a moment that some
7 of this functionality is going to occur five to ten
8 years out. As a utility makes investment decisions
9 today, in assets that may have a 15 to 20 year life, if
10 five to ten years out there looking to add this type of
11 functionality, and those assets do not meet the
12 requirement, you risk them becoming stranded or under
13 performing, or perhaps have the project just be a
14 failure. That is the primary risk.

15 Q. In terms of PSNH's next IRP filing, what are your
16 recommendations?

17 A. If the Commission turns to Page 4 of my testimony, and
18 also in discovery, there's two questions, PSNH 1-2 and
19 1-7. We recommend Smart Grid technology business
20 requirements be added to their 10-year strategic
21 distribution plan. And, we view a enterprise planning
22 approach as a very efficient way to plan Smart Grid
23 functionality. "Enterprise" meaning holistically NU's
24 affiliates, PSNH, NSTAR, Western Mass., as a whole,

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[WITNESS: Brennan]

1 it's all about interoperability, to look at common
2 technologies, common patterns, common network designs,
3 common centralized database opportunities, and look at
4 it on that level, on an enterprise level. For example,
5 PSNH could consider mirroring the five to ten year
6 modernization plan that's being conducted by its
7 Massachusetts affiliate, or it could consider creating
8 a New Hampshire version of such a plan for analysis of
9 those opportunities for a Smart Grid here, and include
10 those in future IRP filings.

11 MS. CHAMBERLIN: Thank you. The witness
12 is available for cross-examination.

13 CHAIRMAN IGNATIUS: Thank you.

14 Mr. Fossum.

15 MR. FOSSUM: Thank you. Just a couple
16 of questions.

17 **CROSS-EXAMINATION**

18 BY MR. FOSSUM:

19 Q. At the end you had mentioned what's being done in
20 Massachusetts. Mr. Brennan, do you understand that the
21 grid modernization process in Massachusetts, has that
22 been completed?

23 A. No. It is at the early five to ten year stage, I would
24 say.

[WITNESS: Brennan]

1 Q. And, has that grid modernization analysis, has that
2 been undertaken pursuant to a regulatory requirement in
3 Massachusetts?

4 A. I believe so, yes. I've cited it in testimony.

5 Q. And, so, just to be clear then, it's your understanding
6 that that is a specific regulatory requirement in
7 Massachusetts that's only begun to be analyzed down
8 there, is that accurate?

9 A. I would agree with that, yes.

10 MR. FOSSUM: Thank you. Nothing
11 further.

12 CHAIRMAN IGNATIUS: Ms. Amidon.

13 MS. AMIDON: Thank you. Good morning.

14 WITNESS BRENNAN: Good morning.

15 BY MS. AMIDON:

16 Q. I know you recommend the Smart Grid. Would Smart Grid,
17 if it was a proposal that was accepted by the
18 Commission, would it require PSNH to reconfigure its
19 network?

20 A. That would be the purpose of having a strategic plan
21 designed and shared by PSNH for us to review. I'm not
22 in a position to say that. I would state that what
23 would need to be done ideally is to -- a collaborative
24 effort at PSNH to have their operation engineer sitting

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1 side-by-side with IT engineers, communication experts,
2 and sitting down and designing a future state
3 communications architecture that's probably quite
4 different from today's.

5 Q. So, it sounds --

6 A. And, that is the role of the Company's planning.

7 Q. So, it sounds like it would require them to change
8 their network from being one directional to
9 bidirectional?

10 A. I would agree that's a fair assumption.

11 Q. Okay. And, should the Commission require a
12 cost/benefit analysis before they roll out any Smart
13 Grid requirements for the utilities in New Hampshire?

14 A. Yes. The whole purpose of looking at this is the goal
15 of having benefits realized that exceed the costs.
16 There are a lot of cost/benefit analyses that have been
17 performed on prior Smart Grid implementations. And,
18 there's also benefit/cost analysis done by agencies
19 such as EPRI, that have thoroughly analyzed Smart Grid
20 benefit/cost. It's a very difficult process. But that
21 would be one of the key requirements of moving forward
22 with a Smart Grid deployment.

23 Q. And, where PSNH has tie-ins with the other utilities,
24 do you think that that factors into whether they

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1 should, again, plan to have enterprise only or should
2 it be something that should be considered statewide?

3 A. When you say "enterprise", was that in terms of my
4 earlier discussion of NU affiliates?

5 Q. Yes.

6 A. I've been involved in two IRP processes here, PSNH's,
7 and I also was involved, to a smaller extent, in
8 Unitil's. And, in both cases, from the company, my
9 impression is that there is a desire to have
10 standardized systems across affiliates. It's just a
11 "best practice" to try and centralized, instead of
12 having disparate designs across --

13 Q. Well, I mean, that's --

14 A. -- affiliate entities.

15 Q. Pardon me. Yes, that's one efficiency.

16 A. Okay.

17 Q. But, I mean, given the tie-ins, for example, that PSNH
18 might have with the New Hampshire Electric Co-op --

19 A. Okay.

20 Q. -- or with Liberty Utilities, don't you think that a
21 statewide examination of the cost/benefit of Smart Grid
22 should be done, rather than just on a single utility
23 only?

24 A. A statewide, yes, of all New Hampshire utilities as a

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1 whole? Yes. That would be a great exercise to attempt
2 to do that. I think equally important is to have that
3 benefit/cost analysis be comprehensive, and not just be
4 for a time-of-use implementation or just a demand
5 response application, but to look at, because we're
6 looking five to ten years out of all the things that we
7 want this communication network to be able to handle,
8 all the things that this meter may or may not have to
9 do, look at all those "business requirements", and then
10 do a comprehensive plan on that.

11 But there is -- one other thing I'll say
12 is that there are three legs to a Smart Grid
13 deployment. And, it is technology, which we've
14 discussed, communications and software, standards,
15 which speak to your question, and there are a lot of
16 standards being developed by NIST and Smart Grid
17 Interoperability Panel. Those standards are not yet
18 formalized to a large extent, but they are in the
19 process of trying to get there. So that, if PSNH
20 deploys a Smart Grid per a standard and the Co-op has a
21 Smart Grid, if they're using the same interoperability
22 standards, they're going to mesh perfectly. That's the
23 whole point of doing this five to ten year planning
24 process, so that everything communicates with each

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1 other properly. The third leg is regulatory, because
2 Smart Grid has such impact on the business model of a
3 utility that there are regulatory issues to be
4 addressed.

5 MS. AMIDON: Thank you, madam Chair.
6 That concludes my questions.

7 CHAIRMAN IGNATIUS: Thank you.
8 Commissioner Scott.

9 CMSR. SCOTT: Thank you.

10 BY CMSR. SCOTT:

11 Q. As you kind of just outlined, there's -- I guess, with
12 any new technology, there's always -- there's some risk
13 factor in there. So, even to the extent there is a
14 five year -- a five to ten year process, the technology
15 changes. So, there's always a risk of guessing wrong,
16 to some extent. And, I'll put it more -- I'll make it
17 a more pointed question. For instance, I assume you
18 agree that individual meters on residences and
19 businesses are an important part of the Smart Grid
20 development?

21 A. Yes. I'd agree.

22 Q. So, one potential venue for a utility to take would be,
23 not knowing the final architecture, the standards that
24 you discuss, could be to install smart meters that

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1 are -- the intention would be to be future-proof,
2 meaning they could be upgradeable, that type of thing.
3 But, again, even with that, there's a certain amount of
4 risk. There's no guarantee that that guess will be the
5 right one. Is that something your office, obviously,
6 you need to see the details, are you supportive of that
7 type of approach?

8 A. There's a open standard called "Meter Upgradeability
9 Standard", I don't think it's finalized, but, yes,
10 you've hit on a key. You don't want to go in and
11 deploy meters that may not meet your strategic plan
12 where you're trying to be ten years out, and then comes
13 out in the wash when you do a benefit/cost analysis.
14 There's an immediate gain sometimes upgrading meters
15 today. But where does that -- how does that look five
16 years out, if they don't fit into a -- don't support a
17 new requirement that wasn't considered. So, whether
18 it's -- the one important point I feel here is that
19 we're not in the early Version 1 Smart Grid phase, the
20 leading edge phase. That's already happened. And,
21 we're well into like Version 2, and PSNH may be in
22 Version 3 Smart Grid, where a lot of answers will be
23 resolved. There's a lot of agreement on communication
24 standards now to use Internet protocols. There's wide

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1 agreement. And, that's some of the foundational work
2 that may get done even prior to the meters being
3 deployed. So, it's very difficult to plan the IT
4 investment, as you're pointing out. But I think you
5 can do it, if you're careful and thoughtful in how
6 you're doing it.

7 Q. And, of course, I have to assume, to the premise I just
8 rolled out, as far as "Gee, what if we deploy -- they
9 deploy the wrong semi-smart meter?" There's also a
10 risk if you don't employ, I'll use "dumb meters", if
11 you employ dumb meters, when you could have employed --
12 there's a potential lost opportunity there, too, is
13 that correct?

14 A. Yes. Because the meter upgrade, you get this immediate
15 positive hit, avoiding a lot of labor costs. But some
16 of the returns come a little bit further out, when you
17 get to load shifting, time-of-use, demand response, you
18 don't get those on day one. That's why they would be
19 looking five to ten years out. That's why you may make
20 that investment today, because you're committed to
21 doing X further on out.

22 CMSR. SCOTT: Thank you.

23 CHAIRMAN IGNATIUS: Commissioner

24 Honigberg.

[WITNESS: Brennan]

1 BY CMSR. HONIGBERG:

2 Q. In looking at the Settlement Agreement, Section 2.3,
3 how much distance is there between what's in that
4 paragraph and what you want?

5 A. I agree and like what is in that paragraph. What we're
6 seeking is the overall strategic plan, which I have not
7 seen, and I'm sure strategic plans exist within PSNH.
8 I have not seen them. I don't know what projects would
9 be included in it. But we would want to know that and
10 understand that, to interpret like why decisions might
11 be being made today. So, we're looking to actually see
12 what their long-term vision of their system is, from
13 2019 to 2024. And, then, based on that, a lot of
14 investment decisions today should be filtered on that.
15 Do we move it in that direction or is it not moving us
16 in a direction or is it not applicable to that
17 particular strategic goal?

18 CMSR. HONIGBERG: Got it. Thank you.
19 That's all I have.

20 CHAIRMAN IGNATIUS: Thank you. I have
21 no other questions. Any redirect, Ms. Chamberlin?

22 MS. CHAMBERLIN: Nothing. Thank you.

23 CHAIRMAN IGNATIUS: All right. Then,
24 you're excused. Thank you, Mr. Brennan.

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1 I assume that is it for witnesses, yes?

2 MS. CHAMBERLIN: Yes.

3 CHAIRMAN IGNATIUS: Then, is there
4 anything to take up before we wrap things up? Any
5 objection to striking the identification on the three
6 exhibits and making them full exhibits?

7 (No verbal response)

8 CHAIRMAN IGNATIUS: Seeing none, we'll
9 do that. Any other procedural matters before closing
10 comments?

11 (No verbal response)

12 CHAIRMAN IGNATIUS: All right. Then,
13 seeing none, let's begin first with Ms. Chamberlin.

14 MS. CHAMBERLIN: Thank you. Our concern
15 with the Settlement Agreement as proposed is that it
16 doesn't go far enough. We were looking for more detail.
17 We want to see the five to ten year plan. We're very
18 concerned that PSNH and, therefore, New Hampshire
19 consumers are missing out on opportunities to modernize
20 the grid. We're aware of this effort taking place at the
21 NU Massachusetts affiliate level. We expect we could
22 learn from that. We expect there are things that could
23 apply to New Hampshire. But there was no -- there seems
24 to be no bridge for applying what is learned elsewhere to

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1 here.

2 Where PSNH is a vertically integrated
3 utility, it continues to own generation, unlike any of the
4 other New Hampshire utilities, its planning process is
5 going to be different, even the T&D process is going to be
6 different. And, we are concerned that the generation is
7 driving its T&D, rather than perhaps a more cost-effective
8 methodology of planning. So, we are -- we don't think
9 that PSNH should stop doing integrated planning. We think
10 it should be more rigorous and more vigorous, even with
11 the legislation pending. We would still like to see
12 deadlines and filing dates, and just to make sure that
13 this process moves forward.

14 So, our overall concerns are
15 transparency, building from the NU effort, and making a
16 specific filing date or at least a reporting requirement,
17 understanding there are many moving parts to the PSNH
18 system today.

19 CHAIRMAN IGNATIUS: Can I ask you just a
20 question? I wasn't sure of the language you used. You
21 said that "we want to see the five to ten year plan." Did
22 you mean by that, there's a particular plan you want to
23 see and you've been denied access to or you want to see
24 one created that doesn't currently exist?

1 MS. CHAMBERLIN: We -- I'm not referring
2 to a specific plan. I don't know that there's a specific
3 plan. We expect that there is. A utility of that size
4 must do a certain amount of long-term planning. The
5 issue, as Mr. Brennan pointed out, is that, because this
6 is a complicated rollout of technology, you can't just
7 decide one day that you're going to do it next week. It
8 takes a huge amount of planning. And, we want to make
9 sure that that planning is taking place, and that we are
10 getting more cost-effective opportunities for residential
11 consumers. We know residential consumers are interested
12 in them, distributed generation, time-of-use. We're
13 concerned that, because, as the PSNH witness stated, it's
14 a small amount of kilowatts or megawatts at this time,
15 that it's not getting the attention that it needs to grow.
16 I mean, the goal is to take a small amount of power and
17 grow and really do peak-shaving and do other creative
18 means of reducing their use of power, rather than
19 increasing it.

20 CHAIRMAN IGNATIUS: So, you're looking
21 for not a planning document that shows how you would
22 integrate, the way Mr. Stachow has asked for, is something
23 that's more detailed in how the planning function is more
24 robust going forward, as opposed to more of a reporting

1 on, as he said, "ex post facto report". You're talking
2 about more of a sort of investment plan, correct?

3 MS. CHAMBERLIN: Yes. Our concern is
4 that investments made today will become stranded costs
5 tomorrow, if there's not adequate planning.

6 CHAIRMAN IGNATIUS: Thank you. Ms.
7 Amidon.

8 MS. AMIDON: Thank you. Staff has
9 conducted a thorough investigation of the Least Cost Plan
10 filed by PSNH. And, we believe it is adequate consistent
11 with RSA 378:38, as it stands today. We worked on
12 establishing the Settlement Agreement with the Company,
13 and believe that the additional sections that were
14 recommended by Mr. Stachow make it an improved document
15 for the planning next time. And, we support the
16 Settlement Agreement and ask the Commission approve it.

17 Finally, just a brief comment on Smart
18 Grid. I know there's some legislative barriers that exist
19 on that, insofar as the definition of a "smart meter" was
20 adopted by the Legislature some time ago, and I think that
21 would have to be examined. But, on sort of a 3,000-foot
22 level I think the Staff is interested in Smart Grid and
23 understands its benefits, but we believe this Commission
24 should consider, if it decides to go that way, opening a

1 generic docket, to make sure that all the utilities are
2 operating on the same basis. Thank you.

3 CHAIRMAN IGNATIUS: Thank you.

4 Mr. Fossum.

5 MR. FOSSUM: Excuse me. Thank you.

6 Preliminarily, I would like to say the Company has clearly
7 signed this Settlement Agreement that's presented to you
8 today having to do with the transmission and distribution
9 planning that was set out in its prior Least Cost
10 Integrated Resource Plan order, and believes that it's --
11 the Plan that it has submitted is both adequate
12 statutorily, and it meets the expectations of the
13 Commission as the Commission has expressed them.

14 As the witnesses have testified, this,
15 the documents that are here, the information that's been
16 provided is a reflection of the planning process that PSNH
17 actually undertakes. It is, to use Commissioner Scott's
18 words, it is a "living document". And, PSNH supports the
19 terms of the Settlement Agreement.

20 I would like to speak just to a couple
21 of points. I would want to make clear that PSNH's
22 distribution and transmission planning is planning for
23 distribution and transmission. It is not planning based
24 on its generation needs. And, I just wanted to make sure

1 that that was clear.

2 I was present last week for the hearing
3 involving Unitil Energy Systems' Least Cost Plan. In that
4 hearing, that company identified certain issues having to
5 do with, as we've talked about today, Smart Grid in a
6 generic sense. And, I would echo much of what was said by
7 UES in the implementation of Smart Grid planning. As
8 indicated in the Settlement Agreement, PSNH is doing Smart
9 Grid planning. It is deploying communications systems, it
10 is deploying sensors, it is deploying software, that is
11 improving the function of its distribution system.

12 I understand that there have been some
13 indications that metering is a factor in that, and there's
14 a recommendation in the OCA testimony that meters be moved
15 into the distribution planning arena. And, again, I would
16 echo what was said by Unitil last week, is that data from
17 meters in itself doesn't affect distribution planning. It
18 gives you information, but that doesn't determine when
19 necessarily system peaks are or the like.

20 I would also -- I guess I would also
21 just make clear that, you know, PSNH doesn't understand
22 the least cost planning statute, nor the requirements of
23 the Commission, to include some form of strategic
24 investment plan as part of its development of a

1 distribution plan. And, as I sit here, I'm not even
2 certain what exactly would be expected of us.

3 So, with that, I would say that the
4 Company supports the terms of the Settlement Agreement
5 that it has filed with the Commission. It has, we
6 believe, provided minimally -- at least adequate, if not
7 even better than adequate information in this instance,
8 and would recommend that the Commission approve the
9 Settlement Agreement as filed. Thank you.

10 CHAIRMAN IGNATIUS: Thank you. If
11 there's nothing further then, we will take all of this
12 under advisement. We appreciate everybody's work in
13 presenting it to us very clearly today. And, we are
14 adjourned.

15 **(Whereupon the hearing was adjourned at**
16 **11:27 a.m.)**