STATE OF CONNECTICUT

SITING COUNCIL

TEN-YEAR FORECAST OF ELECTRIC LOADS AND RESOURCES	JUNE 12, 2012 (1:05 p.m.)
DOCKET NO. F-2012-2013	

BEFORE: ROBIN STEIN, CHAIRMAN

BOARD MEMBERS: Colin C. Tait, Vice Chairman
Brian Golembiewski, DEP Designee
Larry Levesque, DPUC Designee
Edward S. Wilensky
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. . .Verbatim proceedings of a hearing before the State of Connecticut Siting Council in the matter of F-2012-2013 Ten-Year Forecast of Electric Loads and Resources for Connecticut, held at the offices of the Connecticut Siting Council, Ten Franklin Square, New Britain, Connecticut, on June 16, 2012 at 1:05 p.m., at which time the parties were represented as hereinbefore set forth . . .

CHAIRMAN ROBIN STEIN: Good afternoon everybody. This is Connecticut Siting Council Docket No. F-2012-2013. I'd like to call the meeting to order today, Tuesday, June 12, 2012, at approximately 1:05.

My name is Robin Stein and I'm the Chairman of the Connecticut Siting Council. Other members -- other members of the Council are Professor Tait, Vice Chairman; Mr. Golembiewski, the designee from the Department of Energy and Environmental Protection; Mr. Levesque, the designee from the Public Utilities Regulatory Authority. I understand Mr. Ashton will be joining us shortly, but present are Mr. Lynch, Senator Murphy, Dr. Bell, and Mr. Wilensky.

Members of the staff are Linda Roberts,

Executive Director; Melanie Bachman, Staff Attorney; and Michael Perrone, the Siting Analyst. Gail Gregoriades, the court reporter.

The Connecticut Siting Council is holding this public hearing on this 2012-2013 Ten-Year Forecast for Electric Loads and Resources in Connecticut pursuant to General Statute 16-50r. The purpose of this hearing is to examine the adequacy and reliability of electric generation and transmission in the State while considering the cost to consumers and protecting the environment.

Pursuant to these statutory requirements, this proceeding will analyze load growth forecasts of the State's electric utilities and plans to meet the demand for electricity through the year 2012 -- I'm sorry, 2021. Included in this analysis will be the following:

The estimated peak loads, resources, and margins for each year within the forecast period;

Data on energy use and peak loads for the five preceding calendar years;

Existing generating facilities in services;

Scheduled generating facilities for which property has been acquired for which certificates have

been issued and for which certificate applications have been filed;

Planned generating units at plant locations for which property has been acquired or at plant locations not yet acquired that will be needed to provide estimated additional electrical requirements in the location of such facilities;

And planned transmission lines on which proposed route reviews are being undertaken or for which certificate applications have already been filed;

Also steps taken to upgrade existing facilities and to eliminate overhead transmission and distribution lines;

And electricity purchased from private power producers.

The parties to this proceeding are as follows: FirstLight Power Enterprises, Attorney Kenneth Baldwin; Dominion Nuclear Connecticut, Inc., also Attorney Kenneth Baldwin; NRG Companies, Attorney Andrew Lord; Connecticut Municipal Electric Cooperative, Attorney Robin Kipnis; United Illuminating Company, or UI, Attorney Bruce McDermott; and The Connecticut Light and Power Company, or CL&P, Stephen Gibelli, Attorney.

We have a request to make ISO New England

an intervenor in this proceeding. Is there a motion to make ISO --

MR. COLIN C. TAIT: So moved.

CHAIRMAN STEIN: I have a motion. Do I have a second?

DR. BARBARA BELL: I'll second.

CHAIRMAN STEIN: Any discussion. Hearing none, all those in favor of the motion, signify by saying aye.

VOICES: Aye.

CHAIRMAN STEIN: Opposed? Abstentions? The vote carries.

And just so you know, the hearing will also continue this evening at 7:00 p.m. for the convenience of the public, and thereafter as necessary. Any person who desires to make their views known to the Council, may make an oral statement this evening or submit a written statement to the Council no later than July 14, 2011.

A verbatim transcript will be made of this hearing and deposited at the Council's office here in New Britain for the convenience of the public.

I wish to call your attention to those items shown on the hearing program marked as Roman

Numerals I-D, Items 1 through 8. Do any of the parties or intervenors have any objection to the items that the Council has administratively noticed? Hearing and seeing none, accordingly the Council hereby administratively notices these existing documents, statements, and comments.

Will the first participant, ISO New England, present its witnesses for the purposes of taking the oath, and come up to the table please.

(pause)

CHAIRMAN STEIN: It's helpful that you have nametags. Attorney Flynn -- is that -- well which -- which is --

MR. THOMAS O'CONNOR: Attorney O'Connor.

CHAIRMAN STEIN: Attorney O'Connor. I apologize.

MR. O'CONNOR: Tom O'Connor with Whitman, Breed, Abbott, and Morgan for ISO New England.

CHAIRMAN STEIN: Right. Would you have your witnesses take the oath.

MS. MELANIE BACHMAN: Please raise your right hand.

(Whereupon, Mark Karl and David Ehrlich were duly sworn in.)

MS. BACHMAN: Thank you.

CHAIRMAN STEIN: Do you --

COURT REPORTER: You need to bring those microphones up closer please.

A VOICE: Is that better?

CHAIRMAN STEIN: Do -- do you have any exhibits?

MR. O'CONNOR: We do not.

CHAIRMAN STEIN: Okay. So we'll just go right to cross-examination, starting with staff, Mr. Perrone.

MR. MICHAEL PERRONE: I understand ISO has a monthly seasonal claim capability report for generators. Do the generators perform their own audits and submit that info to ISO? How does that work and how often?

MR. MARK KARL: The way the audit process works is the generator calls the ISO and notifies the ISO that they are ready for an audit. The ISO then over the next week or so schedules -- schedules the audit. The generator does their performance testing and the ISO uses the metering reported by the meter readers, which are typically the utilities, to determine whether the generator actually performed properly.

MR. PERRONE: And about how often is that required to be done? Generally?

MR. KARL: We have summer and winter audits. I believe it's yearly.

MR. PERRONE: What is the status of the 2012 Regional System Plan?

MR. KARL: The Regional System Plan is in its internal review phase right now. The way the process works is we have a review at the senior staff level. That review has happened. We've had some preliminary reviews with our board. And it will then be rolled out to the public meeting. I believe the public meeting is in September, if I remember, and that's a public review of the plan.

MR. PERRONE: Does the RSP use the same forecast as the CELT report?

MR. DAVID EHRLICH: Yes.

MR. PERRONE: Okay. And that's C-E-L-T for the transcript.

MR. EHRLICH: Yes.

MR. PERRONE: Have there been any changes to how ISO performs its forecast? Like I know -- and we've asked this before -- that -- you know, energy efficiency, demand response, and emergency generation

have been treated as supply resources. That -- that still holds?

MR. EHRLICH: Yes.

MR. PERRONE: Now in the energy efficiency and demand response part of ISO's forecast, does ISO collaborate with the Connecticut utilities on that?

MR. KARL: On the energy efficiency forecast?

MR. PERRONE: Yes.

MR. KARL: Yes.

MR. PERRONE: Okay. And how does ISO differentiate active versus passive demand resources, generally?

MR. KARL: Well generally speaking, the passive resources are resources that create a permanent reduction in consumption. So the easiest way to think of it is efficiency. So if you install lighting or insulation, that sort of a thing, that's a -- that's considered a passive demand resource.

The active demand resources are the ones that we would call up and actually request them to take power off the system. So you may think about, you know, industrial interruption, you may think about commercial buildings that have their energy management system

program to accomplish reduction for a period of time.

MR. PERRONE: I took a look at the June 1, 2012 interconnection cue, the public version, and it -- it showed -- I believe it showed two natural gas-fired combined cycle facilities planned for Connecticut, one in New Haven County and one in Fairfield County. Does that sound right?

MR. KARL: That sounds right, but I -- I would have to verify that.

MR. PERRONE: And in our draft report, which will be out late this year, we plan to do a comparison of the 2002 forecast, which goes out to 2011, compared with the actual historical data, weather normalized. I was wondering if it would be possible to get as a late file exhibit the weather normalized historical energy and load data for Connecticut for 2002 through 2011 and the predicted 50/50 forecast data from a 2002 forecast?

MR. EHRLICH: We don't weather normalize state energy in peaks. And -- I could probably find the 2002 forecast --

MR. KARL: Weather normalized --

MR. EHRLICH: Well the forecast is 50/50 -- I assume you want Connecticut --

MR. PERRONE: Yeah, absolutely, all of Connecticut --

MR. EHRLICH: Yeah. Again, we don't have weather normalized state energy peaks, but I -- I can find the forecast for Connecticut from 2002.

MR. PERRONE: Okay. So then the -- the historical data will be the actual rather than --

MR. EHRLICH: Yes.

MR. PERRONE: Okay. That's all right. That's all I have. Thank you.

CHAIRMAN STEIN: Thank you. We'll now go from -- questions from the Council. Professor Tait.

MR. TAIT: No questions at this time.

CHAIRMAN STEIN: Mr. Wilensky.

MR. EDWARD S. WILENSKY: Yes. Maybe -- Mr. Karl, are there enough resources in Connecticut to supply the needs of Connecticut consumers we'll say for the coming summer -- for this coming year or is it going to be necessary to import energy from the other states, from Quebec and so forth and so on, or do you have an answer to that?

MR. KARL: I don't have a specific answer to that. I -- my guess is that there's probably enough, but I've never added it up that way, you know, because we

operate the market on a regional basis. And what we've -- what we always try to do is we try to run the most economic resources. So I've never added up, you know, Connecticut as a standalone.

MR. WILENSKY: Would you have any idea where the -- what the status of the Meriden -- the proposed Meriden facility and the Oxford, Connecticut facility stands in your projections, or do you have that information?

MR. KARL: In terms of its availability?

MR. WILENSKY: In other words, there are two plants that have -- that have been approved by the Connecticut Siting Council going back several years. One was in Meriden, Connecticut and one was in Oxford, Connecticut. I think it was Towantic Energy in Oxford and I'm not sure who has the permit at the present time, or for Meriden, because I think it's changed. Is that part of a projection as far as facilities that are used -- that would be considered as useful for your projections as far as the amount of energy in Connecticut?

MR. KARL: For this summer?

MR. WILENSKY: For the -- for the future, not necessarily this summer because neither one have been built.

MR. KARL: Okay. If the resource hasn't been built yet, we wouldn't be building that into the projection. What we end up doing is we -- you know, we operate a capacity market. And the goal of the capacity market is to procure the resources that would be needed to be system load. And through that market they are obligated to provide energy and capability to the system. And so we wouldn't really be counting on those resources until such time as they take on that supply obligation. They don't necessarily have to be constructed at the time they take on the obligation, but they would have to clear the market and assume that commitment.

MR. WILENSKY: As far as you are concerned are there more energy plants needed in Connecticut?

MR. KARL: At the present time, I don't think so. Although, you know, the --

(mic feedback)

COURT REPORTER: One moment please.

MR. WILENSKY: My ears hurt -- (laughter) --

(pause)

CHAIRMAN STEIN: Fortunately, the staff attorney also has other skills and abilities -- (laughter).

MR. KARL: And I guess there's two -- two versions of need. You know, the question would be, you know, do we have sufficient ability to make the electrons that we need --

MR. WILENSKY: Yes --

MR. KARL: -- that would be kind of one question. The other question would be are there more economic choices available. And through operating markets, we're actually trying to accomplish both. So from a need standpoint, I believe at the moment Connecticut is fine. As to whether there may be other resources available that could be more economic, that may well be.

MR. WILENSKY: Thank you -- thank you, Mr. Karl. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Lynch, why don't we go to you and then --

MR. DANIEL P. LYNCH, JR.: Just to follow up, Mr. Karl, what -- as to what you just said, if the plants have not been built and -- would they have to go back into the cue and be evaluated for need as you just meant?

MR. KARL: Well the way the market works is we don't -- we're not evaluating the plant based on

need the way we would look at a transmission line for example. What would happen is if the plant obtains a cue position, and it retains that cue position, the cue position gives it the right to interconnect with the system. It also gives it the right to put a certain quantity of capacity onto the system. That's -- that sets the value of that resource in the capacity market in terms of what it's allowed to offer in the capacity market. Once it then clears in the market, it's assumed the obligation to provide that capacity. At that point we would count it. It would not necessarily need to be built at that point in time, but it would have -- we would have had to run the qualification process to assure ourselves that the plant in fact can be built by the time that commitment period comes -- becomes the prompt year. The market runs approximately three and a half years in advance. So you know, depending on the resource, if it's a peaking facility, it may just be a greenfield, you know, with contracts and so forth and the right to build on it. If it's a larger facility, you know, you may -- the point when it takes on the obligation, it may already be under construction, but not finished yet.

MR. LYNCH: And is there a point where a plant could drop out of a cue position --

MR. KARL: Plants --

MR. LYNCH: -- is there a time limit I guess is what I'm saying?

MR. KARL: I want to try and remember all the cue rules -- they have the ability to drop out if they so choose. It sounded like you were asking whether -- whether they clock out and they basically get removed --

MR. LYNCH: That's -- that's what I'm asking.

MR. KARL: I would have to verify what that timing is.

MR. LYNCH: Thank you.

MR. KARL: Sure.

CHAIRMAN STEIN: Mr. Golembiewski.

MR. BRIAN GOLEMBIEWSKI: I just had one question. In regards to the diversification of fuel for the power plants in Connecticut, you know, we're trending towards natural gas as the predominant fuel source. Do you guys have any concerns regarding that --

MR. KARL: Well --

MR. GOLEMBIEWSKI: -- or are there any studies for anything or --

MR. KARL: Yeah, we -- we certainly do

have concerns about that. And that gets to the issue, you know, we were talking a moment ago where -- you know, the two types of need; you know, the one need is, you know, do you have sufficient capability to put the electrons in the system versus, you know, can you save money by moving to a different type of resource. What's been driving -- I mean there's a lot of reasons why we're seeing the fuel mix shift toward gas. You know, environmental issues are certainly a big part of it, but with the substantial decline in the price of natural gas, natural gas will become significantly more economic on the system. And so from a consumer standpoint, you know, for all consumers, we should certainly be glad to see the less expensive gas in the system.

At the same time though, the current numbers for New England as a whole indicate that approximately 52 percent of our total energy produced in New England is coming from natural gas, that's for last year. That is a very high number, a very high percentage on a single fuel. The ISO is concerned about that. And we've -- we've had a process underway under the banner of a strategic planning initiative where we've been working with state regulators, with the market participants, and to some degree with the FERC as well to determine what we

can do about that, what we should do about that, what makes sense for everyone to address that issue.

So that's -- that is an evolving issue. It is -- it is very much in focus at the FERC. I was in a meeting last week where Commissioner Moller was talking about it. They're going to be holding public hearings. And I believe the plan is for the first public hearing to be held in New England because New England is more dependent on natural gas I believe than any other region. So it is a concern. We are looking to address it though, so it's not a concern that's kind of hanging out there unaddressed.

MR. GOLEMBIEWSKI: And -- and your strategic planning -- I mean one of the things, you know, that I would consider, you know, in an emergency situation where, you know, supply for whatever reason is cut off, how do you, you know, make sure you have other sources on-line to meet some type of immediate demand or --

MR. KARL: Right at the moment -- from -- from that standpoint, right at the moment we are somewhat fortunate in that the New England region is long with respect to available resources in the system. So we do at the moment have several thousand megawatt -- megawatts

of surplus capability. Much of -- much of that capability actually is oil-fired. So we do at the moment have that kind of insurance policy to fall back on. Those resources are challenged. You know, it used to be -- if we look back ten years ago, those oil and coal resources used to provide some percent of our energy. Last year they were under five percent. So there is a question about their long-term viability. But at the moment anyway, they can serve as a lifeboat for us if something were to happen in the near term.

MR. GOLEMBIEWSKI: Do you know whether that lifeboat would be able to move over to Connecticut?

MR. KARL: Well it depends -- it depends on where the interruption would occur and it -- it would depend on the loading on the transmission system and then the available transmission. So you know, it -- it would depend on -- it would be very situation dependent.

MR. GOLEMBIEWSKI: Yeah. Okay, thank you. Thank you.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: Just following up on Mr. Golembiewski's questioning, the -- we don't produce natural gas here in New England --

MR. KARL: No, we don't --

MR. LYNCH: -- so we've got to bring it here.

MR. KARL: Right.

MR. LYNCH: Is there any talk with the infrastructure of maybe creating a new pipeline to bring natural gas into Connecticut as the use for it grows?

MR. LYNCH: That is -- there is talk about the desirability of doing that. Within the strategic planning discussion, you know, there are -- there are some discussions along the lines of, you know, what, if anything, can we as a region do to incent the construction of something like that. And I -- and I do believe that there is a merchant proposal out there where people are considering the possibility of building a line I believe through Pennsylvania up here to New England. That would be a good thing for us. We would -- we would certainly like to see that.

MR. LYNCH: Thank you. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Levesque.

MR. LARRY LEVESQUE: If the DC line connected --

COURT REPORTER: I'm sorry, Mr. Levesque, can you move the microphone.

MR. LEVESQUE: If the DC line proposed on the Canada border, Quebec, was -- was approved and built, how would the connection be to supplement Connecticut?

MR. KARL: It would depend on where the terminal point is because you -- you're building from Quebec down into New England. Obviously, the further south that line is built, the more helpful it would be to Connecticut.

We do -- within the system we are getting into a situation where we do have a north to south flow constraint. So resources in the northern part of New England -- we're moving toward a situation where resources in the northern part of New England are less valuable to southern New England. The question is whether -- whether the constraints that cause that to occur are a reliability issue or are they an economics issue. And so from a -- although my group doesn't do the need studies, the guys that are doing the need studies would have to determine whether the resolution of that constraint is needed for reliability or if it's needed for economics, and that then would determine how that constraint will be addressed.

MR. LEVESQUE: There's alternative proposals for the determination of that?

MR. KARL: Right off the -- the last that I was involved in it, which has been some time ago, I know there was discussion about -- if I remember there were three different potential end points for it, but it's been -- it's been a while since I've been involved with that because I don't do the transmission planning side.

MR. LEVESQUE: Alright, thank you.

MR. KARL: Sure.

CHAIRMAN STEIN: Senator Murphy.

MR. JAMES J. MURPHY, JR.: I have no questions, Mr. Chairman.

CHAIRMAN STEIN: Dr. Bell.

DR. BELL: Thank you, Mr. Chair. Just beginning with another follow-up to Mr. Golembiewski's question, when two companies recently came before us in 2011, they each dutifully said that they had discussed the matter of the dual fuel requirement with you and ISO said it was fine. Subsequently, before you made your statement this afternoon, I also heard Mr. Van Wheely (phonetic) make the same statement as you made, more or less. If a company came to you today from Connecticut and said we'd like to get rid of the duel fuel requirement for ourselves, say Kleen Energy, which would

be unlikely, but just a pure hypothesis, would you say fine, as the companies last year told us you said?

MR. KARL: Well it -- I think the issue is -- we don't have within our FERC tariff really the ability to say no to that. You know, so it would be -- as long as the resource is still qualified to put power onto the system with its primary fuel, at the moment, to my knowledge we don't have the ability to essentially require the continued operation of dual fuel. We -- we do require the ability to put power on the system, but to my knowledge, we don't have the ability to say anything other than well okay go ahead.

Within the strategic planning process though and in discussion, the question is whether there should be incentives for dual fuel so that they would choose not to do away with that equipment or should in fact there be a requirement that would then be built into our FERC tariff so that we could require certain characteristics, whether it be dual fuel or firm fuel, because if somebody has -- let's say somebody had, you know, firm rights for the pipeline, would we necessarily want them to also have dual fuel or not --

DR. BELL: Yeah, I see --

MR. KARL: -- so what we'd be looking to

do --

DR. BELL: Yeah --

MR. KARL: -- is to get to the economic choice. And so that is within the scope of what we're considering in the strategic planning process.

DR. BELL: Okay, thank you. Can you tell us the status of the -- of demand resources in terms of whether they can participate in the ancillary services market or the forward reserve market?

MR. KARL: At the moment, I don't believe that they do participate in those markets. They do participate as a capacity resource, so you know, they count for capacity. The reason I slightly hesitated there is I'm not sure if the emergency generator category is allowed to or not, but I don't think that they are at the moment. I know that that's been an issue that people have been considering for some time, as to how -- how we could bring them into the reserves market.

DR. BELL: Is there any sense of progress because this is probably the third or fourth year I've asked this question?

MR. KARL: That used to be my responsibility in the market development area. I'm -- I'm not actually sure where that stands right now.

DR. BELL: Thank you. Regarding the public policy and the coordination clauses in the FERC Order 1000, my question is has either of these clauses affected your assessment of the NEEWS plan for Connecticut in any way, and could you explain?

MR. KARL: That -- actually, I can't address that one because my group doesn't get involved in the transmission planning side of things. We primarily focus on the resource adequacy side. So in terms of -- you know, my knowledge would just be cursory at best.

DR. BELL: Okay. Nobody else here can take a whack at that one? Alright.

Can you tell us how the ISO 2011 peak for the RSP compared with the forecast that was -- I'm sorry, I'm looking at the wrong one -- can you tell us how the actual 2011 peak compared with the forecast that covered that period?

MR. EHRLICH: After you weather normalize that particular day, and then -- essentially we constitute that day for the active demand resources that were called. And when you compare it to our forecast, because our forecast doesn't include the passive resources, we would constitute the actual -- for the passive available -- it fell around the 85/15 peak, just

under the extreme peak.

DR. BELL: Thank you. If you're considering renewable resources and integrating those into the ISO system, wind has several issues. We know that it has variability issues, remoteness issues, and issues regarding weather forecasting. My question, since wind has been covered pretty thoroughly in a number of ISO reports, would you say that integrating solar has the same issues?

MR. KARL: It has -- it definitely has similar issues. One -- I think one advantage that solar has, at least in New England anyway, over wind is that the production of solar tends to be very coincident with the peak load. So in other words, on a hot day when the sun is shining, you need a lot of electricity and your solar panels are working well. One of the issues that wind has a lot of the time is on hot days, it's not blowing. So solar has that advantage going for it. Of course it doesn't work at night, so it has -- you know, it has those issues as well. So it has -- I would say solar and wind have similar sorts of issues, but not the same because of the difference in the characteristics, variability and so forth.

DR. BELL: Thank you. Those are my

questions, Mr. Chair.

CHAIRMAN STEIN: Okay. We'll now go to see if any of the other parties wish to cross-examine. So I'll just go down and whoever represents them, just -- FirstLight Power Enterprise?

MR. KENNETH BALDWIN: No questions, Mr. Chairman.

CHAIRMAN STEIN: Dominion Nuclear?

MR. BALDWIN: No questions.

CHAIRMAN STEIN: NRG? Is there anybody from NRG?

MR. TAIT: I don't see anyone.

CHAIRMAN STEIN: Then I guess that means no questions. Connecticut Municipal Electric --

MS. ROBIN KIPNIS: No questions.

CHAIRMAN STEIN: Thank you. UI?

MR. BRUCE MCDERMOTT: No questions. Thank you, Mr. Chairman.

CHAIRMAN STEIN: CL&P?

MR. STEPHEN GIBELLI: No questions.

CHAIRMAN STEIN: Okay, that would end it at this point for ISO. Thank you all for coming and --

MR. KARL: Thank you.

MR. O'CONNOR: Thank you.

CHAIRMAN STEIN: -- I guess you should stick around and see if you have any questions for others.

So I guess the next will be FirstLight Power.

(pause)

MR. BALDWIN: Good afternoon, Mr. Chairman and members of the Council. I'm Kenneth Baldwin with Robinson and Cole here today on behalf of FirstLight Power Resources.

Our witness today is Mr. Eric DeBarba. Mr. DeBarba is the Long-Term Asset Manager for FirstLight Power Resources Services, LLC, and I offer him to be sworn at this time.

CHAIRMAN STEIN: Alright, thank you.

(Whereupon, Eric DeBarba was duly sworn in.)

MS. BACHMAN: Thank you.

MR. BALDWIN: Mr. Chairman, we have two exhibits to offer into this docket. They are listed in the hearing program as FirstLight's Report of Forecast of Loads and Resources, dated March 15, 2012, and FirstLight's Responses to the Council's Interrogatories, dated April 23, 2012. And I offer them for

identification purposes subject to verification.

CHAIRMAN STEIN: Okay. Are there any objections at this point? Hearing and seeing none, continue please.

(Whereupon, FirstLight Power Resources Exhibit No. 1 and No. 2 were marked for identification purposes.)

MR. BALDWIN: Thank you, Mr. Chairman. Mr. DeBarba, did you prepare or assist in the preparation of the exhibits listed in the hearing program, the Load and Forecast Report and the interrogatory responses?

MR. ERIC DEBARBA: Yes, I did.

MR. BALDWIN: And do you have any corrections, additions, or deletions to offer at this time?

MR. DEBARBA: I do not.

MR. BALDWIN: And is the information contained in those exhibits true and accurate to the best of your knowledge?

MR. DEBARBA: Yes, it is.

MR. BALDWIN: And do you adopt that information today as your testimony?

MR. DEBARBA: I do.

MR. BALDWIN: Mr. Chairman, I offer -- I

offer them as full exhibits.

CHAIRMAN STEIN: Does any party or intervenor object to the admission of these exhibits? Hearing and seeing none, the exhibits are admitted.

(Whereupon, FirstLight Power Resources Exhibit No. 1 and No. 2 for identification were received into evidence as full exhibits.)

CHAIRMAN STEIN: We'll now go on to the cross-examination. Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. How often are seasonal claim capability audits performed by FirstLight?

MR. DEBARBA: We -- we have a variety of assets, and I'll break them into really two groups. The larger assets are run twice a year, summer and the winter. We have a lot of small hydros that are considered intermittent as a label, and they don't actually run separate tests. They are basically judged based on how much power are produced during so-called reliability hours, which are discreet hours in the summer period or the winter period.

MR. PERRONE: Okay. Of the units listed in your forecast report, could you tell us which ones are base load, intermediate, or peaking units?

MR. DEBARBA: Sure. The peaking units are Rocky River, which is a pump storage facility; Tunnel 10, which is a gas turbine; and Waterbury Generation, also a gas turbine. The remainder are all hydro units. And by their very nature they're considered base load in a sense, except that our two large ones, Shepaug and Stevenson, are more true base loads, the others are what we call intermittent, they're run-of-river, and basically whatever water is coming into the units. We use the units on an instantaneous basis. So during periods -- summer periods, particularly when the water level is really low, they may not run at all.

MR. PERRONE: So units like that aren't necessarily dispatched, you just run them as much as you can?

MR. DEBARBA: That's correct.

MR. PERRONE: And the Rocky River pump storage facility, do you run that daily or is that just kind of reserved for high/low days?

MR. DEBARBA: Yeah, Rocky River is a forward reserve unit, so we are basically keeping it in reserve for the ISO. And the ISO will basically -- you know, they -- they set a strike price above that price to allow them to run. But at Rocky, we -- we run it very

infrequently. We have limitations on how much it can run. And right now we have about 18 inches of water that we can go down to. And that equates to about 60 hours worth of operation.

MR. PERRONE: Okay. Do you have any plans for new generating facilities or power upgrades to existing facilities?

MR. DEBARBA: The only one that we are, you know, in some consideration on is Scotland. It's a very small facility, probably a little less than one-megawatt of an upgrade.

MR. PERRONE: How has the adoption of RPS affected your operations?

MR. DEBARBA: Well it's been positive from the standpoint of our Tunnel hydro unit and our Taftville hydro unit. Both of those have now been upgraded to Connecticut Class 1 status. The extra revenue is helpful to us and allows us to make investments in the facility and keep them upgraded.

The two facilities that come to mind that we would like to see some added help on are Bulls Bridge in Falls Village up in the northwestern corner of Connecticut. Those units are about a hundred years old now. They performed very well over their history, but

they're -- they're in need of some additional repair. It would be great if they were to be able to qualify for the renewable portfolio standard measures, but they're just a little bit shy of the mark of a 5-megawatt nameplate rating. They're more like 10. And so that little difference makes big world of difference in their ability to reach some funding levels that would help them, you know, continue.

MR. PERRONE: Okay. Have there been any recent changes in environmental standards that have affected your operations?

MR. DEBARBA: Well the one that comes to mind is Rocky River. As I said, it's a pump storage unit and it pumps up from the Housatonic River. And there is a concern with Zebra Mussels, which are an invasive species, coming into Connecticut. We haven't seen them in Candlewood Lake, which is the upper reservoir, yet. But we are taking precautions, and this year we're voluntarily not pumping during the summer months.

MR. PERRONE: Thank you. That's all I have.

CHAIRMAN STEIN: Thank you. Professor Tait.

MR. TAIT: You mentioned Scotland as a

potential generating facility?

MR. DEBARBA: Well Scotland is currently a hydro. It's kind of been a longstanding unit. It's in a FERC relicensing stage right now and we are -- it has sufficient water, during -- particularly during winter periods to basically run some additional output. So we are looking at putting in what we call a mini-flow turbine in there that would generate maybe another half to one megawatt.

MR. TAIT: What river is it on?

MR. DEBARBA: I think it's Shetucket.

MR. TAIT: That sounds right.

MR. GOLEMBIEWSKI: Yes.

MR. DEBARBA: Yes. Brian knows --

MR. GOLEMBIEWSKI: Yeah, the Shetucket.

MR. TAIT: And there's one in Robertsville?

MR. DEBARBA: There is a facility in Robertsville close to the Massachusetts border. It's a run-of-river facility. There's really not much additional water to be had there.

MR. TAIT: Does it get licensed like other dams --

MR. DEBARBA: Let me just check here --

Robertsville is not a FERC licensed facility.

MR. TAIT: And that's because it's too small?

MR. DEBARBA: It's too small, yeah.

MR. TAIT: Is there any thoughts of removing any of those dams because of age or to get run-of-river for -- any --

MR. DEBARBA: Not at this point.

MR. TAIT: Thank you.

MR. DEBARBA: You're welcome.

CHAIRMAN STEIN: Mr. Wilensky.

MR. WILENSKY: Out of curiosity, where is Robertsville?

MR. DEBARBA: Robertsville is near -- north of Winsted, Connecticut --

MR. WILENSKY: Okay --

MR. DEBARBA: -- by 10 miles maybe, or something like that, but close to the Massachusetts border.

MR. WILENSKY: With the Waterbury plant have you -- do you come on-line very often or are you consistently on-line, or do you just come on-line when it's -- when it's needed as a peaking plant?

MR. DEBARBA: It's -- it's the latter.

It's when it's called upon as a peaking unit. It's -- it's got a dispatch price that's, you know, above the base load price --

MR. WILENSKY: Has it come on-line --

MR. DEBARBA: -- but it's not unusual for it to run maybe an hour or two during, you know, kind of warmer days or days when the price might start to pump up a little bit.

MR. WILENSKY: Has it come on-line very often?

MR. DEBARBA: I would say it runs a fair amount, yeah. Yeah. But probably less than half the days, but, you know, maybe a hundred days in the year.

MR. WILENSKY: So it's been -- it's been an asset?

MR. DEBARBA: Oh, yes. It has, yes, definitely.

MR. WILENSKY: And as an aside to this, when you built that plant, you had various agreements with the City of Waterbury. Did those all come to fruition, such as a walking trail or a park or something like that --

MR. DEBARBA: I --

MR. WILENSKY: -- that was a tradeoff with

the city?

MR. DEBARBA: I know there were a number of agreements --

MR. WILENSKY: Yes --

MR. DEBARBA: -- that were negotiated. To my knowledge, we've lived up to our -- to our obligations on those. But I'm not -- I'm not familiar with the details --

MR. WILENSKY: That's not in your job description, right, Mr. --

MR. DEBARBA: I don't know those -- those details with --

MR. WILENSKY: Okay, thank you. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Thank you. Mr. Golembiewski.

MR. GOLEMBIEWSKI: No questions. Thank you.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: No questions, Mr. Chair.

CHAIRMAN STEIN: Mr. Levesque.

MR. LEVESQUE: No questions.

CHAIRMAN STEIN: Senator Murphy.

MR. MURPHY: No questions, Mr. Chairman.

CHAIRMAN STEIN: Dr. Bell.

DR. BELL: Thank you, Mr. Chair. Does FirstLight have any problems with the stream flow standards adopted by the legislature?

MR. DEBARBA: I'm not -- I'm not familiar with those standards.

DR. BELL: Okay.

COURT REPORTER: One moment please.

(pause - tape change)

DR. BELL: So you don't think you are involved in the negotiations about them?

MR. DEBARBA: It's -- it's possible. I -- I'm just not familiar --

DR. BELL: Okay, thank you --

MR. DEBARBA: -- I mean we -- we can -- I could find out and get back to you.

DR. BELL: Thank you. The rainfall in Connecticut -- going back now to other parts of the hydro operations -- has been increasing. At the same time we have more extreme weather patterns, so we have more long droughts and then periods of intense rain, all of which is predicted by climate change projections. But climate change projections, as we know, are a little iffy. So my question to you is simply how do you -- have you

attempted to deal with those kinds of weather predictions, which are of course different than the -- than just going by historical patterns, or do you just merely say -- kind of do an end run and say well that will -- those climate change predictions exist and they simply increase the uncertainty in our normal uncertainty bars for weather?

MR. DEBARBA: I think it's more the latter. If you'll look at our exhibit, you can see the hydro generation we have over the last just five years for instance, it has quite a bit of variance to it. And we know for instance in the 2011 year there was -- we had a record snowfall, there was a lot of precipitation. This year by contrast, it's dropped quite a bit. So if you were to say yes it's increasing, you would have been wrong this year. But I think for some of our facilities, which are run-on-river, basically all the water that comes in basically leaves, so it almost doesn't matter. There's not much we can do. So the water that is passing through the facility, we use it the best we can, but it doesn't really matter that much. And based on prediction, we're going to -- it's going to be what it is.

DR. BELL: Okay, thank you. Those are my

questions, Mr. Chair.

CHAIRMAN STEIN: Okay. Professor Tait.

MR. TAIT: How many power plants do you have that are not licensed by the FERC? There's Robertsville.

MR. DEBARBA: Bantam --

MR. TAIT: Bantam --

MR. DEBARBA: -- Robertsville --

MR. TAIT: A little slower, sir. Bantam.

MR. DEBARBA: Robertsville.

MR. TAIT: Yeah.

MR. DEBARBA: Taftville.

MR. TAIT: Taftville, okay.

MR. DEBARBA: And Tunnel.

MR. TAIT: The last one?

MR. DEBARBA: Tunnel.

MR. TAIT: Tunnel. And where is Tunnel?

MR. DEBARBA: That's in the eastern part of the state. I think that's maybe also on the Shetucket River.

MR. GOLEMBIEWSKI: In Norwich.

MR. TAIT: Norwich. Taftville is Norwich too, isn't it? So these don't come up to be relicensed by FERC?

MR. DEBARBA: That's correct.

MR. TAIT: Are they economical -- from your point of view -- from an economical point of view are they worth running?

MR. DEBARBA: Oh, yes, definitely. And particularly Taftville and Tunnel, which are -- which are considered renewable units, Connecticut Class 1 renewables.

MR. TAIT: How about the others?

MR. DEBARBA: The others, it's not as economic, but they -- they still are -- they --

MR. TAIT: Don't they -- don't they require some maintenance --

MR. DEBARBA: Oh, yes. Yeah.

MR. TAIT: Does Robertsville pay for itself?

MR. DEBARBA: It's a close call.

MR. TAIT: What other ones are close calls? Scotland you're going to improve?

MR. DEBARBA: No, Scotland is -- is viable --

MR. TAIT: Yes --

MR. DEBARBA: I would say the ones that are more marginal would be Robertsville and Bantam.

MR. TAIT: Thank you.

CHAIRMAN STEIN: Okay, now we'll see if there are any questions from any of the other parties. First, ISO, do you have any questions?

MR. O'CONNOR: No, thank you.

CHAIRMAN STEIN: Dominion? NRG? Connecticut Municipal?

MS. KIPNIS: No questions.

CHAIRMAN STEIN: UI?

MR. MCDERMOTT: No questions, thank you.

CHAIRMAN STEIN: CL&P?

MR. GIBELLI: No questions.

CHAIRMAN STEIN: Okay, thank you. I guess, Mr. Baldwin, you can stay seated and the next would be Dominion.

(pause)

MR. BALDWIN: Mr. Chairman, I'd like to introduce a new face for Dominion this year at the load and forecast hearing. This is Kevin Hennessey. Kevin is the Director of Federal, State, and Local Affairs for New England for Dominion Resources, Incorporated, stationed at Millstone and has replaced longstanding witness Dan Weekley at these proceedings. I would offer him to be sworn at this time.

CHAIRMAN STEIN: Okay.

(Whereupon, Kevin Hennessey was duly sworn in.)

MS. BACHMAN: Thank you.

MR. BALDWIN: Mr. Chairman, Dominion has two exhibits to offer in these proceedings; its March 1, 2012 Report of Forecast of Loads and Resources and its May 10, 2012 Interrogatory Responses to the Council's questions. And I offer them at this time for identification purposes subject to verification by Mr. Hennessey.

CHAIRMAN STEIN: Is there any objection? Hearing and seeing none, please verify.

MR. BALDWIN: Thank you.

(Whereupon, Dominion Exhibit No. 1 and No. 2 were marked for identification purposes.)

MR. BALDWIN: Mr. Hennessey, did you prepare or assist in the preparation of the two exhibits listed in the hearing program?

MR. KEVIN HENNESSEY: Yes.

MR. BALDWIN: Do you have any corrections, modifications, edits, or deletions to offer at this time?

MR. HENNESSEY: No.

MR. BALDWIN: Is the information contained

in those exhibits true and accurate to the best of your knowledge?

MR. HENNESSEY: Yes.

MR. BALDWIN: And do you adopt the information contained in those exhibits as your testimony today?

MR. HENNESSEY: Yes, I do.

MR. BALDWIN: Thank you. Mr. Chairman, we offer them as full exhibits.

CHAIRMAN STEIN: Are there any objections to -- to the -- to these exhibits? Hearing and seeing none, the exhibits are admitted.

(Whereupon, Dominion Exhibit No. 1 and No. 2 for identification were received into evidence as full exhibits.)

CHAIRMAN STEIN: We'll now go to cross-examination first by staff. Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. How often are seasonal claim capability audits performed for ISO on the Millstone facility?

MR. HENNESSEY: At Millstone they're twice a year. There is a summer audit and a winter audit. The summer audit is between June 1st and September 15th. And the winter audit falls between November 1st and April

15th.

MR. PERRONE: Are any further power upgrades or uprates to Millstone 2 or 3 planned or considered at this time?

MR. HENNESSEY: No.

MR. PERRONE: And both units are base load, is that correct?

MR. HENNESSEY: That's correct.

MR. PERRONE: How many months apart are the refueling performed for a given unit?

MR. HENNESSEY: Each unit at the plant during outage is 18 months.

MR. PERRONE: The Council approved a petition in late 2010 for Dominion's replacement of the normal station service transformer and the reserve station service transformer for Unit 2. Has construction been completed?

MR. HENNESSEY: Yes, it has.

MR. PERRONE: How would Millstone be affected by the EPA proposed cooling water intake structure rule expected to be effective July 2012?

MR. HENNESSEY: That's a great question. That's where I think like a lawyer and say it depends. We're still kind of waiting to see what the decision will

be from EPA. It's anticipated or scheduled to be July 27th of this year. I'm hearing rumblings that it's likely that that will be delayed. So we're waiting on that.

And there's really two -- two factors with the recent -- there's impingement and entrainment. Impingement is some of the material that gets stuck on the intake structure, and entrainment is what goes through the system. Impingement will be a federal rule that's kind of nation-wide. Whereas the entrainment side is going to be left more to the states and it's going to be more actually on a case-by-case basis based on the facility. So 316B impacts not just power generation but anyone that uses cooling water, so large industrial facilities. I believe the number in Connecticut is about, you know, 12 to 15 facilities that will be affected by this. And it's too soon to tell right now what that impact will be.

The one caveat I'll say is, you know, I think when -- when you ask this question, I take it that people start thinking about cooling towers down the road and what's the likelihood of that. That's never been done as a retrofit at a nuclear facility. So -- that's one thing I do know for sure. So if it does go down that

road, you know, it's a significant impact, because it's something that's never -- never been done here.

MR. PERRONE: What is the status of the effort to establish a national repository for spent fuel?

MR. HENNESSEY: Another very good question. That has become a political hot potato. And at this point in time, you know, Yucca Mountain, the -- the application has been withdrawn. And we had the Blue Ribbon Commission that the President created to look into spent fuel and some recommendations. DOE is scheduled to respond -- I believe it's July this year. It was six months after the Blue Ribbon Commission's recommendations came forward. So it's a hot topic down in D.C. There's a lot of action. I know that the House is busy working on legislation to try to address this issue. But given, you know, who's in power and what branch of government and the -- the kind of the natural rub, it doesn't look like it's going to be resolved anytime soon.

MR. PERRONE: Is there any movement to begin -- or at least to consider reprocessing spent fuel?

MR. HENNESSEY: Not that I'm aware of, no.

MR. PERRONE: Okay. Thank you. That's all I have.

CHAIRMAN STEIN: Okay. Professor Tait.

MR. TAIT: What do other countries do with their spent fuel? Which countries in the world have mostly nuclear power?

MR. HENNESSEY: Other -- other countries are reprocessing their fuel --

MR. TAIT: These plants, for example, what do they do with their spent fuel?

MR. HENNESSEY: They reprocess their fuel --

MR. TAIT: A hundred percent?

MR. HENNESSEY: My understanding is they -- they reprocess it a hundred percent. And what happens is there's still ultimately some waste, but it's much less so --

MR. TAIT: Where does it -- where does it go?

MR. HENNESSEY: Where does their waste go? They have -- they -- I believe they have a national repository there.

MR. TAIT: Somewhere in France? What does -- what does England do?

MR. HENNESSEY: I believe they also reprocess their waste. I think we're one of the -- we're one or the only countries that doesn't reprocess to my understanding. And I think that was -- that dates back to the Carter administration and really dealt more with weapon proliferation and potential concerns with --

MR. TAIT: What other countries in the world are heavily nuclear powered?

MR. HENNESSEY: There's -- there's nuclear units throughout Europe. There's some in Asia. Everyone is aware of Japan. They've shut down most of -- all of their fleet. However, there's talks as recently as over this weekend that they're starting to try to turn some of those units back on-line.

MR. TAIT: Do they all reprocess their fuel except us?

MR. HENNESSEY: To my knowledge yes, we're -- we're one of the few that doesn't.

MR. TAIT: When we start thinking of a national depository, that means finding some place to put it. Like you said, it's a hot potato, and I'm sure it's political. There's also the problem of getting it there.

MR. HENNESSEY: There's transportation,

correct.

MR. TAIT: So if you -- if Yucca Mountain was selected, how would everybody get it there without causing states that would object? Would that be part of the federal legislation?

MR. HENNESSEY: That -- that's one of the concerns, there would be objection, but it would be transported by DOE in spent fuel canisters. Whether it's rail or freight or truck, you know, I'm not quite sure. I think it depends on each site and where it ultimately --

MR. TAIT: And I assume federal preemption would say it goes over your highway whether you like it or not.

MR. HENNESSEY: If they were able to construct the repository, I would imagine they would have that ability --

MR. TAIT: I can't imagine somebody saying -- like Ohio saying don't go through Ohio. So all of our plants in the United States are now stored on site --

MR. HENNESSEY: Correct --

MR. TAIT: -- the fuel --

MR. HENNESSEY: Correct.

MR. TAIT: How long is that going to last?

MR. HENNESSEY: How long will that last? Until there's a national repository.

MR. TAIT: So -- take Connecticut for example, we can expect to have more spent fuel and more applications to put canisters in the backyard of power plants?

MR. HENNESSEY: Well it would just be at the existing site, which is --

MR. TAIT: Yes --

MR. HENNESSEY: -- which is Millstone. Yes, we're storing all our fuel on site. And we will until there's a national repository.

MR. TAIT: And how far are you along in filling up what you have out there that we've approved?

MR. HENNESSEY: Currently, we have 19 canisters that are built, and 14 are filled. We also store fuel in our spent fuel pool. So you know, 1, which stopped operation in 1998 is in safe storage in the spent fuel --

MR. TAIT: How long does it take you to fill up one of the canisters?

MR. HENNESSEY: We've got -- we've got enough -- we've got a plan that was approved by this Siting Council to do -- up to 135. We've got the

permission to build a pad to do 49 modules, which would run us through our licensed life of 2035 for Unit 2 and 2045 for Unit 3, which would have a full load reserve in the spent fuel pool, as well as taking some of that fuel out of the spent fuel pool and putting it into dry cask storage.

MR. TAIT: Do all the states use the same sort of depository -- on-site depository stuff?

MR. HENNESSEY: Well there's different ways to store it. You can store it in the spent fuel pool --

MR. TAIT: Yeah --

MR. HENNESSEY: -- or -- or in dry cask. And there's -- in Connecticut for instance, my understanding is that Haddam has vertical dry cask storage. We use horizontal. So there's -- there's different manufacturers, different containers, but it's the same --

MR. TAIT: Describe vertical? Does it go into the ground or --

MR. HENNESSEY: No, it's above ground. It's on -- it's on a concrete pad or slab. It's just -- it's vertical. It stands -- you know, it's a concrete vertical structure. Whereas at Millstone, we have

horizontal structures.

MR. TAIT: About how high? So how long is --

MR. HENNESSEY: At Millstone with the horizontal -- I don't have the exact figure. I would estimate it around 15 feet.

MR. TAIT: How about the vertical?

MR. HENNESSEY: I don't know that. A little taller, but I don't know.

MR. TAIT: Thank you.

CHAIRMAN STEIN: Mr. Ashton.

MR. PHILIP T. ASHTON: Going back to the rest of the world, as part of utilizing spent fuel is there a technology that the French have that is somewhat unique?

MR. HENNESSEY: I -- I don't know what their -- what --

MR. ASHTON: I'm thinking of the super Phoenix reactor.

MR. HENNESSEY: I'm unfamiliar with that. I -- I know that they are able to reprocess. I don't know if it's unique from the rest of the world. I know the technology has evolved since -- since --

MR. ASHTON: Let me try it a little

different way. Are you aware of a breeder reactor?

MR. HENNESSEY: I'm sorry, I didn't hear you.

MR. ASHTON: A breeder reactor.

MR. HENNESSEY: I'm not familiar with that reactor --

MR. ASHTON: Okay. I have no further questions.

CHAIRMAN STEIN: Mr. Wilensky.

MR. WILENSKY: What -- what fuel rods go into the storage on site, from Millstone 1 or Millstone 2 or 3, or recent ones, or the older ones?

MR. HENNESSEY: Right now -- I assume you're talking about the dry cask storage on our site?

MR. WILENSKY: Yes.

MR. HENNESSEY: Right now it's just Unit 2. It's been approved for Unit 2 and 3 --

MR. WILENSKY: And what -- what happens with -- from Unit 1? Where are they --

MR. HENNESSEY: Unit 1 is in a spent fuel pool in the Unit 1 building. It's still on-site. It's stored on site, but it's in a wet spent fuel pool versus the dry cask storage.

MR. WILENSKY: I think years ago some of

us visited the site, so I have some idea of what you're talking about. But how long do they last? Forever? In other words, do they run out of steam, run out of gas after 30 or 40 years, or whatever?

MR. HENNESSEY: Well I mean they -- they -- they continuously degrade. And so right now some of the spent -- the Unit 1 spent fuel pool is at a temperature where it continuously is going down. And my understanding is it won't -- it's -- about 145 degrees is the maximum it can get even without cooling. And we have cooling in place right now in the fuel pool. So over time it just degrades and it's just, you know, a passive system. The dry cask storage -- it could stay there theoretically as long as the structure of the concrete and the canister are intact. It's --

MR. WILENSKY: But --

MR. HENNESSEY: -- it's a passive system.

MR. WILENSKY: -- do they degrade where they're down to we'll say zero without any -- where they can be removed without any problems --

MR. HENNESSEY: They can --

MR. WILENSKY: -- or is that never?

MR. HENNESSEY: They can -- they're storage stable and they can be removed safely, but the --

I think the -- the national repository is what the government decided it wanted to do to have it all in one place. And that's what we believe is the prudent and the best answer to have this spent material in one place, but it is safe where it is for the time being.

MR. WILENSKY: You haven't really utilized that storage on site that much. And -- in other words, the amount that's in there was in there the last time that we -- that you folks came before us --

MR. HENNESSEY: Well --

MR. WILENSKY: -- I don't think you've added much within the past year.

MR. HENNESSEY: We've got -- we've got a couple of things in the works. We've -- we've got a schedule. So this year and -- this month in fact, June of 2012, we'll be moving -- we'll be filling up four more canisters that are already built, so 18 of the 19 will be loaded. And we're also evaluating or looking to come back before the Council and discuss a full build out. Not that we'd do the full build-out now, but we have the permission for the pad for 49 modules, and we'd be looking for the permission for the whole pad, for the whole 135, and then we'd build that on an as-needed basis --

MR. WILENSKY: On this existing site that you now have?

MR. HENNESSEY: Correct.

MR. WILENSKY: Without adding any more to the site? In other words, you feel that site you have would adequately take care of 49 'til 130, or whatever that amount was?

MR. HENNESSEY: Yes. Yes.

MR. WILENSKY: The last question I have is have you had any -- have you had a shutdown for any reaction leaks in the past year or so?

MR. HENNESSEY: No.

MR. WILENSKY: Has there been any radiation leaks?

MR. HENNESSEY: No.

MR. WILENSKY: Thank you. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Golembiewski.

MR. GOLEMBIEWSKI: No questions. Thank you.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: Just a couple. On the -- you were just talking about the full build-out. You've filled up 24 canisters in less than 10 years. Now that's

-- that's pretty quick.

MR. WILENSKY: Yes --

MR. HENNESSEY: We have -- we have 14 filled.

MR. LYNCH: Yeah, but -- well you're going to add four more, so --

MR. HENNESSEY: Four more --

MR. LYNCH: -- so you've got 18 -- but that's -- that's still quite a bit in 10 years. And from what I understand, if you want to go beyond 49, you've got to come back to the Council for extra canisters -- or extra casings. And you'd want to go for the -- I thought we approved 88. You said 130 something or --

MR. HENNESSEY: My -- that could be correct. My understanding was that the 135 was raised because 135 would bring you -- 135 canisters is the amount that would be 85 from Unit 2 and 3 with the spent fuel pool also being utilized, and then the additional would be from Unit 1 if that moved out of the spent fuel pool into dry cask storage.

MR. LYNCH: Yeah, I'm just -- thank you for refreshing my memory here. When you come to the reason that -- I've heard the reason that some of the Europeans can use the -- can recycle the fuel is because

their designed plants are all standardized, whereas in the U.S. we have like a hodgepodge of different designs. Is that -- does that sound right?

MR. HENNESSEY: We do have a hodgepodge of designs, that's accurate. I -- I think that we could reprocess the fuel even with that hodgepodge of designs.

MR. LYNCH: Alright. And my last question is -- and I ask it every year and I'm probably going to get the same answer again --

MR. WILENSKY: Yes -- yes --

MR. LYNCH: -- are there any plans in the works for refitting Unit 1 for another fuel source to putting it on-line?

MR. HENNESSEY: No, there is not.

MR. LYNCH: Alright. I knew I'd get the same answer. Thank you, Mr. Chair.

CHAIRMAN STEIN: Thank you. Mr. Levesque.

MR. LEVESQUE: No questions.

CHAIRMAN STEIN: Senator Murphy.

MR. MURPHY: No thank you, Mr. Chairman.

CHAIRMAN STEIN: Dr. Bell.

DR. BELL: Thank you, Mr. Chair. I just wanted to go back to the original question that Mr. Perrone asked and review that. That was one of my

questions. You said that -- you named impingement and entrainment. And you said that impingement would be a federal standard for power plants, any power plants and not just nuclear power plants, and -- but you -- tell me why that would be? And then review entrainment, which you implied would revert to the states, and why that would be?

MR. HENNESSEY: That's -- that's correct. So 316B is the rule and it deals with impingement, which would be materials that end up being, you know, impacted against the intake structure. And the way the draft rule comes about -- it's anticipated that that will be a national -- that will apply a national standard. We're -- we're still waiting for the final rule, so it's --

DR. BELL: Right. I understand that.

MR. HENNESSEY: And then entrainment is what actually makes it into the intake, goes through the system, the cooling system, and then comes back out the discharge. And it's not just the nuclear facilities, it's any one that uses cooling water. So it could be a gas plant, a coal plant. It could be a heavy manufacturer. And the way the draft rules are, the EPA is going to divert that decision-making to the states it looks like, and that they're going to have on a case-by-

case basis the ability to determine what the best technology available is to deal with entrainment issues at each site.

DR. BELL: So my question is -- understanding that part of the review, which I'm now clear on, why -- what's the rationale for the different treatment of impingement and entrainment? Is it just political? That is -- I mean there probably are different impingement technologies too as well as entrainment. I mean is it just that they're going to leave the tricky decisions about which technology to use to the states? In that case if there are different technologies for impingement, it should also be thrown to the states -- I'm trying to figure out why this difference that you're outlining.

MR. HENNESSEY: I think the -- I think the impingement technology is pretty -- it's pretty advanced now. They've got these traveling screens and kind of fish returns, and they've got some good equipment that works well, and I think they feel they have a stronger hold -- the entrainment is -- one difference I think is each region of the country is different, it has different marine life, and it has different impacts depending on when the intake is being utilized versus when it's not.

And so I think that because each region is different and they have different impacts on the aquatic life, that that's one reason why they're not doing a national standard on the entrainment, and that's why it would be on the ad hoc basis for each state to determine --

DR. BELL: Well --

MR. HENNESSEY: That probably doesn't satisfy your question. I don't know the best answer to that. That's -- that's --

DR. BELL: Well I know -- at least I know enough to know that that's not going to be our concern --

MR. HENNESSEY: No --

DR. BELL: -- so I'll pass that over. Thank you for your expansion on it. Thank you, Mr. Chair.

CHAIRMAN STEIN: Thank you. Mr. Perrone.

MR. PERRONE: Actually, I just have one more question if I may. I understand the policy not to reprocess goes way back. Do you know why we originally had that policy?

MR. HENNESSEY: I -- I believe it was because of nuclear proliferation for weapons. There was a concern that reprocessed fuel is able to be used for nuclear weaponry. And so almost a lead by example that

we're not going to do it and, you know, that set the tone. That hasn't been the case and we're -- as we discussed, almost all the other countries do reprocess and recycle that material and have less of it as waste.

MR. PERRONE: Thank you. That's all I have.

CHAIRMAN STEIN: Professor Tait.

MR. TAIT: Those countries that have a reprocessing plant, is that a separate plant or is it on site? It's completely separate so that you would have a national reprocessing --

MR. HENNESSEY: I don't know how they do it. I'll have to get back to you on that. I -- I'm -- I don't know if they do that on site or if they bring the fuel off site and reprocess it elsewhere.

MR. TAIT: I'd be interested if you could follow that up and see --

MR. HENNESSEY: Happily.

MR. TAIT: I guess I -- I would be interested in the major uses of nuclear energy -- are there any others, other than us, that don't reprocess or is your statement -- check your statement out that there's no other -- that we're the only one that doesn't reprocess.

MR. HENNESSEY: I will.

CHAIRMAN STEIN: Okay, thank you. Let's go and see if we have -- any of the parties have any cross-examination questions for Dominion? I guess Mr. Baldwin, FirstLight?

MR. BALDWIN: No, Mr. Chairman. Thank you.

CHAIRMAN STEIN: Connecticut Municipal?

MS. KIPNIS: No, Mr. Chairman.

CHAIRMAN STEIN: UI?

MR. MCDERMOTT: No questions.

CHAIRMAN STEIN: CL&P?

MR. GIBELLI: No questions.

CHAIRMAN STEIN: Okay, thank you.

MR. HENNESSEY: Thank you --

MR. LYNCH: Mr. Chairman --

CHAIRMAN STEIN: Oh, I'm sorry, Mr. Lynch --

MR. LYNCH: Before you go --

CHAIRMAN STEIN: We have a question --

MR. LYNCH: -- just -- just a general question. What's the future of nuclear power as a source for the country?

MR. HENNESSEY: It's -- well it does have

a future. As -- as you heard, ISO talked about fuel diversity and reliability and concerns, and I think it plays a major role there. It's virtually emissions free, so it plays an important role there.

In the south, both in Georgia and in South Carolina, they're actually in the process of building new reactors, the southern company at their Vogel facility, and then -- the South Carolina utility -- I forget at which site. Dominion is also looking into it at our North Anna facility in Virginia. We're -- we're studying putting in a third reactor there. So it does have a role.

I think that probably one of the bigger strains on it though is the low prices of natural gas. I mean it's -- it's -- natural gas being cheap is a great thing for consumers in the country, but it also starts to price out other sources or make them a little bit less economically attractive to make that investment. That goes for nuclear, it goes for coal, it goes for renewable. So it's -- it's something that I think is -- it's going to happen. It's probably not as -- because of where gas prices are now, it's probably a little slower now than it was five or ten years ago in building up new reactors.

MR. LYNCH: Thank you.

CHAIRMAN STEIN: Alright, thank you.

MR. BALDWIN: Thank you.

CHAIRMAN STEIN: Next is Connecticut Municipal Electric Cooperative.

(pause)

CHAIRMAN STEIN: Attorney Kipnis, do you have -- I see you have witnesses to be sworn in.

MS. KIPNIS: Yes, I do. I'd like to introduce Mr. Brian Forshaw, he's our Director of Power Supply, and Mr. Charles Carpinella, our Load and Generation Analyst. This is his 29th appearance before the Siting Council in connection with these forecast hearings. I'd like to offer them up to be sworn in.

(Whereupon, Charles Carpinella and Brian Forshaw were duly sworn in.)

MS. BACHMAN: Thank you.

CHAIRMAN STEIN: Thank you. You have exhibits to be --

MS. KIPNIS: Yes, Mr. Chairman. I would like to offer three exhibits that are listed in the hearing program as Roman Numeral IV-B, 1 through 3; the Report of Forecast of Loads and Resources, dated March 1, 2012; the Responses to the Connecticut Siting Council

Interrogatories, dated May 10, 2012; and the Responses to the Connecticut Siting Council Interrogatories, dated June 5, 2012. I'd like to offer them to the Siting Council for identification purposes subject to verification.

CHAIRMAN STEIN: Okay. Is there any objection? Hearing and seeing none, please verify.

(Whereupon, Connecticut Municipal Electric Cooperative Exhibit Nos. 1, 2, and 3 were marked for identification purposes.)

MS. KIPNIS: Mr. Carpinella, did you prepare or assist in the preparation of these exhibits?

MR. CHARLES CARPINELLA: Yes, I did.

MS. KIPNIS: Do you have any additions, clarifications, deletions, or modifications to these documents?

MR. CARPINELLA: Not at this time.

MS. KIPNIS: Are these exhibits true and accurate to the best of your knowledge?

MR. CARPINELLA: Yes, they are.

MS. KIPNIS: And do you offer these exhibits as your testimony here today?

MR. CARPINELLA: I do.

MS. KIPNIS: Mr. Chairman, I would like to

offer these documents as full exhibits.

CHAIRMAN STEIN: Do any of the parties object to the admission of these exhibits? Hearing and seeing none, the exhibits are admitted.

(Whereupon, Connecticut Municipal Electric Cooperative Exhibit Nos. 1, 2, and 3 for identification were received into evidence as full exhibits.)

CHAIRMAN STEIN: We'll now proceed to cross-examination by staff. Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. In the CMEEC forecast on page 3, I see the energy efficiency initiative. The cool choice, HVAC rebate program, are those rebates for new more efficient HVAC units?

MR. BRIAN FORSHAW: Yes, that's correct.

MR. PERRONE: And on page 4 of the forecast it mentions CON Smart -- a smart grid program. So would -- would -- would customers that receive the two-way digital meters, would they have time of use rates?

MR. FORSHAW: The first phase after implementation of the meters is to actually put in place as part of the federal grant process some pilot programs for time varying rates. Once we get the results from that, once we compare them with other results from for

example the CL&P program, it will go through further deployment. Also we'll provide the platform -- having the two-way communicating meters, we'll provide the platform for direct load control pilots, you know, programmable communicating thermostats and auditing.

MR. PERRONE: Okay. And direct load control, that would be where you'd be able to turn off certain loads remotely?

MR. FORSHAW: Either remotely or program it to respond to pricing signals from the wholesale markets, correct.

MR. PERRONE: So with the time of use rates, it's -- it's possible that, you know, customers might reduce their usage on a high demand theory?

MR. FORSHAW: That's the theory.

MR. PERRONE: Okay. But currently, CMEEC customers don't have any time of use rates?

MR. FORSHAW: The -- certainly at the residential level they -- they have the traditional time of use rates with clocks, you know, a fairly narrow bandwidth. What we do have is we do have -- with a number of our larger industrial customers we've put in place real time pricing arrangements. Those are larger customers who actually have integrated hourly metering in

place, and they're fairly sophisticated energy users. And so working through the local utilities and CMEEC, their -- their purchases are actually priced out based on the varying wholesale market prices on an hourly basis.

MR. PERRONE: Do you have any updates on the proposed 10 megawatt peaking facility at the naval submarine base?

MR. FORSHAW: The project is still under review. We're doing additional detailed economics. You know, as you can well imagine market conditions have changed dramatically in the last two years, that we've been working on that --

MR. PERRONE: Does CMEEC have any policy about the use of renewable fuels for its generation mix or any targets that it seeks to reach?

MR. FORSHAW: Yes. Our board has established a renewable policy targeting up to 20 percent of our energy needs to be met from resources that are not tied to the price of either natural gas or oil. Specifically the thought is that those would be, you know, hydro, wind, solar, etcetera. Part of that policy also though includes cost-effectiveness with -- which sets a limit on the amount of such resources based on the impact it will have on the customer wholesale or customer

retail costs.

MR. PERRONE: When we experience a heat wave let's say several days long, you know, with fairly consistent temperatures, do you generally find or expect that the peak demand grows daily during that heat wave?

MR. CARPINELLA: Usually -- historically -- an example, if it was like a three or four-day heat wave, we get a tendency for it to build up over a period of time, so usually the third or fourth day you would see where we're being maximized. This is also quite prevalent if you were -- as an example had a heat wave over a weekend, you would expect the following Monday to be a potentially really high peak day with the impacts of what went on over the weekend.

MR. PERRONE: Is that because there might be some additional reluctance to turn your AC on, but after a few days you'd get more customers doing that?

MR. CARPINELLA: Yes, there's -- I guess - depending on what the dew point is at a given time, people tend to have a tendency to, you know, tolerate it up to a certain point, but maybe after the third day say that's it, I'm going to turn it on no matter, you know, what's going on. But obviously -- that's usually what happens.

MR. PERRONE: And -- and I've asked this before, is Fisher's Island, New York still roughly about a one-megawatt peak load to CMEEC --

MR. CARPINELLA: Yes, it is.

MR. PERRONE: Okay. Thank you. That's all I have.

CHAIRMAN STEIN: Okay. Professor Tait.

MR. TAIT: No questions.

CHAIRMAN STEIN: Mr. Ashton.

MR. ASHTON: Thank you. Table 1 of your May 10th letter shows a 20-year forecast of retail sales --

MR. CARPINELLA: Is this CSC-1, Mr. Ashton? The --

MR. ASHTON: It's the response to CSC-1, yes.

MR. CARPINELLA: Yes, sir.

MR. ASHTON: Looking down the residential service, there's quite a drop from 2019 to 2020 where in residential it's been a slow build up. What -- what accounts for that significant drop?

MR. CARPINELLA: Without an opportunity to further look at the individual pieces that make up the CMEEC forecast, Mr. Ashton, I will have to get back to

you with a response to that. As you know, we only file a CMEEC forecast every year, so the individual forecast that I prepare are then summarized into this table that you see --

MR. ASHTON: When you say individual forecast, you mean --

MR. CARPINELLA: For each of the CMEEC members --

MR. ASHTON: Oh, okay. Okay. Yeah, I'd be curious as to know what that is.

MR. CARPINELLA: We'll provide a late file.

MR. ASHTON: Yeah, that's fine. What -- what is the average annual consumption for a residential household on CMEEC? Do you have any idea?

MR. CARPINELLA: I --

MR. FORSHAW: It's -- it's around 800 kilowatt hours a month.

MR. ASHTON: Eight hundred. So ninety-six hundred a year, roughly.

MR. FORSHAW: Yes.

MR. TAIT: Eight times twelve is -- (laughter) --

MR. ASHTON: Yes. The time of day

metering, what does a time of day meter installation cost? Any idea for a residential household?

MR. FORSHAW: I believe -- first of all, let me -- let me condition it that I'm not involved in our CON Smart Program, so I -- you know, we can confirm it, but I believe it's in the neighborhood when you include the installation cost of around four hundred dollars per site --

MR. ASHTON: Four hundred.

MR. FORSHAW: But we can get that information and provide it --

MR. ASHTON: Well that's okay. I'm inclined to agree with you. Four hundred sounds -- strikes me as being in the ball park. And the annual average cost, including everything, would be eighty bucks or something like that for a meter, is that fair to say? I'm using a 20 percent total carrying charge, depreciation, the whole nine yards.

MR. FORSHAW: I'll -- I'll accept your --

MR. ASHTON: Is the savings likely to be significant so that they can save eighty bucks in the course of a year, the customer, (a)? And part (b), are they going bother with nickel and dime savings when they're working two jobs, chasing the kids, and all the

rest --

MR. FORSHAW: I think that's part of the reason why we wanted to -- well first of all --

COURT REPORTER: Sir --

MR. FORSHAW: -- let me back up, I'm sorry -- the deployment of the meters is -- in some of your systems is being done as part of the normal meter replacement, you know, process itself. In addition, we did -- we did pursue the economic stimulus funds, which are helping for some of the members participating to deploy the meters. So customers aren't seeing -- aren't directly seeing those incremental costs. There are benefits on the local utility side in terms of the cost of meter reading, etcetera, once the initial investment is made. I think -- it's a valid question. And part of the reason why we want pilot programs and couple them with installation of load control devices within the customer systems to really get a good feel for how effective in the long-run that will be.

MR. ASHTON: Have you done any work testing that effectiveness?

MR. FORSHAW: We have -- no. We don't have the pilot -- the time varying rate pilots in place yet.

MR. ASHTON: Okay. Table -- going back to Table 1, is that data normalized?

MR. CARPINELLA: Again, this is the forecast that was produced in 2002 here. The methodology that we used in this year's forecast is different than the methodology that we used back in that time, Mr. Ashton. In this table that's presented here, this data was not weather normalized.

MR. ASHTON: So what was the weather assumption?

MR. CARPINELLA: There was --

MR. ASHTON: Was it consistent from town to town?

MR. CARPINELLA: There were weather variables that I did include in model formulation in terms of heating and cooling degree days, but this methodological approach is different than the forecast that we provided in response to I believe CSC-4, which is this year's forecast.

MR. ASHTON: Well what do you use for degree days?

MR. CARPINELLA: A 20 to 30 year average of information that we have from both Bridgeport and Bradley Field weather stations here in Connecticut.

MR. ASHTON: Okay. Why don't you use weather normalized data?

MR. CARPINELLA: We do now in this year's submittal, Mr. Ashton. We do use the weather normalized --

MR. ASHTON: Yeah, that's the 50/50 --

MR. CARPINELLA: The 50/50 forecast that's presented in response to CSC-4, which is our revised table here from March --

MR. ASHTON: Do you also do a 90/10 forecast for --

MR. CARPINELLA: We do. And that was also provided --

MR. ASHTON: -- for demand?

MR. CARPINELLA: Yes, as requested by yourself.

MR. ASHTON: Okay, thank you. Nothing further.

COURT REPORTER: One moment please.

(pause - tape change)

CHAIRMAN STEIN: Mr. Wilensky.

MR. WILENSKY: Many of your plants are oil-fired. Have you thought -- primarily the small generation plants, have you thought of going to gas,

natural gas, and would it make any sense?

MR. FORSHAW: We don't believe it will make sense because they're primarily peaking plants --

MR. WILENSKY: Okay --

MR. FORSHAW: -- and it's difficult to schedule and know up ahead. You know, they get called upon by the ISO very infrequently, often with very short notice in response to the bulk power system --

MR. WILENSKY: And the Norwich plant is not a peaking plant though, is it?

MR. CARPINELLA: Yes, it is.

MR. WILENSKY: Oh, it is?

MR. CARPINELLA: Yeah.

MR. WILENSKY: Okay. Thank you. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Golembiewski.

MR. GOLEMBIEWSKI: No questions, thank you.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: Has -- (indiscernible) -- retired?

MR. CARPINELLA: No.

(laughter)

MR. LYNCH: That's all, Mr. Chairman.

CHAIRMAN STEIN: Mr. Levesque.

MR. LEVESQUE: What -- what types of properties are included in the residential --

COURT REPORTER: I'm sorry. Mr. Levesque, you need to --

MR. LEVESQUE: The residential sales, are apartments included in there or just single families?

MR. CARPINELLA: I believe for those customers -- some of our members that do have apartments, yes, they would be included in the residential sales.

MR. LEVESQUE: It seems like a lower percentage than -- for residential than in the CL&P territory. Is -- are you sure that some of the apartments aren't included in the general service rates or --

MR. CARPINELLA: I would have to check that for each one of our members and we could get back to you as a late filed exhibit.

MR. LEVESQUE: It doesn't matter -- but you probably have something on-line or -- or you could if you want -- yeah, why don't you do that. Just a, you know, brief explanation of the categories.

MR. CARPINELLA: They will vary from member to member --

MR. LEVESQUE: Okay.

MR. FORSHAW: The demographics of the individual system --

MR. LEVESQUE: Sure --

MR. FORSHAW: -- service territories --

MR. LEVESQUE: House -- house sizes. Thank you.

CHAIRMAN STEIN: Senator Murphy.

MR. MURPHY: I have a question out of curiosity because your structure is different than say CL&P and UI. And in response to the question about renewables, you indicated that the board set a goal and you mentioned solar and hydro. How do you go about addressing to achieve these goals when you have members? It's not like UI can decide this is what we're going to do or CL&P's corporate says this is what we're going to do. You've kind of got a different game to play with, with, you know, Wallingford, Norwich, Groton, and what have you. I'm just curious as to how you go about who's going to do hydro or who's going to do solar or -- how do you -- how do you work that out --

MR. FORSHAW: The way --

MR. MURPHY: -- and I'm sure it's not easy, that's why I'm kind of curious.

MR. FORSHAW: The way we operate is actually the loads and the resources generally get pooled and dispatched as part of the overall New England dispatch process. So in terms of our relationship with ISO New England, CMEEC is the only entity that they see. The individual municipalities participate in the markets through us.

In the case of a long-term commitment to a -- to let's say a wind project if we wanted to procure that, our process would have us -- and if it's any longer than five years, we'd go through our board of directors and would allocate a portion of each project to each individual municipality, and that would flow through, you know, our settlement process, a portion -- in those proportions.

MR. MURPHY: So if you were to decide -- the board was to decide say on a wind project such as we just wrestled with at the other end of the state, theoretically if you had one -- say you're going to put it in eastern Connecticut, would all of your member units participate in the overall expense and what have you of that?

MR. FORSHAW: That -- that would be the concept, and we would define participation percentages

that they would all agree upon up front, and that would be used to allocate the cost as well as the benefits of that project, on a project-by-project basis --

MR. MURPHY: So while theoretically it might be in Groton, Wallingford will be paying part of the freight and so forth, would be the way you'd operate --

MR. FORSHAW: Assuming they all agreed to participate in --

MR. MURPHY: And solar -- and solar and hydro would be the same type of approach?

MR. FORSHAW: For -- for the large scale projects --

MR. MURPHY: For the large scale --

MR. FORSHAW: -- correct.

MR. MURPHY: Okay. Thank you very much, I appreciate that. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Dr. Bell.

DR. BELL: Thank you, Mr. Chairman. I just wanted to go back to review Mr. Perrone's question and partly Mr. Ashton's question on these smart meters and time of use rates and so forth. I want to get out of a chicken and egg kind of thing and understand where you are. Last year we had some conversation about this and

generally your response from last year seemed to be we really are not going to go forward with smart meters until we have rate options and program options for the users. I can understand that. But my question is, is that still generally speaking your position so that you're just running a few pilot programs or is it that you -- your position is alternatively you will run some pilot programs until you can design rate options and program options to propose to the DPU, to PURA and so forth?

MR. FORSHAW: First, I -- let me just try and clarify my -- my answer. I believe we have a deployment process already established for a certain amount of two-way communicating meters. That process has been continuing on a system-by-system basis where we now believe we have a critical mass of meters in place that allow us to look at developing some of these pilots and to gain the knowledge and insight into, you know, on a local community level how does this work, how does it fit in, what are the kind of things that would make it successful or not that might resonate and work to the benefit of customers. So that's where the pilots come in. So we've -- we've got the deployment. I think we want to do the pilots. From the beginning the intent has

been, assuming success, we would move on to the next step where it makes sense. There are, as I said before, benefits of just having the two-way communicating meters, utility operations as well. And so that's again part of the overall evaluation process.

DR. BELL: Okay. I --

MR. FORSHAW: Maybe that helps --

DR. BELL: Yeah, that does help because -- actually I was using the term pilot in a way that I was getting from how CL&P and UI use it, and I can immediately see we're having a little bit of language problems. But without going into that, then my simple follow-up is how many -- as a -- on a percentage basis for say -- well however you want to do it for commercial, industrial, or for residential, what is the extent of deployment that you have of the two-way digital meters right now?

MR. FORSHAW: I -- I believe in our report we indicated it was about 17,000 customers. That's probably about 25 percent of the total customer base.

DR. BELL: Okay, thank you. That's my question, Mr. Chair.

CHAIRMAN STEIN: Alright, thank you. We'll just go again to see if any of the other parties

have any questions. FirstLight Power?

MR. BALDWIN: No questions.

CHAIRMAN STEIN: Dominion?

MR. BALDWIN: No questions.

CHAIRMAN STEIN: UI?

MR. MCDERMOTT: No questions.

CHAIRMAN STEIN: CL&P?

MR. GIBELLI: No questions.

CHAIRMAN STEIN: Okay. We're going to take a 10-minute break and we'll resume with UI.

(Whereupon, a short recess was taken.)

CHAIRMAN STEIN: I see, Attorney McDermott, you're trying to confuse me by not sitting in the middle there -- (laughter).

MR. MCDERMOTT: I sit where they tell me to sit.

CHAIRMAN STEIN: Oh, okay.

MR. ASHTON: Since beginning when -- (laughter) --

MR. MCDERMOTT: So I can only look at Mr. McDonnell here -- (laughter) --

CHAIRMAN STEIN: Do you have witnesses?

MR. MCDERMOTT: Yes, sir. I have three witnesses on the UI panel. To my immediate right is Mr.

Pat McDonnell, followed by Mr. Alex Boutsioulis, and then Robert Manning.

CHAIRMAN STEIN: If you would have them sworn in.

(Whereupon, Alex Boutsioulis, Pat McDonnell, and Robert Manning were duly sworn in.)

MS. BACHMAN: Thank you.

CHAIRMAN STEIN: Do you have exhibits --

MR. MCDERMOTT: Yes, Mr. Chairman. UI has three exhibits I offer for identification subject to verification. Exhibit 1 is the Report of Forecast of Loads and Resources, dated March 1, 2012; Exhibit 2 is UI's responses to CSC Interrogatories of May 11, 2012; and Exhibit 3 is the response to the CSC Interrogatories, dated June 5, 2012, which I offer for identification purposes.

CHAIRMAN STEIN: Any objection? Hearing and seeing none, would you please verify the exhibits.

(Whereupon, UI Exhibit Nos. 1, 2, and 3 were marked for identification purposes.)

MR. MCDERMOTT: Mr. Manning, through you did you prepare or assist in the preparation of the three UI exhibits?

MR. ROBERT MANNING: Yes, I did.

MR. MCDERMOTT: And do you have any changes to any of those exhibits?

MR. MANNING: No, I don't.

MR. MCDERMOTT: And do you adopt them here today?

MR. MANNING: Yes, I do.

MR. MCDERMOTT: Mr. Chairman, I offer UI Exhibits 1 through 3.

CHAIRMAN STEIN: Any -- any objection to having these exhibits noticed? Hearing and seeing none, the exhibits are -- are hereby admitted.

(Whereupon, UI Exhibit Nos. 1, 2, and 3 for identification were received into evidence as full exhibits.)

CHAIRMAN STEIN: We'll now begin with cross-examination by staff. Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. Looking at UI's May 11th interrogatory responses, Question 3 has a breakdown in megawatts and gigawatt hours for the C&LM. So is that full conservation and the load management combined?

MR. PAT MCDONNELL: No, this is just for conservation.

MR. PERRONE: Okay. So these are all the

passive resources?

MR. MCDONNELL: Correct.

MR. PERRONE: Okay. Would it be possible to get as a late file a similar breakdown with the load management?

MR. MCDONNELL: Certainly.

MR. PERRONE: And like I asked CMEEC, when you experience a heat wave of several days long with fairly consistent temperatures, do you generally find that the peak demand grows daily?

MR. MANNING: Yes. It kind of depends on the time of -- or the day of the week. If it happens like Friday, Saturday, and Sunday, you probably wouldn't see a continuous increase. But if it was Monday, Tuesday, or Wednesday, you would -- you would see a general trend upward.

MR. PERRONE: Does UI have time of use rates anywhere in its service area?

MR. MANNING: Yes, we do.

MR. PERRONE: Okay. Has it been UI's experience that customers have reduced usage during peak demand periods with the time of use rates?

MR. MANNING: With respect to energy or peak?

MR. PERRONE: With respect to peak.

MR. MANNING: No, I think -- you know, as they become uncomfortable, the example used about the heat wave, they're -- you know, once their comfort level is basically surpassed and they want to turn their air-conditioning on, they will no matter the cost.

MR. PERRONE: What, if any, smart grid features has UI implemented in its service area?

MR. MANNING: Well we do have an AMI system, an automatic meter reading infrastructure, in place. So basically, virtually a hundred percent of our meters are read remotely. And with that, we have the time of use rates for basically all customer classes.

We are also deploying a smart meter which actually has a remote disconnect and reconnect capability. I believe there's about 80,000 of those deployed, so about 25 percent of our territory.

Also we have -- I don't know if you want to talk about that, Pat, but the home network that we -- that we're piloting?

MR. MCDONNELL: Yeah, we've piloted some in-home displays and other in-home technologies because Mr. Manning mentioned 25 percent of the meters have disconnect functionality, they're actually full two-way

communication, so we can display messages in customers' homes. And we just wrapped up a pilot of some of those technologies.

MR. ASHTON: Just -- just to make sure that -- an automatic meter reading is not a smart meter, is that correct? That's a revenue metering system where you drive by and send out a signal close to your meter and the meter responds --

MR. MANNING: Well -- yeah, we do not actually drive by. We have the radio communication infrastructure in place, so the meter talks to the radio --

MR. ASHTON: Okay --

MR. MANNING: -- if it's on a pole or --

MR. ASHTON: -- wherever that radio is located, in a substation --

MR. MANNING: Correct --

MR. ASHTON: -- or a control room or what have you.

MR. MANNING: Correct.

MR. TAIT: But you need a special meter at the house?

MR. MANNING: Yes.

MR. MCDONNELL: But also just to be clear,

all our customers -- or almost all our customers -- maybe there's a few that don't -- but almost all our customers have that technology. So if you're a UI customer, you can go on our web portal, you can log onto your account, and you can actually ping your meter and get an instantaneous read.

MR. ASHTON: Do many people do that?

MR. TAIT: But that's just an automatic meter --

A VOICE: I have.

(laughter)

MR. TAIT: That's just automatic meter reading. It's not two-way communication --

MR. MCDONNELL: No --

MR. TAIT: -- it's not --

MR. MCDONNELL: -- it's -- that's -- you're actually -- you're actually getting a meter reading. It's not --

MR. TAIT: Yeah --

MR. MCDONNELL: -- about 25 percent of the meters that Mr. Manning mentioned you can actually -- you have two-way communication with the meter. So you can actually get the data anytime you want it, not just when you're driving by, but anytime you want it. And you can

also send messages or there's -- there's a disconnect feature on the meter, so you can so okay we're going to disconnect this meter for whatever reason. So it's got some pretty good functionalities.

MR. TAIT: You mean I can communicate with you from my meter, two-way meter --

MR. MCDONNELL: Well the utility -- we can communicate with our customers --

MR. ASHTON: He lives in Norfolk, he --

MR. TAIT: That's not two-way to me. That's one way.

MR. MCDONNELL: Well then we can in turn read your data and we could send you a message.

MR. TAIT: What -- how do I read -- how do I get the message?

MR. MCDONNELL: It's all -- it's a cellular network.

MR. TAIT: Does it appear on the meter?

MR. MCDONNELL: So -- no, but that's where the home displays I mentioned before would come into play --

MR. TAIT: I'll back up and -- there's three different pieces of equipment --

MR. MCDONNELL: Okay, so -- yeah, we've

got -- we've got a cellular network, a communication network that communicates with the meter on your house. And about three-quarters of the meters -- it's a one-way communication. The meter and the cellular network exchange data. It comes from the meter to the cellular network. For about 25 percent of our customers. And as we refresh these meters, that number is going to grow. They have the ability to go two-way so we can get your meter read from your meter. And we can also send you a message if you have one of these in-home displays. Or if -- if we wanted to disconnect your meter, we could send a signal to disconnect your meter --

MR. ASHTON: What would -- what would the message be to a customer typically?

MR. MCDONNELL: Well some of the things that we piloted might be --

MR. ASHTON: You haven't paid your bill and we're knocking you off?

MR. MCDONNELL: That -- that might be a good one, but more prominently you might have something like, you know, we're in a peak period, so we could tell you what our usage was, or if it was -- if we had different rate designs where we might have -- maybe instead of just the two tier time of rate, time of day

rate like we currently have, we might have something more progressive where they -- one of the popular models is critical pricing where if it's a really high demand day, we're going to have a different -- in addition to the odd peak rate, we'll have an adder. So it's a really high load day, you're not just going to pay the high peak rate, you're going to pay an even higher rate, and we could tell you that through the home network.

CHAIRMAN STEIN: So you could then turn off whatever it is, an appliance or something --

MR. MCDONNELL: Well that's an additional functionality that is then enabled through the home area network. The gateway that we communicate to from the meter can then talk to devices that are enabled and you can say okay we're going to sign you up for maybe an air-conditioning program, we're going to shut off your air-conditioner for you, all done through the metering --

MR. TAIT: How do I get that message? On the screen on the meter or do you tell --

MR. MCDONNELL: No, we would -- we would -- we would install a wireless device in your home on the wall and that would -- the meter would communicate to that device.

MR. TAIT: And I'd read it visually --

MR. MCDONNELL: And there would be a message displayed. There might be -- you know, there's different -- there's different strategies that we've piloted for how to communicate the message, it may be lights or different indications.

A VOICE: (Indiscernible) --

MR. MCDONNELL: Yeah, a green -- I don't -- I don't remember all the details.

CHAIRMAN STEIN: Let's get back to Mr. Perrone.

MR. PERRONE: Does UI anticipate that it would be able to meet the State's increasing RPS standards through 2020?

MR. MANNING: Yes, we do.

MR. PERRONE: Even so, are there any constraints that may make that difficult or challenging?

MR. MANNING: At this point we don't foresee any.

MR. PERRONE: Okay. Thank you. That's all I have.

CHAIRMAN STEIN: Professor Tait.

MR. TAIT: I've had my questions.

CHAIRMAN STEIN: Mr. Ashton.

MR. ASHTON: A couple of miscellaneous

questions. In one of your responses you've indicated that you keep track of the number of electric cars on your system. Out of curiosity, how many do you have now? Any idea?

MR. MANNING: I believe eight.

MR. ASHTON: Eight?

MR. MANNING: That we're aware of, yes.

MR. ASHTON: Eight. A big penetration -- (laughter). What's UI's annual per customer use, per residential customer use approximately?

MR. MANNING: About eighty-five hundred kilowatt hours.

MR. ASHTON: Eighty-five hundred. Is there -- is there much expectation that the time of day rates will cause material customer utilization changes? Do you think that the time of day rates are really going to have any impact in this world where two people are often working or a single parent and families are working and --

MR. MANNING: Well we've had time of day rates for years. And as you can see from our forecast -- Mr. Perrone asked -- sales have been decreasing, but peak has been increasing --

MR. ASHTON: Yeah --

MR. MANNING: -- so again, it goes to the comfort level on those hottest days of the year. You know, people -- they want to be cool, so they put the air-conditioning on. You know, maybe if you did like a real time pricing, like an hourly structure -- as Mr. McDonnell said, we basically have a two-tier structure, off-peak and on-peak.

MR. ASHTON: Okay. UI is in a little different position than what it's been historically, having within its wings a gas company in the competing territory. How do you manage competition between the two? Do you actually encourage customers to use gas for example for hot water heating where the economic advantage to gas is pretty significant?

MR. MCDONNELL: Well, you know, we -- we always try to look out for our customers' best interests --

MR. ASHTON: You want?

MR. MCDONNELL: We always look out for our customers' best interests. So if it's --

MR. ASHTON: What --

MR. MCDONNELL: We look out for our customers' best interests. So if it's most economic for a customer to heat with natural gas, you know, we're

certainly not going to tell him otherwise because he wouldn't -- very quickly wouldn't believe what --

MR. ASHTON: But would you tell him that it is more economical to heat with natural gas?

MR. MCDONNELL: Absolutely. And you know, we might -- my -- one of my primary responsibilities is to deal with energy efficiency programs and so we've got gas efficiency programs, we've got electric efficiency programs. And you know, we frequently find that people are concerned about fuel switching in the efficiency programs. And so one of the things I tell people is we leave the choice of fuel up to the customers. There's a lot of reasons why people would choose fuel -- a certain fuel over another fuel. That's a personal decision we leave to the customer. And then we try to get them to have the most efficient use of that fuel when they -- when they ultimately choose that fuel.

MR. ASHTON: Is that reflected in your forecast where gas is close to its all time low on a real constant dollar basis where electricity is pretty high? Is there any fuel switching anticipated in your forecast?

MR. MCDONNELL: I --

MR. MANNING: Well we do check for that

when we develop the forecast. It's -- an econometric model is used and we do look at cross-price elasticity, so gas, oil, and electricity. UI is a summer peaking utility. The gas company typically is winter peaking for fuels for heat, you know, where customers have a choice for heat, they can use oil, gas, or electric. But most of the air-conditioning load is electric load --

MR. ASHTON: Yeah, I understand that, I really do.

MR. MCDONNELL: And you know, I think -- you know, UI -- we have a fairly low penetration of electric heat customers. And I -- you know, because there's historically been good penetration of the gas system --

MR. ASHTON: But you have a fairly high penetration of electric water heating customers, don't you?

MR. MCDONNELL: We do.

MR. ASHTON: And that's where I would expect there to be a lot of head-on competition --

MR. MCDONNELL: Well there's --

MR. ASHTON: -- in an area where your gas is available.

MR. MCDONNELL: True, but if someone is

already using natural gas to heat their home, it's likely that they're going to have a gas hot water either off a boiler or a standalone gas hot water heater. It would be pretty unusual I think for them to have electric hot water with gas heat. So typically what you find is you find an oil furnace or boiler -- probably an oil furnace and an electric hot water heater. So in that situation that customer is not going to switch their water heater to gas. If anything, they're going to switch the whole home to gas --

MR. ASHTON: How about gas for clothes drying? There's not a lot of penetration there.

MR. MCDONNELL: There's not. But again, the situation where the home's primary source of heat is gas, then that's an option for the customer -- likely a good option for the customer. In other instances where it's primarily oil heat, that's not really -- neither of those are really a viable option. So one of the things that we're looking to focus on for electric hot water is if there's some new heat -- pump heat water heater technology that provides some significant electrical energy savings, and they're pretty good quality products made by national brands as opposed from the earlier heat pump water heater technologies, so we're going to

increase the promotion of those rebates through the efficiency fund for heat pump water heater technology for electric water heater customers.

MR. ASHTON: Isn't that offset somewhat by the advances in gas water heating technology, where if you go to a -- take it off a boiler -- a very high efficiency boiler --

MR. MCDONNELL: Well you --

MR. ASHTON: -- you're getting 93 percent, plus or minus, efficiency for water heating --

MR. MCDONNELL: Yeah and you've -- there are also tankless water heaters --

MR. ASHTON: Right --

MR. MCDONNELL: -- that are very high efficient --

MR. ASHTON: Right --

MR. MCDONNELL: -- highly efficient as well. Your increment there is you're going from an 85 percent non-condensing unit to a 95 percent, so there's about a 10 percent efficiency gain --

MR. ASHTON: Yeah --

MR. MCDONNELL: -- and electric hot water, I can go from a COP of 1, essentially an electric resistive tank 1, to COP of 2 or more on a heat pump

water heater. So the significant efficiency gain in a heat pump water heater is --

MR. ASHTON: Well I'm not -- I don't want to get into the competition too much, but it strikes me that with the fuel oil to gas pricing structures now, there would be a significant increase in gas conversions. And that's what I'm picking up from my contacts in the industry, that people want gas as bad as they can -- in fact, UI is directly a part, and Southern Yankee and CNG are jointly advertising for conversion. And I know in the home -- in my hometown of Meriden I'm getting an awful lot of market for new services --

MR. MCDONNELL: Yeah and there are significant conversions to natural gas. And like you say it's people that want -- see the price advantage and want natural gas badly. One of the advantages that we enjoy at UI is -- in our last rate case we were --

MR. ASHTON: What?

MR. MCDONNELL: We would be coupled. So there's -- there's no direct linkage between our sales and our revenue requirements. So to the extent that our --

MR. ASHTON: Well competition helps that --

MR. MCDONNELL: Yes.

MR. ASHTON: I have nothing further. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Wilensky.

MR. WILENSKY: Just -- just one question. In this booklet prepared and sent out March 1st, on page 8 of the booklet -- do you have that --

MR. GIBELLI: Mr. Wilensky, is that the forecast report of --

MR. WILENSKY: Yes. The last paragraph, beginning with the word grants, approved through the DG -- the distributed -- the programs -- eight and a half megawatts capacity -- customer decisions must occur before a three-year time frame runs out in June of 2012, which is right now. What -- what does this mean? What is this -- what is this referring to?

MR. MCDONNELL: Under that program that was administered by the Department of Public Utility Control, customers applied for grants for distributed generation and -- to offset the capital costs of those projects and those grants had a three-year time window. Some customers applied for the grant and then decided not to move forward with their projects, so those grants will be expiring. And it appears to us that those projects

will not move forward --

MR. WILENSKY: So have the grants actually run out? Do they run out in June of this year --

MR. MCDONNELL: They run out this month.

MR. WILENSKY: Is there an extension of the grants or this is it?

MR. MCDONNELL: That's it. Now there is a new program as part of Public Act 1180 for distributed generation that requires now DEEP to offer a program that would provide capital grants at a lesser dollar amount. And I'm not sure of the exact timing when DEEP will release that program, but we expect that we may see some activity from distributed generation as a result of that program.

MR. WILENSKY: Okay, thank you. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Golembiewski.

MR. GOLEMBIEWSKI: No questions, thank you.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: Just two questions. What -- in response, Mr. Manning, to Mr. Ashton's questions about electric cars and you said you have eight within your system or so on and so forth?

MR. MANNING: Yes.

MR. LYNCH: Now with the big push nationwide for electric cars, are there any plans in place for your service area for plug-in stations, especially along 95, which cuts right through your district?

MR. MANNING: Yeah, from what I understand there's service areas or service stations on I-95 and along the Merritt in our service territory, and are equipped for --

MR. LYNCH: Or will be --

MR. MANNING: -- or services equipped where they could put in plug-in stations.

MR. LYNCH: Is that something that is monitored through you or you -- I guess I don't know how the plug-in stations are going to work.

MR. MANNING: Well there's -- there's three levels of stations depending on the type of charge. Basically, there's like a trickle charge, which is a small long draw, so it draws -- so if somebody wanted to charge like their vehicle over night in their garage, that's -- that's based on 120-volt service. Then there's a 240-volt and then a 480-volt service. If it was a 480-volt, they would apply for service, go through the

electrical inspector, you know, channel and get approval and then we would energize that service. So we are aware of that.

Then Level 2 -- also we're aware of many of the level 2 installations. And we do have several installed within our territory and not just at the residences that have bought the -- or procured the electric vehicle. But -- for instance at the train station in New Haven. So the public -- at the public garages we do have some charging stations that we have installed, you know. And we are monitoring the usage on a basically daily low profile to see the impact on the system and what that would be.

MR. LYNCH: I'm assuming you're using the 400 you mentioned -- if I'm driving from DC to Maine, how quickly can I get recharged? I guess that's my question.

MR. MANNING: Yes. Actually it depends on the battery, the watt hour capacity of the battery, but typically it would be about six to ten minutes. So you'd, you know, pull into the station, plug in, maybe you would run in and, you know, buy water or some other food or whatever, snacks for your commute, and then, you know, a couple of minutes later the car would be fully

charged. It doesn't have to really be fully charged or -- 80 percent charged I think to get to your destination.

MR. LYNCH: Do you happen to know when a car is fully charged what the mileage would be or does that vary with the manufacturer?

MR. MANNING: I believe it varies with the manufacturer.

MR. LYNCH: And Mr. McDonnell, you mentioned this message system --

MR. MCDONNELL: Yes --

MR. LYNCH: -- that you put a wireless router within the home to receive a signal?

MR. MCDONNELL: Yes. Basically the meters have a wireless communication device. It's a -- it's a SIGNE protocol and they can talk to other devices in the home.

MR. LYNCH: Now if I'm a 13-year-old whiz kid that can hack into the system and get free electricity for my parents, what security is in place to stop that?

MR. MCDONNELL: I understand there are security protocols, but that's certainly one of the things that the industry is grabbling with right now, is how do you make sure that these things are all secure.

MR. LYNCH: Thank you for your answer. Mr. Chairman, thank you.

CHAIRMAN STEIN: Mr. Levesque.

MR. LEVESQUE: Mr. Manning, just a couple of questions on --

COURT REPORTER: Is your microphone --

MR. LEVESQUE: On the electric cars, for example, the volts in the Nissan Lee, do those have the 480 capability?

MR. MANNING: I'm not a hundred percent sure. I believe on the -- well the -- they could get a home charge, which would be a 120 or 240 volts. Typical homeowners don't have 480 volt service.

MR. LEVESQUE: Right.

MR. MANNING: One risk we see is really localized distribution issues. So let's say you and your neighbor both get electric vehicles, there may be issues at the distribution transformer level. I'm not sure -- I know there were -- there was supposed to be a national standard on the 480-volt charger. I'm not sure if that actually has been developed and accepted as a standard yet --

MR. LEVESQUE: So you don't have an example of which cars are good for that --

MR. MANNING: No, not at this point.

MR. LEVESQUE: So probably the -- the -- like -- like the hybrid like the -- that has the newer option of a plug-in might not have the 480 anyway?

MR. MANNING: Correct. Yeah, the plug-in - I think the typical range time would be either the level 1 or level 2 charge.

MR. LEVESQUE: And then some -- some homeowners of course don't even have enough extra capacity to put another 220 line in.

MR. MANNING: Yeah. And how we -- we would actually be notified of that. They would do a service upgrade. They would again go through the electrical inspector release protocol. And then we would be contacted that, you know, they did a service upgrade. Now we don't know the reason for the service upgrade. It could be that they put in central air or a pool --

MR. LEVESQUE: Sure --

MR. MANNING: -- or an electric vehicle charging station.

MR. LEVESQUE: Okay. Mr. McDonnell --

MR. MCDONNELL: Yes --

MR. LEVESQUE: -- the -- can you describe briefly what kind of antenna system and how widespread

you had to install to get reliable two-way coverage to the meters?

MR. MCDONNELL: Well it's -- it's -- they're pole mounted devices. I'm not the metering engineer, so I don't know exactly what the penetration is of the --

MR. LEVESQUE: Sure --

MR. MCDONNELL: -- of the cellular device is. And I understand it's repeaters that can relay the message. But basically, our -- our -- essentially our whole service territory is covered now by a radio network that allows us to communicate with these meters.

MR. LEVESQUE: And that -- it was all done at a reasonable cost?

MR. MCDONNELL: We were able to justify it based on the savings from eliminating the meter reading expense, going out and physically reading meters.

MR. LEVESQUE: I was just thinking that -- I was wondering why you were able to get such reliable service when in the same service area the phone companies couldn't --

MR. MCDONNELL: Yeah, I -- I won't comment on that.

MR. LEVESQUE: Okay. Thank you very

much.

CHAIRMAN STEIN: Senator Murphy.

MR. MURPHY: I have no questions, Mr. Chairman.

CHAIRMAN STEIN: Dr. Bell.

DR. BELL: Thank you, Mr. Chair. I'm curious about the status of REGGE (phonetic) and whether you participate as a stakeholder in REGGE in negotiations on what changes will be made since this year, as I understand it, changes will be made according to the charter of the organization. Do you -- are you engaged -- can you tell me about the process by which they'll arrive at decisions on the changes to be made?

MR. MCDONNELL: Well REGGE is something that's done at a higher level than we would deal at. I think it's done at the state level for Connecticut. We actually receive REGGE auction proceeds into the conservation and load management funds --

DR. BELL: Right --

MR. MCDONNELL: -- so we're very -- we're very interested in the REGGE process, but we don't actually participate in the organization of the -- of basically the coalition of states. And of course there's some risk of migration of some of the states, which the

concern is that the whole thing will become unraveled. But you know, we're watching that kind of from afar.

DR. BELL: Okay, I understand your answer. I -- my understanding was that -- when REGGE was originally formed, yes, on paper certainly it consists -- it's an organization of states. But when it was originally formed, the utilities had some input into what the rules were going to be. And since you do directly get money as an output from REGGE, I'm assuming a fair amount of not just interests in the results, but interest in having -- in affecting the process of what the rules -- how the rules will be changed. So I'm just pressing a little on that point, on your involvement.

MR. MCDONNELL: Yeah, and -- for Connecticut of course, you know, it was -- it was a regional effort, it became a statute in Connecticut, so that generators in Connecticut had to comply with the requirements. And I believe at the time REGGE was created for Connecticut, it wasn't the utilities that represented Connecticut in the REGGE formation, it was actually DEP, so the folks who at DEP who are now at DEEP. So I'm not sure of the current status of those conversations, but I believe that the folks at DEEP are the ones that represent Connecticut in the process.

DR. BELL: Okay. Back to the questions about smart meters, whatever, you know, the term you want to use that you were discussing, what you're saying is that all UI customers have a certain level of functionality beyond a conventional meter, 25 percent have this advanced functionality if you will. Is that correct?

MR. MCDONNELL: That's correct.

DR. BELL: And do you have any plans for going farther than the 25 percent, any immediate plans based on studies you might have done --

MR. MCDONNELL: Well the --

DR. BELL: -- or what's that situation?

MR. MCDONNELL: The deployment of the two-way communication is -- you know, as the meters need to be replaced. So we're not going to go out and take all the meters out, but as we upgrade now, we'd go to the newer meter that has this advanced functionality --

DR. BELL: I see --

MR. MCDONNELL: -- but that aside, there's significant functionality with the current metering system -- I was actually hoping that you maybe were another user of our web portal because --

DR. BELL: I am a user of your web portal

actually.

MR. MCDONNELL: So if you go on the web portal, in addition to pinging the meter and getting continuous reads, depending on the level of granularity for your particular meter, you can get 45 minutes worth of metering data somewhere between five-minute and fifteen-minute intervals. So there's a lot of good information about what your usage patterns are in your home from that website.

DR. BELL: Right. I -- my only comment on that since I do use it and just for feedback for your log book is that currently I go to the web site and use it, but the display feature would be great for customers who don't -- who don't want to go to the web site. You know, they're not familiar with going to the web site, just plugging -- they're not - they don't have it bookmarked on their computer, they -- that's a little bit -- so if you had -- if you had a display at the meter on a wall somewhere -- or better yet, they -- you push a cell phone number, which the customer would -- people are much better with cell phones nowadays than they are with their computers -- so that's just a comment on --

MR. MCDONNELL: One of the --

DR. BELL: -- you know, the active passive

consumer type thing.

MR. MCDONNELL: One of the challenges we face though is that, you know, when you go into in-home displays or in-home communication networks is there's a process associated with that, and one of the barriers is how will we pay for that installation, you know. And it's not something that we see as -- that we would want to socialize over all customers because some people may want it and some people may not want it. And so one of the things we wanted to test was the interest in the customers to pay -- you know, to pay an additional fee for these kinds of displays. And to be quite honest, the interest was fairly low. A lot of customers, you know, they just want a lower bill and they really weren't interested in seeing what their usage was on a real time basis.

DR. BELL: Fair enough. Do you have any way of measuring how much solar is being put on homes, going -- in other words, going beyond the distributed generation projects, which you obviously have some -- are able to monitor -- but if a person put solar panels on their home, they have to make an arrangement with you for that metering type of arrangement to use those solar panels and have their use reflected and so forth. So is

the amount of -- the number of those kinds of situations enough where you can actually count it or is it sort of vanishingly small at the moment and how -- do you -- are you making it a practice to be careful in monitoring solar installations to see how much that's increasing now that -- I mean it's -- I realize this is completely a distribution question, but to the extent that distribution offsets transmission, I think it's a fair question for us to ask.

MR. MANNING: Yeah. We actually have -- every application we track. So when somebody applies to interconnect, basically we -- we track the fuel types, so whether it's wind or solar or combined heat and power arrangement. So we have every installation and every application that's interconnected on the UI system, you know, with the address and the amount of DG. I don't have it off the top of my head how much total solar we have. We could provide that to you --

DR. BELL: Could you provide that because you've provided -- say for -- I don't know how long you've been doing it and I don't want to go all the way back, but say for the last couple of years --

MR. MANNING: Sure --

DR. BELL: -- what -- what the trend has

been --

MR. MCDONNELL: Well I think we have a total of all the ones that are connected. In the last -- my last recollection was it was a few hundred.

COURT REPORTER: One moment please.

(pause - tape change)

DR. BELL: Thank you. Those are my questions, Mr. Chair.

MR. MANNING: And just to clarify, you want the number and the amount of kW?

DR. BELL: Yes, please.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: I have -- I have one more question. Both UI and CL&P had a program for home energy audits and they outsourced it to different vendors because I was getting calls from them every day. My question is two-fold. (1) Is the program still in existence? And (2) how successful was it or is it?

MR. MCDONNELL: Yes, it's still in existence. And last year I think UI and CL&P combined -- and I think CMEEC has kind of a similar program -- we did approximately 20,000 homes in Connecticut.

MR. LYNCH: Well that's impressive.

MR. MCDONNELL: Thank you.

MR. LYNCH: Is there a target that you want to do for -- as it continues?

MR. MCDONNELL: Public Act 1180 calls for 80 percent of the homes in Connecticut to be weatherized by -- 2030 I believe it is. So that's our goal.

MR. LYNCH: Thank you.

CHAIRMAN STEIN: Thank you. Let's see if any of the parties have any questions. FirstLight Power? I guess unless I hear a yes, I'll assume it's no. Dominion Nuclear? Connecticut Municipal? CL&P? No questions. Okay, thank you. We'll next go to CL&P.

(pause)

CHAIRMAN STEIN: Attorney Gibelli.

MR. GIBELLI: Yes. Good afternoon, Mr. Chairman. Stephen Gibelli, Assistant General Counsel for Northeast Utilities on behalf of CL&P.

Today I'm joined by -- I'll introduce our witnesses -- Charles Goodwin, the Director of Rates. To his right is David Bebrin, Senior Program Planner, Conservation and Load Management. Brad Bentley, Director of Transmission System Planning for CL&P. David Ferrante, Supervisor, Distributed Resources for CL&P. David Errichetti, Manager of Generation Resource Planning for CL&P. And Timothy Honan, Manager for Wholesale Power

Contracts for CL&P.

MR. ASHTON: Is there an budget right now where poor Mr. Ferrante and all can't have nametags -- (laughter) --

CHAIRMAN STEIN: Apparently. We'd like to swear in the witnesses please.

MR. GIBELLI: Please.

(Whereupon, CL&P's witness panel was duly sworn in.)

MS. BACHMAN: Thank you.

CHAIRMAN STEIN: Attorney Gibelli, do you have exhibits to be entered?

MR. GIBELLI: Yes. Thank you, Mr. Chairman. We have three exhibits that we'd like marked. Exhibit 1, the Report of Forecast of Loads and Resources, dated March 1, 2012; Exhibit 2, the Responses to CSC Interrogatories, dated May 11, 2012; Exhibit 3, the Responses to CSC Interrogatories, dated June 5, 2012.

(Whereupon, CL&P Exhibit Nos. 1, 2, and 3 were marked for identification purposes.)

MR. GIBELLI: And I'll begin by asking Mr. Goodwin, Mr. Ferrante, and Mr. Bebrin if they were responsible for preparing Exhibit 1?

MR. DAVID FERRANTE: Yes.

MR. DAVID BEBRIN: Yes.

MR. CHARLES GOODWIN: Yes.

MR. GIBELLI: And do you have any changes or modifications to your contribution to Exhibit 1?

MR. FERRANTE: No.

MR. BEBRIN: No.

MR. GOODWIN: No.

COURT REPORTER: You need to keep your voices up.

MR. GIBELLI: And do you adopt that as your sworn testimony?

MR. FERRANTE: Yes.

MR. BEBRIN: Yes.

MR. GOODWIN: Yes.

MR. GIBELLI: And I'll ask you -- the three of you if you prepared and contributed to the responses that are included in Exhibit 2?

MR. FERRANTE: Yes.

MR. BEBRIN: Yes.

MR. GOODWIN: Yes.

MR. GIBELLI: And Mr. Ferrante, do you have any changes or corrections to your responses?

MR. FERRANTE: No.

MR. GIBELLI: Mr. Bebrin, do you have any

changes to your responses?

MR. BEBRIN: No.

MR. GIBELLI: Mr. Goodwin, do you have any changes?

MR. GOODWIN: Yes, I do.

MR. GIBELLI: And what are they?

MR. GOODWIN: I apologize, but we inadvertently filed a wrong set of information in response to Question Siting Council 002. And if it would be okay with the Council, I could read in -- there's a series of 10 forecasted peak loads from 2002 to 2011. I could read those 10 into the record and then re-file this response for the record if that would be okay?

MR. TAIT: Yes.

MR. GOODWIN: So if we're on the -- again, marked CSC-2 -- 002, page 1 of 2, the year 2002, the number shown is 4988. That series is incorrect and should be replaced with the following 10 numbers that I'll read into the record. The first year, 4757, 4780, 4826, 4856, 4887, 4938, 5004, 5063, 5123, 5169. And again, I'll re-file this response with the corrected numbers for the record.

MR. GIBELLI: And with that correction, Mr. Goodwin, do you adopt your responses as your sworn

testimony today?

MR. GOODWIN: Yes.

MR. GIBELLI: And Mr. Bebrin and Mr. Ferrante, do you adopt your responses in Exhibit 2 as your sworn testimony today?

MR. FERRANTE: Yes.

MR. BEBRIN: Yes.

MR. GIBELLI: And Mr. Goodwin, did you prepare the responses that are included in Exhibit 3?

MR. GOODWIN: Yes.

MR. GIBELLI: And do you have any changes or modifications to those responses?

MR. GOODWIN: No.

MR. GIBELLI: And do you adopt those as your sworn testimony today?

MR. GOODWIN: Yes.

MR. GIBELLI: Thank you. Mr. Chairman, at this time I'd like to move for admission of Exhibits 1 to 3.

CHAIRMAN STEIN: Are there any objections? Hearing and seeing none --

MR. GIBELLI: The witnesses are available for cross-examination.

(Whereupon, CL&P Exhibit Nos. 1, 2, and 3

for identification were received into evidence as full exhibits.)

CHAIRMAN STEIN: Before we go -- just -- I'm told to remind both staff and Council members that the pending application 424 is -- it's pending, so we shouldn't ask any questions relative to the Interstate Transmission application, but everything else is fair game. Okay. Mr. Perrone.

MR. ASHTON: Mr. Chairman, before we go, just with Mr. Goodwin's correction, I assume, Mr. Goodwin, that applies also to Table 2.1 in your 2012 reference forecast, which is found on page 7?

MR. GOODWIN: No, sir. What -- what that question asked for was going back 10 years --

MR. ASHTON: Oh, okay --

MR. GOODWIN: -- of the 2002 forecast --

MR. ASHTON: I beg your pardon. Okay. So the -- the data in 2-1 is actual data for 2007 to 2011?

MR. GOODWIN: That's correct.

MR. ASHTON: Okay. So -- but you're off by 10 megawatts for 2011 on your 2002 -- is that right --

MR. GOODWIN: I haven't looked at it, but if that's the case, I'll take credit for that --

(laughter).

MR. ASHTON: You're -- you're excused on the strength of that -- I'm sorry.

CHAIRMAN STEIN: Thank you. Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. Mr. Goodwin, regarding that revised data, is that the actual -- what was -- what was predicted in the 2002 forecast?

MR. GOODWIN: That's correct.

MR. PERRONE: Okay. Did CL&P submit a forecast to ISO New England for their infrastructure planning purposes?

MR. BRAD BENTLEY: On load forecast?

MR. PERRONE: On load forecast.

MR. BENTLEY: No, we take the load forecast from ISO New England.

MR. PERRONE: Also like I had asked CMEEC and UI, when you experience a heat wave that's several days long, do you generally find that the peak demand grows daily?

MR. GOODWIN: Yes. And in one of the responses we had an example of how we weather normalize our peak loads. And if you were to look in that response, you will see that we do include a number of

weather factors. It's the response to -- in -- in the second exhibit, CSC-003, and there's a number of weather factors. One is the day before temperature. So it's clearly empirically through our analysis, you know, we've seen that there is a buildup of temperature that leads into the peak factor.

MR. PERRONE: And on page 14 of the CL&P forecast there's Table 2.6 and 2-7. When it lists reserves, is that the reserves just based on the supply resources that CL&P has an ownership or entitlement interest?

MR. BENTLEY: Yes.

MR. PERRONE: So it's not for the whole service area?

MR. BENTLEY: Correct.

MR. PERRONE: And on Table 2-8, I understand it has AES Thames for the -- under -- one of the facilities under long-term contract. What is the status of that facility?

MR. TIMOTHY HONAN: That plant is not operating as of today, that's why we show zero claim capability for it.

MR. PERRONE: Do you know when it went out of service?

MR. HONAN: I'm going to say about -- about a year and a half ago.

MR. PERRONE: Do you know the status of the Northern Pass Transmission Project connecting with Hydro Quebec?

MR. BENTLEY: I do. And what relationship -- it's in the interconnection cue at ISO.

MR. PERRONE: Okay.

MR. BENTLEY: It's currently going -- undergoing the studies of I39 or no adverse impact test.

MR. PERRONE: Does CL&P have time of use rates for its customers?

MR. GOODWIN: We have mandatory time of use rates for the very largest commercial and industrial customers, approximately the largest 5,000. Beyond that we have voluntary time of use rates with relatively small participation at this point.

MR. PERRONE: Has it been CL&P's experience that that's resulted in reduced usage during peak demand periods?

MR. GOODWIN: It's hard to measure because the C&I customers have effectively had time of use rates for many, many years, so it's hard to kind of get a snapshot analytically before and after. And then on the

voluntary there's so few customers that take it frankly, that -- that it's hard to measure that.

I will say though that about three years or so ago we had a fairly extensive real time dynamic pricing pilot that we ran for CL&P, and that had a series of customers, residential, commercial, and industrial, and it tested a number of different types of time based rates. And within that study we did clearly see a measured demand response to the various time of use rates that we tested. One was a traditional two-period time of use rate. And we also experimented with a fairly wide gap on the on and off peak pricing to try to drive a more aggressive price signal. And as you would expect, the higher the differential on the on and off peak price, the more measured response we saw on the peak demand. And within that test we also tested something called the critical peak pricing scheme, which UI had described it a little bit earlier, and that's on a very limited number of hours a year having an exceptionally high price during that critical peak period. And that exceptionally high price again, as you would expect, drove a more aggressive response from customers. So -- so we are optimistic about the prospects of time of use rates as it relates to demand response going forward.

MR. PERRONE: Okay. Does CL&P have its own demand response program or is it all associated with ISO's load response program?

(pause)

MR. BEBRIN: Oh, I'm sorry. We -- we are tied into the ISO program.

MR. PERRONE: And -- I understand it varies, but generally about how many hours per year are load response measures generally in place?

MR. BEBRIN: They're very short. I -- I don't know the total -- I would say about maybe --

COURT REPORTER: Keep your voice up please.

MR. BEBRIN: Oh, sorry. I would say less than 20, but I -- I honestly don't know. It's very short time periods. It depends on the year.

MR. PERRONE: What kinds of smart grid measures has CL&P adopted or seeks to in the near future?

MR. GOODWIN: I can't speak to a grid per se, but what I can speak to is at least a subset of smart grid is the smart meters, and we did test some of that within the pricing pilot that I described earlier. And primarily what we were testing was the two-way communication and some of the behind the meter

technologies, similar to what UI described in terms of automatic load control of air-conditioning devices and those types of things. The pilot was fairly successful and there was a fairly extensive report filed with the DPUC at the time, so it's available. We haven't pursued a full blown deployment of smart metering for a variety of reasons, which I could talk about if you would like.

MR. PERRONE: No, that's okay.

MR. GOODWIN: Okay.

MR. PERRONE: And -- I believe I'd asked this a few years ago; approximately how many homes per megawatt. And I believe I was quoted about 500. Does that sound about right on average? Like one megawatt could power about 500 homes typically?

MR. GOODWIN: There's approximately -- I wasn't here a few years ago, so let me --

MR. PERRONE: Okay --

MR. GOODWIN: -- hopefully I'll give a consistent answer to what you were told before. But from my understanding is a residential customer on CL&P uses about 700 kilowatt a month. And there are 744 hours in a month. At a 30 percent load factor, that would be about 3-kW per residential customer. So whatever that math works out to --

MR. PERRONE: Okay --

MR. GOODWIN: -- but about 3-kW for residential customers.

MR. PERRONE: Okay, that helps. Thanks.

MR. ASHTON: That's coincide peak?

MR. GOODWIN: No. That would be non-coincide. That's --

MR. ASHTON: Which --

MR. GOODWIN: -- (indiscernible) -- individual peaks --

MR. ASHTON: On a coincide base you might --

MR. GOODWIN: A little bit less --

MR. ASHTON: -- knock it down to 500 --

MR. GOODWIN: Yeah, and that math might work --

MR. ASHTON: Yeah --

MR. GOODWIN: -- it's on average too and may be more on a coincide basis. That would make some sense, yes.

MR. PERRONE: And my last question, when our draft report comes out, obviously in the balance table we have to have import capacity, and I understand that Connecticut's import capacity is sort of a range,

with twenty-five hundred as the maximum. What would be a realistic average number? Say about 2,000?

MR. BENTLEY: Are you talking about real time imports over the course of a year average type or the --

MR. PERRONE: The table is based on the peak demand period.

MR. BENTLEY: It is a tough number to say. I really would be guessing at that. You know, the figures are -- generally our import capability maximum is about twenty-five hundred megawatts -- yeah, I just wouldn't want to venture a guess. It depends on the conditions in real time.

MR. PERRONE: Okay. Thank you. That's all I have.

CHAIRMAN STEIN: Professor Tait.

MR. TAIT: No questions.

CHAIRMAN STEIN: Mr. Ashton.

MR. ASHTON: Oh, yeah, I can find a few -- (laughter). UI responded that they had eight electric vehicles on their system. Does NU have any concept as to how many they have on your system?

MR. GOODWIN: I don't -- there may be somebody in the company who knows. I don't think any of

us know. I -- I --

MR. ASHTON: Okay --

MR. GOODWIN: -- I do know that they are out there --

MR. ASHTON: Would you say -- would you agree that it's not exactly a load driver at this point?

MR. GOODWIN: Absolutely. I think a general statement that would be fair is that market hasn't developed as quickly as we were all hoping.

MR. ASHTON: As Mr. Ferrante and Mr. Goodwin would certainly suspect, I would like to ask a couple of questions about the price differential with natural gas being what it is and oil driving the electric power costs. Is there any indication that the rush to -- I guess that's probably a fair term -- to convert to natural gas is having any effect on your load?

MR. GOODWIN: Yeah, I think we -- we would be more hopeful that it was a rush. There's been some positive impact as it relates to -- the natural gas load I assume you're speaking to --

MR. ASHTON: Yeah --

MR. GOODWIN: -- there's clearly been some benefit. But as you are aware, we have been trying to market on system conversions of non-users --

MR. ASHTON: Yeah --

MR. GOODWIN: -- and low users since you are our boss --

MR. ASHTON: Yeah --

MR. GOODWIN: -- so it's not a new concept to us --

MR. ASHTON: No, but the economics -- the relative economics --

MR. GOODWIN: Right --

MR. ASHTON: -- change radically.

MR. GOODWIN: Right. The obstacles that we face right now quite frankly are the behind the customer meter conversion costs. So even if we could attract an oil customer to convert, we have to overcome roughly a seven to eight to nine-thousand dollar behind the meter conversion cost. That hasn't been an easy barrier yet to overcome. When we look at off main and the prospects of expanding gas into unserved territories where there may be a large oil population, simply the cost of construction and the contributions and aid to construction that are required under the current models again are a fairly strong area. We've been working with DEEP within the context of the Connecticut energy strategy that they've been working on to try to get some

positive changes as it relates to some regulatory treatment around those economics. So quite honestly, the market hasn't developed as quickly and as aggressively as I think we would have liked, and probably not as quickly as many may think when they see those types of relatively wide price spreads. Regulatory economics just kind of gets in the way a little bit.

MR. ASHTON: Have you factored any of that into your forecast, the greater proportion of energy load to be served by natural gas?

MR. GOODWIN: Into our natural gas forecast internally absolutely.

MR. ASHTON: How about into your electric forecast?

MR. GOODWIN: I don't believe so explicitly. What I can say is that the way these electric forecast models work is we get EIA government data on appliance saturation rates --

MR. ASHTON: Yeah --

MR. GOODWIN: -- so to your questions before relative to electric water heating, we get EIA data on electric water heating saturation trends over time, and then we also do our internal surveying to get saturation trends of our own customers. And what we've

seen very clearly in the last 10 years or so from those surveys is a relatively dramatic decline in the saturation of electric water heating --

MR. ASHTON: Really?

MR. GOODWIN: Yes. And I -- as a matter of fact in preparation for this hearing, we were sharing some of that information and I was quite surprised frankly to see how dramatic. I think so that what has happened is that -- and it makes some sense. Natural gas is at almost all time low prices now, but natural gas has been much more competitive than electricity for many years as it relates to water heating. So there has been an economic advantage over electric water heating for a long time. And I think we've seen that in the trending. As well as the fact that in the mid 2000's electric prices spiked fairly dramatically --

MR. ASHTON: Yes --

MR. GOODWIN: -- so I think the combination of gas having a natural advantage and some spikes in electric prices has led to a lot of conversions over the last five to ten plus years.

MR. ASHTON: Okay. I don't want to belabor it, but that's interesting. In your forecast, which was dated March 11th -- March 1st, pardon me, this

year, you indicate a seven-tenths percent growth for the year 2012. What's your -- what's your bookie giving you on odds you'll make that? And I'm looking at Table 2.2.

(pause)

MR. GOODWIN: Yeah, I don't -- what I can tell you for certain is that we're running lower than that number --

MR. ASHTON: Yeah --

MR. GOODWIN: -- we're under our budget. I don't know exactly --

MR. ASHTON: Okay. I don't want to -- I don't want to flog it --

MR. GOODWIN: Largely --

MR. ASHTON: -- but my perception is that the economy is very -- still very troubled. And if it's moving upward, it's imperceptible, and at best it seems to be going straight out --

MR. GOODWIN: I think that's a fair description. I think when you look at this forecast relative to the last one, each successive forecast gets a little optimistic about the economic recovery. We're just waiting --

MR. ASHTON: Sure --

MR. GOODWIN: -- for it to happen.

MR. ASHTON: Well it's traditional it shows you coming out of it pretty rapidly -- coming out of inflation --

MR. GOODWIN: Right --

MR. ASHTON: -- and this is the worst response that we've seen in many --

MR. GOODWIN: It's been a long --

MR. ASHTON: -- many years --

MR. GOODWIN: It's been a long time. I would agree.

MR. ASHTON: Is the -- is there still a difference in the way peak load megawatts are growing versus megawatt hours, the load factor is decreasing on the NU system?

MR. GOODWIN: Well I think that the gap is closing. There was a period of time five years or so ago where I think the amount of air-conditioning load coming onto the system was fairly dramatic. So we were going through a period where peak was actually growing relatively faster than output. I think that the air-conditioning penetration is still there. I think as well though that we've done so much more on the demand and management side between distributed generation and energy efficiency programs that are targeted towards demand

resources, and the ISO programs, that it's -- it's more leveled off. In this forecast we have a 10-year compound growth rate on output of four-tenths of a percent per year and on peak of seven-tenths of a percent. So they're really not very different --

MR. ASHTON: Not far apart, yeah --

MR. GOODWIN: -- the -- the load factor is relatively constant in the forecast.

MR. ASHTON: What would you view as probably the best indicator as the direction the economy is taking? Having been in the forecasting game for a long time --

MR. GOODWIN: Yeah --

MR. ASHTON: -- I respect your judgment.

MR. GOODWIN: Clearly employment would be one. And when you look at non-manufacturing employment in particular -- in this state manufacturing employment has declined for 25 straight years or something like that --

MR. ASHTON: Yeah --

MR. GOODWIN: -- so that's not a great indicator. But non-manufacturing employment I think is a -- is a fairly good indicator. When you look at our forecast, the amount of jobs that we've lost since 2008

in this state is mind-boggling --

MR. ASHTON: Yeah --

MR. GOODWIN: -- so when we see those numbers coming back, you know, I think that's some room for optimism. There are some other general indicators like new car purchases --

MR. ASHTON: Yeah --

MR. GOODWIN: -- that I think are a fair indicator of how people are feeling from a comfort level about their disposable income, and I think that would be a good sign of some recovery. Unfortunately, both of those indicators are still fairly low and lagging.

MR. ASHTON: Okay. Thank you very much.

CHAIRMAN STEIN: Mr. Wilensky.

MR. WILENSKY: Yes, just a couple of things. In your forecast dated March 1st, you state that at least 70 percent of the electric power needed to serve customer peak demand must be generated in Connecticut. I thought we were able to generate much more than that. I thought -- I -- I thought we could almost generate enough generation, especially with Kleen Energy coming on in Connecticut to serve the needs of the -- of the public.

MR. DAVID ERRICHETTI: Could you provide the citation again?

MR. WILENSKY: Pardon?

MR. ERRICHETTI: Could you point to where --

COURT REPORTER: I'm sorry, bring that microphone up closer to you please.

MR. ERRICHETTI: Where are you in the report?

MR. WILENSKY: In other words, it said on the transmission planning that 70 percent of the electric power needed to serve customer peak demand must be generated in Connecticut. This is in the booklet dated March 1st of forecast of loads and resources --

MR. ERRICHETTI: Yes --

MR. WILENSKY: -- for the period 2012 to 2021.

MR. ERRICHETTI: Yes --

MR. WILENSKY: And I thought we were able to generate more power than that in the State of Connecticut, especially as I said with Kleen Energy coming on-line.

MR. ERRICHETTI: Yeah, I think what the statement is in reference to is it needs to be more than 70 percent. It's not saying that we can only generate up to. It's saying that we have to generate at least 70

percent because we can only import twenty-five hundred megawatts into --

MR. WILENSKY: Do you need -- do you need more generation in Connecticut?

MR. ERRICHETTI: I -- I think the reference that you're reading is more trying to point out that Connecticut is more dependent on in-state generation than other New England states --

MR. WILENSKY: More depending on in-state generation?

MR. ERRICHETTI: Yes.

MR. WILENSKY: Okay. Do we need --

MR. ERRICHETTI: Now do we need more? I -- I would say at present with all that we've done in Connecticut --

MR. WILENSKY: Yes --

MR. ERRICHETTI: -- we're in pretty good shape, with Kleen coming on and -- I mean there's -- we're not talking about Interstate and the implications of Interstate, but with Kleen and with the New Haven peaking generation, the Middletown peaking generation, the Devon peaking generation, we still have the two Millstone units, we're -- we are in a lot better shape than we were years ago --

MR. WILENSKY: I thought so and that's why I was asking that question. But along with that, it also states that among all New England states, Connecticut is the least able to serve its peak load using power imports. I thought with the new transmission lines throughout the state and what is happening, that we could serve the state very well?

MR. ERRICHETTI: I'm going to pass that back to the fellow on my left.

CHAIRMAN STEIN: You want to be careful about the transmission lines I think given 424. I think we ought to --

A VOICE: Withdrawn --

CHAIRMAN STEIN: -- we should stay away from that.

MR. ERRICHETTI: I can answer --

MR. WILENSKY: We're not even talking about 424. I'm talking about Springfield to -- to -- to Bloomfield.

CHAIRMAN STEIN: Well then be more specific.

MR. WILENSKY: Mr. Ashton is whispering in my ear -- (laughter) --

A VOICE: Everybody is --

MR. BENTLEY: The -- the existing import capability is twenty-five hundred megawatts. And I'd like to get back to Mr. Perrone's question. I will say this much, in real time we have seen imports being needed up to twenty-five hundred megawatts. And you know, depending on the economics of the generation in Connecticut, there can be a need for additional. It may make this more economic to have additional imports. So you know, it gets to that question -- and I'll stop there because I'm going to walk into a danger zone probably.

MR. WILENSKY: Well with everybody whispering in my ear, that's the end of my questions. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Mr. Ashton.

MR. ASHTON: Yeah, I have -- I have one other question. Connecticut has the residue of what was once the bulk of the transmission system, the 69,000 volt system serving the Falls Village area, Mansfield, the Groton area, and I guess Rockville. What's the future of that system? Is it going to stay there and just peter out because some of it has been rebuilt for 115 capability? The Falls Village line for example has 115-kV capability.

MR. BENTLEY: As a transmission planning

group, we -- we continually look at each of those 69-kV areas in our system to recognize are there opportunities to get the system closer to -- it does make some sense, but there are some significant hurdles to overcome as far as conversions, especially in the Falls Village area and going up there. There's generation up there that we would have to look at, replacing VSUs. So the proposition gets a little expensive at times, so you have to look at the cost benefit, is there a liability need that can help justify the conversion or can you make the improvements to keep that going and keep that within the standards and maintained.

MR. ASHTON: Well just taking Falls Village as an example, my recollection is the substation at Falls Village has been spaced for 115. You've got the 69-kV normally open tied in New York and the line up to North Canaan, which I can't remember if it was 115 or not -- I think it is, but I'm not sure --

MR. BENTLEY: I don't know what it was exactly built to back in the day. We have closed the tie to New York. That tie is actually operated normally closed --

MR. ASHTON: Normally closed?

MR. BENTLEY: Yep.

MR. ASHTON: And it's in synchronism and parallel to the 345 system?

MR. BENTLEY: Yes, we have a transformer at Torrington that actually feeds the flow. What happens is when the 345-kV systems in place, system normal under no contingencies, all that flow is flowing on the 345. When you lose the 345-kV system -- or that line, the 398 line I believe, then we will open up the 69 to make sure we don't have a parallel path and burn down the --

MR. ASHTON: If you lose a generator, does the swing go on that line?

MR. BENTLEY: Which generator --

MR. ASHTON: If you lose a major -- you know, a Millstone unit for example, would there be a major swing on that 398 line?

MR. BENTLEY: That -- well it may swing on the 398 line, but it won't go down to the 69-kV level. You won't see a significant impact there as long as you have the parallel path --

MR. ASHTON: Okay. That must be -- that's got to be a recent development.

MR. BENTLEY: I know it's gone back and forth a little bit, but we do operate that normally closed.

MR. ASHTON: Okay. Okay, so the bottom line is probably nothing for the foreseeable future?

MR. BENTLEY: We do keep looking at it. You know, any opportunity that we have, if there is something that we're looking at for an upgrade, if there's a maintenance requirement -- I -- I talk to our operations department as well as our engineering department and maintenance, and just to look for opportunities -- it's something that --

MR. ASHTON: What -- when you replace frames on a -- I think -- except for Falls Village, they're all wood pole lines as I recall --

MR. BENTLEY: Yeah --

MR. ASHTON: -- when you replace frames, do you space it at 115 or 69?

MR. BENTLEY: I think we'd have to look at that and see what the siting requirements are. You know, if there's opportunities to do it -- and it also depends on what was built there previously. So it's just a matter of --

MR. ASHTON: Well the spacing difference is not exactly dramatic --

MR. BENTLEY: No --

MR. ASHTON: -- it is something, but --

MR. BENTLEY: I don't think we've done a lot of replacements in the recent past up there, so -- not any structural replacements on those particular lines up there.

MR. ASHTON: Okay. Nothing further. Thank you, sir.

CHAIRMAN STEIN: Thank you. Mr. Golembiewski.

MR. GOLEMBIEWSKI: No questions, thank you.

CHAIRMAN STEIN: Mr. Lynch.

MR. LYNCH: Just one question. It seems that over the years with the upgrades in Southwestern Connecticut and Kleen coming on as far as generation that the in-state reliability is relatively stable. Is that -- am I making a correct statement?

MR. ERRICHETTI: Could you rephrase -- or state your question again?

MR. LYNCH: With the upgrades to your system --

MR. ERRICHETTI: Yeah --

MR. LYNCH: -- and some new generation, particularly Kleen, that as far as in-state not having to import any power, we're on a pretty good basis?

MR. ERRICHETTI: I would encourage -- I don't know if you've seen the draft 2012 Connecticut IRP --

MR. LYNCH: Yeah, I'm going there --

MR. ERRICHETTI: Okay -- well, I -- I think your -- your -- I think the complete story or the final state is -- the final chapter is not written or it's being written. I think that will really set Connecticut up well for a little while --

MR. LYNCH: Okay --

MR. ERRICHETTI: -- and I think we're trying to avoid talking about that.

MR. LYNCH: Well I'm -- I'm -- I'm not going to -- I'm trying to avoid -- so I'm going to go to another area. You heard this afternoon when the ISO was here --

MR. ERRICHETTI: Yes --

MR. LYNCH: -- that they do not include in their forecast and neither do we in ours the generation plant in Oxford --

A VOICE: Towantic --

MR. LYNCH: Yeah -- Towantic, yeah. And -- but they say it maintains its place in the cue. My question then as far as generation reliability is, is

that plant really needed? Do you feel it's needed? Have you been asked to come in and work on the tie-ins again? It's been sitting there for 13 years and nothing has been done.

MR. ERRICHETTI: I -- I can probably provide an additional update on that because I'm maybe a little bit more familiar than the ISO witnesses that are here. The Towantic actually withdrew from the cue. I believe it was sold to another developer, MGE. And so they had to withdraw from the cue and re-enter the cue. So they have now taken a new cue position. That's -- that's also -- in the planning world that matters where you are in the cue. And I don't believe they've gone far enough in the cue yet to really get into the studies yet.

MR. LYNCH: Okay, that's -- that's what I had thought, and that's what I thought I was going to get from the ISO, so I'm glad you cleared that up for me.

MR. ERRICHETTI: Okay. Yeah, that's my with the ISO --

MR. LYNCH: Okay, thank you. No questions, Mr. Chairman.

CHAIRMAN STEIN: Thank you. Mr. Levesque.

MR. LEVESQUE: No questions.

CHAIRMAN STEIN: Senator Murphy.

MR. MURPHY: No questions.

CHAIRMAN STEIN: Dr. Bell.

DR. BELL: Thank you, Mr. Chair. I had the same question regarding REGGE as I asked to UI, not so much about your relationship with the negotiations, but rather do you know -- do you have a sense of what changes will be made in the rules?

MR. HONAN: I think the short answer is no -- (laughter). There was -- there was a little bit in the draft IRP that was just referenced, a paragraph talking about they're rethinking the rules -- updating the rules coming out this year. But beyond that limited paragraph that's in there, I really don't have any specific knowledge.

DR. BELL: Okay, thank you. And regarding solar, do you have -- can you give us some information on the number of solar installations and kilowatt hours?

MR. FERRANTE: I can provide you the exact data, but it's approximately -- for CL&P we have about 25 megawatts of solar installed already over fifteen hundred to sixteen hundred customers. But I'll give you the correct data over time. I don't have the exact number here --

DR. BELL: Okay. That would be great if

you could supply that.

And a follow-up to the question about electric cars, actually in the first set of responses, Question No. 4, you give us gigawatt hours that you have actually built into your forecast. You seem to say -- associated with electric cars and you say this -- the load that you've built in represents approximately an annual increase of forty-three hundred electrical -- electric vehicles per year. Are you seeing where you wrote this?

MR. GOODWIN: I see that, yes.

DR. BELL: Okay. I'm sorry, I should look at you, Mr. Goodwin, because your name is clearly on there. So -- that's already in your forecast. And earlier when you were discussing with Mr. Ashton and Mr. Perrone on this, you were saying it didn't look as if you had very many electric vehicles --

MR. ERRICHETTI: We don't have forty-three hundred of them. I can --

DR. BELL: So the figure of forty-three hundred is not -- it won't -- you won't build forty-three hundred a year --

MR. GOODWIN: No. I think a couple of things to note around -- this was a forecast -- the data

goes back a year or so ago, and at that time the market was still evolving. I think we were clearly a little overly optimistic as to the prospects. We continue to be optimistic obviously. There's a lot of activities at CL&P and Northeast Utilities that's involved in as it relates to electric vehicle charging station pilots, plans that we're working on with DEEP around some interstate locations to the point -- to the gentleman's point about going from one end of the state to the other. So there are a number of activities that we're involved with from a planning perspective. The market hasn't materialized as fast as we had hoped a year or so ago. But as it relates to the forecast, we've made an assumption in the forecast that there won't be any peak demand impact from electric vehicles. So these are gigawatt hour numbers built into the forecast, there's no assumption about incremental peak demand. It's our belief that the market will largely do its charging off peak, mostly domestic at home overnight type peaking. One of the things we are contemplating is a rate pilot to try to understand what we need to do to encourage homeowners to make sure that that off peak charging happens. So as it relates again to the peak forecast, regardless as to how optimistic these volumetric

projections may have been, it didn't impact our peak forecast.

COURT REPORTER: One moment please.

(pause - tape change)

DR. BELL: Okay, thank you for that clarification.

MR. GOODWIN: You're welcome.

DR. BELL: Thank you, Mr. Chair. Those are my questions.

CHAIRMAN STEIN: Mr. Levesque.

MR. LEVESQUE: For that brief solar -- description of the solar installations over the last 10 or whatever years it's easy to produce, could you include maybe an annual change of the size of like residential installations if you have it, and by, you know, type of property?

MR. FERRANTE: Yeah, I can break it down by residential, commercial, and --

MR. LEVESQUE: You probably already did it for another docket. Thank you very much.

CHAIRMAN STEIN: Okay. I had a question. I thought the actual question and response by pretty much everybody was asked about the importance of the duration of a heat wave -- in other words, that even if the

temperature over three days is the same, the third day the demand is much -- is greater because by that time people are even more uncomfortable and therefore more air-conditioning -- are you following me?

MR. GOODWIN: Yeah, I can address that, sir --

CHAIRMAN STEIN: Well let me -- I haven't asked the question yet --

MR. GOODWIN: No, but I just wanted to make eye contact because you were asking -- (laughter) --

CHAIRMAN STEIN: Alright. I apologize for that. So my question is if in the future -- or do you model the possibility that the actual duration of the heat waves may increase? For example -- I don't know what the average -- you say it's three days now -- if it would go to four days or even five days, and wouldn't that have a significant increase on the peak? And do you consider that in your forecast model?

MR. GOODWIN: Well what I'd say is that no, we haven't made an explicit consideration for a change in the weather pattern. So what we modeled for our forecast is a weather normal load. So whatever the average in our last 30-year weather normal period has

been around the peak, in our forecast we would assume that those same peak conditions that have happened in the past would continue to happen going forward. But that would be in our 50/50 forecast. We do provide in our filing a 90/10 forecast where we've got a more extreme hot weather projection, and that picks up some of the more extreme peak conditions from past years. So I think it would be fair to say that in the context of our 90/10 extreme forecast those types of -- I guess to your point more extreme build-ups that might create that yet higher peak, that would be reflected in the 90/10 higher case forecast.

CHAIRMAN STEIN: Is that what you call an extreme hot --

MR. GOODWIN: Yes --

CHAIRMAN STEIN: -- weather scenario?

MR. GOODWIN: Yes. Yes.

MR. ASHTON: I've got a question when you're through.

CHAIRMAN STEIN: Okay. Mr. Ashton.

MR. ASHTON: Mr. Goodwin, if my memory is correct, the gas forecast for example was done for a 20-year period -- the previous 20-year period. That has actually changed, hasn't it, in the last 20 or 30 years,

so that the -- you know, we started out with roughly sixty-five hundred degree days and it's down -- I don't know -- 6,000 or something like that

MR. GOODWIN: A little under 6,000 --

MR. ASHTON: It's under now --

MR. GOODWIN: Yeah.

MR. ASHTON: So doesn't that implicitly say your 50/50 forecast is reflecting some climatic change that we're experiencing?

MR. GOODWIN: Absolutely.

MR. ASHTON: Okay.

MR. GOODWIN: Absolutely.

CHAIRMAN STEIN: Also -- just a question -- some years ago -- and maybe you still have this program -- you could -- I think it was like a $25.00 rebate sign up to have CL&P -- I don't know whether it was disconnect your air-conditioning if you reached some kind of -- I guess a danger of a brown-out -- is that --

MR. BEBRIN: I think there was a -- I don't know -- there was a program that ISO ran --

CHAIRMAN STEIN: Sorry --

MR. BEBRIN: -- I believe. And we've done pilots on different controls. So, I don't know the exact one you're talking about, but there was some company

going around when they did the -- I forgot what they called it -- but ISO ran a program --

MR. GOODWIN: I believe it was Converge -- it was part of the ISO --

MR. BEBRIN: Yeah --

MR. GOODWIN: -- load response programs --

MR. ERRICHETTI: Yeah, there was a company called Converge that a few years ago had that program. I don't know if they're still around. But yeah, we -- CL&P didn't sponsor it. It was a third-party that did it.

CHAIRMAN STEIN: So I guess my question is how would it work or -- because obviously wouldn't CL&P or ISO or somebody have to trigger this because of some extreme --

MR. ERRICHETTI: They could do a better job of answering this, but I'll give it a shot. We understood that a third party installed equipment at your home that would curtail -- they'd turn off your air-conditioner say for two or three hours, and they signed up thousands of customers and sold the same equipment and they would cycle through all of the different homes staggered so that they -- they got an aggregate -- the reduction they were looking for. But the individual customer wasn't made uncomfortable. So it was all -- it

was -- it was -- ISO would contact that third-party and say we need load relief. That third-party would then trigger the -- turn off the air-conditioners and manage that whole program for the duration that ISO was calling for the interruption. And then when the -- when ISO said the interruption is done, they would let everybody come back on.

CHAIRMAN STEIN: Very good. I guess -- that's how I understood it. And is that still in practice --

MR. ERRICHETTI: Well --

CHAIRMAN STEIN: -- or theoretical?

MR. ERRICHETTI: The reason I'm familiar with it was as a result of one of -- why am I familiar with it -- (laughter) -- as a -- as a -- as we were discussing those monetary grant programs earlier, as a part of that act back in 2005, we engaged Converge to extend the program that they had installed in response to an ISO RFP. The long of it -- the short of it is, is that our involvement with Converge ended a couple of years ago. And whether Converge is still in Connecticut doing it, I don't know. That's -- so that's why I don't know if it's still in practice today.

CHAIRMAN STEIN: So you're telling me I

don't have to return that $25.00 -- (laughter) --

MR. ERRICHETTI: Well you -- you may still be -- well -- I thought that payment was annually. Did you --

CHAIRMAN STEIN: Then it's definitely not in existence -- (laughter).

Okay. I will now see if there are any -- if any of the remaining parties have any questions. FirstLight Power? Dominion? Connecticut Municipal? UI?

MR. MCDERMOTT: No, thank you.

CHAIRMAN STEIN: So I guess at this point we will recess and resume the public portion of the hearing at 7:00 p.m.

(Whereupon, the hearing adjourned at 4:30 p.m.)

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