In The Matter Of:

Application of NTE Connecticut, LLC

Continued Public Hearing

December 15, 2016

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STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Docket No. 470

Application of NTE Connecticut, LLC for a Certificate of Environmental Compatibility and Public Need for the Construction, Maintenance and Operation of a 550-megawatt Dual-Fuel Combined Cycle Electric Generating Facility and Associated Electrical Interconnection Switchyard Located at 180 and 189 Lake Road, Killingly, Connecticut

Continued Public Hearing held at the Connecticut Siting Council, Ten Franklin Square, New Britain, Connecticut, Thursday, December 15, 2016, beginning at 11:02 a.m.

H e l d B e f o r e:

ROBERT STEIN, Chairman

A p p e a r a n c e s:

Council Members:
SENATOR JAMES J. MURPHY, JR.,
Vice Chairman
PHILIP T. ASHTON
ROBERT HANNON
LARRY P. LEVESQUE, ESQ.
DANIEL P. LYNCH, JR.
ROBERT SILVESTRI

Council Staff:
MELANIE BACHMAN, ESQ.,
Executive Director and
Staff Attorney
MICHAEL PERRONE,
Siting Analyst

For NTE Connecticut, LLC:
ROBINSON & COLE LLP
280 Trumbull Street
Hartford, Connecticut 06103
BY: KENNETH C. BALDWIN, ESQ.
JAMES P. RAY, ESQ.

A p p e a r a n c e s: (Cont'd.)

For Not Another Power Plant and the Wyndham Land Trust:
REID AND RIEGE, P.C.
One Financial Center
Hartford, Connecticut 06103
BY: MARY MINTEL MILLER, ESQ.
JOHN BASHAW, ESQ.

Town of Killingly:
SEAN HENDRICKS, Town Manager
Town of Killingly
172 Main Street
Killingly, Connecticut 06239

TRC Solutions:
CARL N. STOPPER

For the Sierra Club, Connecticut Chapter:
SIERRA CLUB
50 F Street N.W.
Washington, D.C. 20001
BY: JOSHUA BERMAN, ESQ.

A p p e a r a n c e s: (Cont'd.)

For the Connecticut Fund for the Environment:

CONNECTICUT FUND FOR THE ENVIRONMENT
900 Chapel Street
Upper Mezzanine
New Haven, Connecticut 06510
BY: JOHN LOONEY, ESQ.

THE CHAIRMAN: Good morning, ladies and gentlemen. I'd like to call to order this hearing of the Connecticut Siting Council, today, Thursday, December 15, 2016, at approximately 11:05 a.m. My name is Robin Stein. I'm Chairman of the Siting Council.

This evidentiary session is a continuation of the hearings held on October 20, 2016; also, November 3, 2016; and November 15, 2016. It is held pursuant to the provisions of Title 16 of the Connecticut General Statutes and of the Uniform Administrative Procedure Act upon an application of NTE Connecticut, LLC, for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 550-megawatt dual-fueled combined cycle electric generating facility and associated electrical interconnection switchyard located at 180 and 189 Lake Road in Killingly, Connecticut. This application was received by the Council on August 17, 2016.

A verbatim transcript will be made of this hearing and deposited with the Town Clerk's offices in Killingly, Pomfret, and Putnam Town Halls for the convenience of the public.

We will proceed in accordance with the prepared agenda, copies of which are available here.

We have a request from NTE Connecticut, LLC for supplemental administrative notice items, dated December 8, 2016. Attorney Bachman may wish to comment.

MS. BACHMAN: Thank you, Mr. Chairman. Staff recommends that the request for supplemental administrative notice items be granted.

THE CHAIRMAN: The Chair will entertain a motion.

MR. ASHTON: Move approval.

SENATOR MURPHY: Second, Mr. Chairman.

THE CHAIRMAN: Any discussion?

(No response.)

THE CHAIRMAN: All those in favor signify by saying aye.

THE COUNCIL: Aye.

THE CHAIRMAN: Opposed? Abstention?

(No response.)

THE CHAIRMAN: Motion carries.

I wish to call your attention to those items shown on the hearing program marked as Roman Numeral ID, Items 1 through 108.

Does the applicant, or any party, or intervenor have any objection to the admission of Item Numbers 26, 32, 87, and 88 that the Council has administratively noticed?

(No response.)

THE CHAIRMAN: Hearing and seeing none, they will be administratively noticed.

We will continue with the appearance of the applicant, NTE Connecticut, LLC, and verify the new exhibits marked as Roman Numeral II, Item B, 21 through 27 on hearing program.

And Attorney Baldwin, would you please verify the new exhibits you have filed in this matter and have them verified by the appropriate sworn witnesses?

MR. BALDWIN: Certainly, Mr. Chairman. Good morning, Kenneth Baldwin with Robinson & Cole on behalf of the applicant, NTE Connecticut. To my left is my partner Jim Ray, who will be sitting with us the rest of the way through this proceeding.

We actually have the seven items listed in the hearing program as NTE Exhibits 21 through 27. There were two other exhibits that were delivered to the Council and all parties and

intervenors this morning that I would propose to list as NTE 28, which is a letter from the Connecticut Water Company, dated December 14, 2016, which we received last night. That actually is the last of the responses to the Council's request which appear in NTE 23, but is a supplement to that exhibit. And then NTE, we'll call it, Exhibit 29, that is a final environmental justice summary report, which was submitted to Ms. Edith Pestana at DEEP, and we received final authorization to file that with the Siting Council for acceptance from Ms. Pestana yesterday afternoon. And we submitted that to the record for your pleasure.

F R E D S E L L A R S,

G E O R G E L O G A N,

L Y N N G R E S O C K,

M A R K M I R A B I T O,

T I M E V E S,

M I C H A E L B R A D L E Y,

C H R I S R E G A,

N O R M T H I B E A U L T,

M A S O N S M I T H,

S C O T T H E S K E T H,

J A M E S W A L S H,

E T H A N P A T E R N O,
K E V I N F O W L E R,
called as witnesses, being previously duly sworn, were examined and continued to testify on their oaths as follows:

DIRECT EXAMINATION

MR. BALDWIN: So as it relates to those exhibits, first with respect to NTE Item 21, which relates to Mr. Logan's responses to some of the questions asked at the first hearing by Dr. Klemens; Mr. Logan, did you prepare or assist in the preparation of the information contained in NTE Exhibit 21?

THE WITNESS (Logan): Yes, I did.

MR. BALDWIN: Do you have any corrections or modifications to offer to any of that information?

THE WITNESS (Logan): I do not.

MR. BALDWIN: Is the information contained in that exhibit true and accurate to the best of your knowledge?

THE WITNESS (Logan): Yes, it is.

MR. BALDWIN: And do you adopt the information in that exhibit as your testimony in this proceeding?

THE WITNESS (Logan): I do.
MR. BALDWIN: Thank you.
As it relates to Exhibit NTE 22, Mr. Rega, did you prepare or assist in the preparation of the information contained in that exhibit?
THE WITNESS (Rega): Yes, I did.
MR. BALDWIN: And do you have any corrections, modifications, or additions to offer at this time?
THE WITNESS (Rega): No, I do not.
MR. BALDWIN: And is the information contained in that exhibit true and accurate to the best of your knowledge?
THE WITNESS (Rega): Yes, it is.
MR. BALDWIN: And do you adopt the information in that exhibit as your testimony today?
THE WITNESS (Rega): Yes, I do.
MR. BALDWIN: For exhibit marked NTE 23, I'd like to ask Mr. Rega, Mr. Thibeault, and Mr. Paterno, did you prepare or assist in the preparation of the information contained in NTE Exhibit 23? Mr. Rega.
THE WITNESS (Rega): Yes, I did.
MR. BALDWIN: Mr. Thibeault.

THE WITNESS (Thibeault): Yes, I did.
MR. BALDWIN: Mr. Paterno.
THE WITNESS (Paterno): Yes, I did.
MR. BALDWIN: Do you have any corrections, modifications, or additions to offer to any of that information at this time? Mr. Rega.
THE WITNESS (Rega): No, I do not.
MR. BALDWIN: Mr. Paterno.
THE WITNESS (Paterno): No, I do not.
MR. BALDWIN: Mr. Thibeault.
THE WITNESS (Thibeault): No.
MR. BALDWIN: Is the information contained in that exhibit true and accurate to the best of your information? Mr. Rega.
THE WITNESS (Rega): Yes, it is.
MR. BALDWIN: Mr. Thibeault.
THE WITNESS (Thibeault): Yes, it is.
MR. BALDWIN: Mr. Paterno.
THE WITNESS (Paterno): Yes, it is.
MR. BALDWIN: With respect to the exhibits listed in the hearing program as 24 and 25, this is the redacted and the unredacted versions of Ethan Paterno's rebuttal testimony filed with the Council on December 8th -- we

understand that the unredacted version is the subject of a protective order -- but did you prepare or assist in the preparation of that rebuttal testimony, Mr. Paterno?

THE WITNESS (Paterno): Yes, I did.

MR. BALDWIN: And do you have any corrections or modifications to offer?

THE WITNESS (Paterno): No, I do not.

MR. BALDWIN: Is the information contained in that testimony true and accurate to the best of your knowledge?

THE WITNESS (Paterno): Yes, it is.

MR. BALDWIN: Thank you.

Mr. Bradley, NTE Exhibit 26 is your rebuttal testimony, dated December 8, 2016. Did you prepare or assist in the preparation of that exhibit?

THE WITNESS (Bradley): Yes, I did.

MR. BALDWIN: Are there any corrections, modifications, or additions to offer?

THE WITNESS (Bradley): No.

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

THE WITNESS (Bradley): Yes, it is.

MR. BALDWIN: Thank you.

With respect to NTE 27, this was a supplemental response that NTE received from the Tribal Historic Preservation Office in an effort to supplement Interrogatory Number 59.

Ms. Gresock, did you receive that information from the tribal office that has been included in Exhibit 27?

THE WITNESS (Gresock): Yes, I did.

MR. BALDWIN: And can you testify today as to what it states, if asked by the Council or members of the parties and intervenors?

THE WITNESS (Gresock): Yes, I can.

MR. BALDWIN: I'm not sure I can do much more than that as relates to that exhibit, Mr. Chairman, since Ms. Gresock did not produce it. But she did submit it and support it in this application.

With respect to new NTE Exhibit 28, again, this is a supplemental response to Exhibit 23, and a letter that we received from the Connecticut Water Company. I'm not sure that needs to be attested by any particular witness, Mr. Chairman, but that information was received last night. And to the extent that there are

questions related to what the Connecticut Water Company stated in that letter, Mr. Mirabito and Ms. Gresock can address those questions. But I don't know that we need to verify that as anything other than a letter that we received in response to the Council's specific question. We can, if you'd like, but I'll defer to the staff attorney.

THE CHAIRMAN: We'll just have to accept it for what it's worth.

MR. BALDWIN: Thank you.

Lastly, with respect to NTE 29, this is the final summary report as part of the environmental justice process. Mr. Eves, did you prepare or assist in the preparation of that exhibit?

THE WITNESS (Eves): I did.

MR. BALDWIN: And do you have any corrections, modifications or additions to offer to that exhibit?

THE WITNESS (Eves): No.

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

THE WITNESS (Eves): Yes.

MR. BALDWIN: And do you adopt the

information in that as your testimony.

THE WITNESS (Eves): I do.

MR. BALDWIN: Mr. Chairman, I offer them as full exhibits.

THE CHAIRMAN: Does any party or intervenor object to the admission of the applicant's new exhibits?

MR. BASHAW: Mr. Chairman, John Bashaw for NAPP and the Wyndham Land Trust. We don't object to the admission of these exhibits. We just want to be clear that with respect to the last two, 28 and 29, which were just received today, because I understand they just received them, that we'll have an opportunity, to the extent that we finish our cross-examination today, that we'll have an opportunity at the January session to question on those particular exhibits.

THE CHAIRMAN: Yes. We all just got a number of these exhibits. So the answer is yes.

MR. BASHAW: Thank you.

(Applicant's Exhibit II-B-21 through II-B-29: Received in evidence - described in index.)

THE CHAIRMAN: We'll now begin with the cross-examination of the applicant by the Town of

Killingly, to be followed by the grouped parties Not Another Power Plant, the Sierra Club, and the Wyndham Land Trust. Please note that the open portion of today's proceedings will conclude at 1 p.m.

CROSS-EXAMINATION

MR. HENDRICKS: Good morning, Mr. Chairman, members of the Council. My name is Sean Hendricks. I'm the town manager for the Town of Killingly. With me today is Mr. Carl Stopper of TRC Environmental. TRC Environmental is the consultant that was retained by the town to advise both the town council as well as specifically the Inland Wetlands and Watercourses Commission and the Planning and Zoning Commission generally for the purposes of constructing the municipal orders that were submitted as exhibits by the town.

My hope today is that I can handle most of the questions, although I'm glad to have Mr. Stopper here. A couple of my questions are a little more on the technical side, so I'm going to admit when I'm in the weeds. And, if need be, I may defer to Mr. Stopper to either save me from stepping into deeper water or perhaps direct questions directly. I appreciate the opportunity

to be able to address the Council and then to address NTE.

I think the document that I'm going to primarily be referring to today is going to be the appeal and responses of NTE to the municipal regulate and restrict orders. I'm pretty much going to start at the beginning, and we'll just refer to specific questions and then your response. During and after I may have a couple of just sort of general overall questions regarding progress in the particular areas that have been of concern to the town.

So my first question comes from your response to a document on page 3, the Inland Wetlands and Watercourses Commission order -- and it should be noted that the genesis of most of the municipal and regulate orders come from another document, which was filed by the town, and that's the third-party document review and ultimately the recommendations for the Connecticut Siting Council conditions of which Mr. Stopper is the author. And he and his staff compiled those recommendations, which is another reason I'm glad you're here.

So this particular condition that the

Inland Wetlands and Watercourses was looking for regarded, obviously, stormwater drainage. And there was a request by the Inland Wetlands Watercourse Commission that there would be a trench, a minimum of 3 feet wide by 5 feet deep, that would be completely enclosed with filter fabric and covered with a foot of topsoil that was going to be between the two catch basins. In your appeal, you appealed that one portion of the order that called for the installation of this trench.

And so, I guess, the easy question is or the simplest way to ask it is why? I think there's -- we're going to get to a grading question. But there is obviously some steep grades in some of these areas. There's obviously concern, concern about runoff, especially at peak levels. So I think the inland wetlands folks were going on their experiences that we want to make sure, obviously, not just for the town but for the safety of KEC employees, you know, that there is going to be sufficient collection and ultimately recharge to the aquifer -- of the water there. So could you sort of expand upon your reason for appealing this particular part of the order?

THE WITNESS (Thibeault): Sure. Norm

Thibeault. We did look at the recommendation, and I think for the most part we did concur that the protection of the wetlands and the recharge of the wetlands was the ultimate goal for this project, to make sure that we achieved the required wetland recharge volume that was required or recommended by the state water quality guidelines.

So taking a look at it by, first of all, modifying the drainage system in its entirety by adding two additional stormwater basins at the head waters of the two wetland appendages, combined with the larger stormwater basin, and including a crushed stone feature within the basins themselves; we're able to achieve a lot of the storage necessary, the infiltration of volume capacity that we're going for.

We did propose to install some trenches in some areas and downgrading to the two smaller basins. We also have a portion of the larger basin where we've got some infiltration capacity. And then the actual -- the level spreader, which is the primary discharge point for the largest retention detention basin as well, what we did there was to actually create some recharge capacity within that level spreader itself by

specifying a depth of stone within it.

With these items, and accounting for these items only, we more than double the requirement for the recharge volume that's recommended by the stormwater guidelines and a couple of things that we don't even account for. Due to the fact that the amount of infiltration within the soil is likely to be limited due to the nature of the soils themselves, we did not account for any infiltration throughout the site or any storage of stormwater throughout the site. We've got about six and a half acres of a crushed stone surface that will be installed throughout portions of the site. We believe that that crushed stone surface is going to assist in adding additional infiltration to the project. It will also assist in storing the stormwater after storm events, because the surfaces on which this crushed stone is placed are typically less than two percent. So we fully anticipate that there will be some additional storage and infiltration in those areas.

So for those reasons we have achieved the groundwater recharge volume and exceeded it quite substantially; and we didn't think a trench

along the entire length of the slope was necessary. It would have resulted in disturbance of approximately another third of an acre that we didn't feel as though was necessary.

MR. HENDRICKS: So just to follow up on that. So you feel as though in your modeling for storage specifically, anyway, that the runoff coefficient, I guess, that you used was high enough or was conservative in the sense that you're ultimately going to be able to -- that without the trench that those two basins alone are going to be able to attenuate flow at peak levels? Obviously, I think that's the primary concern of the Commission.

THE WITNESS (Thibeault): I think we're talking two different things. I mean, as far as attenuating peak flows, the drainage computations demonstrate that the peak runoff rates are less than or equal to what currently happens on the site now. But as far as recharge volume, what we've assumed -- what we've actually done is provided mechanisms to store this recharge volume so that even after the storm event is completed there will be a mechanism to store that recharge and allow it to infiltrate at the rate in which it

needs to recharge the wetland areas.

MR. HENDRICKS: Thank you. My next question -- we're going to move to page 7 -- page 6 and 7, I guess. Sorry. This specific condition regarded the setback of the buffer zones. And I think the town appreciated NTE's willingness to extend, where it could, that 25-foot buffer zone to 75. We appreciated that. I think that there's some worry about the grading, in particular, there. I know the Commission had looked for -- what was the maximum -- 2 to 1 and 3 to 1. And there was one area where I believe in your appeal you wanted to go to a 1 to 1 slope, which is obviously very, very steep and potentially unstable.

And I think there's some worry about, I think, in that particular location, because it's steep, there's still the worry in that location about the formation of a vernal pool, whether it's an actual vernal pool, or a decoy or not. Could this 1 to 1 slope, you know, grade in this particular area lead to some sort of vernal pool there? And I know it's not your plan, but what if it does? Is there any way to go to a 2 to 1 or a 3 to 1 grade there?

THE WITNESS (Thibeault): Let me answer that in two parts. I think I'll defer to Mr. Logan regarding the vernal pool portion of it. But with regard to the 1 to 1 slope, it's a relatively small area that we've done that. And the reason why we went to that 1 to 1 slope in that area, previously we had a 16 to 18-foot retaining wall in that area, and there was some concern with construction and maintenance of that wall and whether or not it could be constructed without actually having activity within the wetlands itself. And also there was concern about the potential stability of the wall just due to the types of soils that are in the area. There are a lot of organic soils in that area. And just by that virtue, having a wall that high, it could have potentially created some maintenance issues and some constructability issues.

What we did in that area was to relocate some of the equipment and shift the road a little further to the west. And in that one area adjacent to the wetland X, which I certainly don't want to diminish the functionality of the quality of the wetlands, but I think, looking at it in the big picture, it probably has the least

potential of providing any kind of habitat value or anything of that nature.

So that's the one wetland which I believe we are at one point within 26 feet of. But having said that, we were as close as about 12 feet previously with the retaining wall. We've moved it out to 26 feet. We've got the 1 to 1 slope stabilized with rock in that area, and we just feel as though it's a much better solution than having this large structure so close to the wetlands that was shown previously --

MR. HENDRICKS: Can you just as a follow-up -- obviously in that particular area of the slope you're obviously using riprap to stabilize that particular area. What's underneath that? Like what's that particular slope, not just on the surface, but what's that slope going to be composed of? Do you have a more detailed --

THE WITNESS (Thibeault): It will be composed of compacted structural fill. There will be a fabric, a geotextile installed on top of that, and then the rock will be placed on top of the geotextile.

MR. HENDRICKS: I'm sorry. Did you have more about my initial question? Sorry, I

didn't mean to interrupt.

THE WITNESS (Thibeault): I just want to say in general we talked about -- I think there was the discussion about trying to keep everything 75 feet away from the wetlands. And we really tried to do that everywhere we could. In fact, more than half of the slopes are 75 feet or beyond, and then the remaining 50 percent of that, an additional 75 percent of that half is greater than 50 feet from the wetlands. So we've got a very small percentage that actually falls within this 25 to 50 feet, and it was only in the specified areas where it was required to do so.

I think there was also a lot of discussion about, well, why can't you just move everything 75 feet away and pull it 75 feet in the other direction. And it is kind of an iterative process between protecting the wetlands and dealing with the noise issues and the visibility issues on the site. So the design tries to balance all three of those concerns, and hopefully come up with the best design that protects the wetlands, assists in the abatement of noise and screens the facility as much as we can from the road.

MR. HENDRICKS: Thank you. My next question, I think --

THE WITNESS (Gresock): Could you clarify what the question or concern is relative to the pond and the slopes? I'm not sure I understand the question.

MR. HENDRICKS: Well -- and Carl can correct me if I'm wrong -- I think there was some discussion or worry about if -- just I think because of the particular slope right there, that there was the potential that a vernal pool, whether it might be created; and if so --

MR. STOPPER: It actually had to do with the sediment or the stormwater management basin, the larger basin that's located in the center at the rear of the grading. Our concern was that the original design included a wet pool, and that that would be an attractant for species that would want to use it as a decoy pool, and it's not really suitable as a habitat for salamander and other concerned species that might use it. And we had some dialogue back and forth with the applicant concerning that. Our recommendation was to completely eliminate the wet pool portion completely.

THE WITNESS (Gresock): Okay. So not to do with the slope, but to do with the basin issue. Yes. And I know that there was redesign consideration to that.

George, do you want to speak to that?

THE WITNESS (Logan): And I think Mr. Thibeault can speak to this, too, or George Logan, that as we heard the concerns from the town, we did eliminate in that area the wet pool. And so we actually turned it into an area which will allow for additional infiltration in that section. So at this point I don't think there should be any concern about that.

MR. STOPPER: I agree.

MR. HENDRICKS: Mr. Hannon has a follow-up question.

MR. HANNON: Thank you. I think this goes to the question about bank stabilization, things of that nature. Over the years when you start seeing some relatively high embankments, 2 to 1 slope, 3 to 1 slope, can you please explain to me why you're not proposing to use any reverse slope benches on the site?

THE WITNESS (Thibeault): I believe that we discussed this at the previous hearing.

And we're certainly amenable to including reverse benches in the design. However, I think, as I stated for the record, the stormwater quality guidelines specify reverse benches or adequately engineered slope protection, and we have specified a very durable and efficient slope stabilization fabric; a two to three-year fabric that will stabilize the slope. That, combined with the fact that there's really no run-on to these slopes. The only water that actually hits these slopes is what directly falls upon them. We feel as though it's sufficient in what we've designed. But as I've said, if there is -- if you feel very strongly that we need to incorporate reverse benches into that, it certainly can be done.

MR. HANNON: The premise with even using the stabilization material is that the soils that are being compressed on the site to create those embankments are installed properly, and that unfortunately doesn't always happen.

THE WITNESS (Thibeault): Right.

MR. HANNON: So because you are so close to the wetlands, and should any of these slopes blow out, it creates more of a problem. So I'm just raising that as an issue. Because it may

be something that in the long run is better for everybody as consideration.

THE WITNESS (Thibeault): Understood.

MR. HANNON: Thank you.

MR. HENDRICKS: Thank you. And I appreciate the clarification. I'm going to misspeak on occasion here. So all of you are a lot smarter than I am, at least in this particular area. So I appreciate your indulgence at my lack of technical expertise.

My next question, I think, actually for your notes I think will sort of -- it will be a single question, I think, that will answer a few of the conditions. The first one is inland wetlands condition number 7 on page 13. Planning and zoning utility's question numbers 1 on 2 on page 18 and 19.

Generally speaking, all of those conditions sort of involved the desire of the town to make sure that there's no work going on on the site while you're gaining permits for the various utilities for the water improvements. And so clearly the town is concerned about what kind of work happens while the permitting process is going on. And then what happens in the event that

certain permits aren't granted that somehow endangers the project and now we end up with a piece of land that has been substantially altered?

So can you sort of answer that question in general in terms of a level of -- or what you view as an appropriate level of work that you could see accomplishing prior to permitting that isn't going to necessarily -- bearing in mind the worst case scenario in that your permits -- worst case scenario for you in that the permits aren't granted?

THE WITNESS (Mirabito): I'm happy to tackle that one. And as you recognize, there's a number of orders and recommendations that are pretty similar here, and our response, our partial appeal, was similar in all cases. So ultimately the execution of a construction schedule requires some flexibility in the timing and the sequencing of the construction activities. We can certainly work with the town, with Connecticut Water, with Yankee Gas, in making sure that we had all the required approvals and permits associated with those various utility interconnects. But there may be some certain unrelated construction activities that would need, and can begin, before

necessarily the processes for those other ancillary components were complete.

MR. HENDRICKS: If I can interrupt you, I think the obvious -- I think to the town, one of the obvious parts of construction that could start without all these things is certainly clearing the land, trees or whatever.

THE WITNESS (Mirabito): Exactly. And that was the example that I was going to give. So there is that scenario where we aren't quite done with the last approval for the lateral or the Connecticut Water main. So we wanted to, at least, maintain that flexibility. But the absolute nature of any construction activity was really our only reluctance with the recommendation.

I think you could take further comfort that NTE wouldn't initiate any activity with any significant cost unless we felt confident that those approvals were eminent or certain. So you do have that piece of it as well. But we certainly wouldn't conduct any activities that weren't permitted in their own right, but there may be a few that need to begin before the full package of all the ancillary utility requirements

is also permitted.

MR. HENDRICKS: How about the road widening or reconstruction, in particular? I mean, obviously you're going to need -- or it's going to be advantageous to you to complete some of those road improvements in order to gain access to the site with your larger construction vehicles.

THE WITNESS (Mirabito): Correct. But the larger vehicles really aren't needed until later on in the process, certainly not in those first several months. And so our feeling is that that could certainly take place beyond the start of other initial activities like tree clearing. And, frankly, those road improvements wouldn't be fully completed until the project is done, because there would be a final correction or improvement of the road to anything that might have been disrupted by our activity. So really that activity will take place over the course of the project.

MR. HENDRICKS: Okay. Is the tree clearing operation itself, is it phased?

THE WITNESS (Mirabito): We don't expect it to be.

MR. HENDRICKS: And, again, just to sort of shine a spotlight on the specific concern. If the permitting process ends up taking a long time, obviously you're not digging trenches for water or gas or any of that kind of stuff, but you're clearing a lot of land. So let's say you have the majority of the property cleared or half the property -- I understand you're only going to go down the road so far from a financial perspective. But in the event that this project is sidelined for any of those permitting concerns, so the town, in theory, could end up with a piece of land -- or not the town, whatever. I'll call it the town because it's in the town. The town doesn't own the property -- the area could be left with a piece of property that KEC isn't on because the property -- because the project was waylayed, for whatever reason, but the parcel of land looks -- you know, the quality or the character of the land has been substantially altered.

THE WITNESS (Mirabito): Yes. We certainly understand that concern. Again, we really wouldn't begin that activity unless we were certain the other approvals were coming and we were to begin full construction. But if there was

some interest in a commitment to revegetating or replanting that property, if for some reason we cleared it and the project didn't proceed, I think that's something we would consider.

MR. HENDRICKS: Right. I think the town would be interested in that, yes, some sort of plan for revegetation in the event that things don't work out. And also, just to, I think, in general, sort of informing the town on a fairly regular basis, whether it's weekly or whatever, as far as where you're at in the process --

THE WITNESS (Mirabito): Absolutely.

MR. HENDRICKS: -- specifically during the permitting.

THE WITNESS (Mirabito): Sure. Absolutely.

MR. HENDRICKS: Thank you.

THE CHAIRMAN: Mr. Silvestri has a follow-up question.

MR. SILVESTRI: Thank you, Mr. Chairman.

Aside from potential Siting Council approval, what do you envision as a receipt of permit or permits that would give you the green light to actually start construction?

THE WITNESS (Mirabito): I guess it's related to what specific construction activity we're discussing. If it's in terms of just simple tree clearing, I think it's the Siting Council certificate, and the approval of a D&M plan related to that.

MR. SILVESTRI: My understanding of Connecticut DEEP's regulation for air is that no construction could go on unless that air permit was in hand.

THE WITNESS (Sellars): I'll address that. In DEEP's regulations they have a clear delineation of what constitutes a start construction with respect to its air regulations. And any excavation or movement of dirt, or removal or import of fill, would constitute start construction, but site clearing, including tree clearing, would not constitute starting construction under DEEP's regulations.

MR. SILVESTRI: Thank you.

MR. HENDRICKS: Thank you. I believe my next question -- we're moving on to page 19, widening of Lake Road and the traffic. Although, I don't have a specific traffic question, I think there's been a lot of discussion about the fact

that you're siting the switchyard on a different parcel or across the street from where the main operation is going to be.

Last week I think we received some opinions or testimony specifically from Mr. Paterno who's very detailed in his responses in terms of -- NTE's responses about, if I'm not mixing my reports, as far as your investigation of alternatives to the two sites. Can you just sort of explain, again, sort of for my edification as well, why NTE or why Killingly Energy Center really needs to be split -- why the switchyard needs to be separate from the operation?

THE WITNESS (Rega): Chris Rega with NTE Energy. There are a couple of reasons. One certainly is the connection to Eversource. And the connection to Eversource and their transmission lines, just east of the generating facility site, if you will, the parcel to the north side of Lake Road, would be very difficult because of the topography in that area. If you would sort of look of those transmission lines, there are four corridors. There's two 115 kV lines. There's also two 345 kV lines. The line that we're tapping into is a 345 kV line. So in

order to access that line, we have to go over the first two 115 kV circuits.

And in that area just east of the generating facility site, the 115 kV lines are much higher than the 345 kV lines. So it becomes very difficult to access that 345 kV line. It requires very tall structures which would be very visible on the site. So the much easier access to the transmission lines was on the south parcel, or as we call it, the switchyard parcel. In that area the 115 kV line, the 345 kV lines are all about the same elevation. In addition to that, there's a sag in the 115 kV lines because of the distance between the towers there. That allows us to cross those lines much easier in that location and keep the tower heights lower.

The second primary reason for not putting everything on one site is simply space on the site. We really need that space on the site to be able to construct the facility for parking and lay down during construction.

MR. HENDRICKS: Thank you. So just a sag in the lines is bad, generally. Less sag is more desirable, or more sag is more desirable?

THE WITNESS (Rega): From a crossing

perspective, more sag is desirable because it lowers -- in the 115 kV lines, it lower those lines. So it allows us to maintain adequate clearances over those lines as we cross them to get to the 345 kV circuit.

MR. HENDRICKS: Okay. That was unclear to me, as I was reading through the report. I would think it's counterintuitive. I would think that less sag is better, but you characterized, I think it was 50, whatever, 50 and 80, I think, or the span was greater.

THE WITNESS (Rega): 500 feet and 800 feet.

MR. HENDRICKS: So the sag was greater, which you characterized as a positive thing, so I was trying to get some clarification on it.

THE WITNESS (Rega): It is. There's a lot of technical detail. Sorry for that.

MR. HENDRICKS: Okay. So you feel as though -- NTE feels as though it's put forth its best effort in terms of -- I mean, are your concerns in terms of colocation primarily economic? I mean, in the reports there was mention of actual control over the site as well, coordination with Eversource regarding the

switches themselves. I mean, is it convenience, economics, a lot of both?

THE WITNESS (Rega): There are a lot of reasons. In terms of the question you asked, in colocating, keeping all the electrical on one site, it was, as I mentioned, there was a question that was asked last time about a combined switchyard, and that really had to do with coordination with Eversource. You could still have two separate switchyards on the same site, but, again, that takes up a lot of space. The connection problems are still there. In terms of one combined switchyard, you know, not having two, it didn't save a whole lot of space, and then that brings up all sorts of other reliability and interface issues, and safety issues with Eversource.

MR. HENDRICKS: Thanks.

MR. ASHTON: In that same regard, when you say you've got to coordinate with Eversource, isn't it true that Eversource has to coordinate with CONVEX and NEPEX, and so there is an agency overview of the whole thing?

THE WITNESS (Rega): I'm not familiar with those organizations. There may be. My

response is more with regard to coordination of taking our units online and off line, as well as isolating them for maintenance.

MR. ASHTON: Well, that goes on all the time in generating stations. Eversource doesn't own a single unit in Connecticut, to my knowledge. And so the owner of the unit, or units, has to coordinate with a local transmission utility, and they, in turn, coordinate through CONVEX, which is a coordinating agency, and NEPEX, which is an all New England agency. Is that not a fair statement? Or if you don't know, say so.

THE WITNESS (Rega): I would only add that the coordination would have to be there. But from a control perspective, if we have our own breakers that we can isolate from the system, we can isolate those breakers and keep our system safe, and keep it isolated, and the Eversource breakers can isolate and maintain safety on their system.

MR. ASHTON: I think we've got to go through a little bit of electrical engineering here, because you're not understanding me. When you have a breaker or a transformer, are there not disconnect switches on either side of those?

THE WITNESS (Rega): Yes, there are.
MR. ASHTON: And what is the purpose of the disconnect switch?
THE WITNESS (Rega): The purpose of the disconnect switch is to isolate the facility, or that transformer or breaker, whatever you happen to be referring to, for safety reasons.
MR. ASHTON: Okay. So if Killingly decides they want to take their step-up transformer out of service, what do they do? Do they just go out there and pull a breaker and then pull the disconnect switches or what?
THE WITNESS (Rega): No. It would be coordinated with Eversource, of course. But then at that point we would open our breakers; we would open our disconnect switches; we would use our own lockout/tagout procedures.
MR. ASHTON: Oh, that's true. But that lockout/tagout procedure has to conform to what goes on in New England; does it not? You can't on your own volition do a damn thing.
THE WITNESS (Rega): Correct. We would absolutely coordinate that and communicate --
MR. ASHTON: You can't -- it's more than coordination. It has to be getting the

approval of these agencies. A circuit breaker is required for system, system protection. And insofar as the system control is through NEPEX, they are the ones that are in the driver's seat. You just can't go out there and pull that breaker open.

THE WITNESS (Rega): Agreed.

MR. ASHTON: Okay. Now we're getting somewhere. So that the idea of a mixture of Eversource and other property is not necessarily a fatal flaw, is it?

THE WITNESS (Rega): It is not a fatal flaw. We just feel that the system that we have designed for this project is the best system.

MR. ASHTON: Again, that system, or where it's separate or combined, can only, only work through, I'm going to say, NEPEX. CONVEX is really a section of NEPEX. But CONVEX and NEPEX is the controlling entity for the entire power pool. Is that fair to say?

THE WITNESS (Rega): I'm not familiar, but I will take your word for it.

MR. ASHTON: Okay. So if you want to take a transformer out of service or a breaker out of service, you do it through the approval of an

attacking procedure ascribed by NEPEX, and then you isolate the equipment by using disconnects. Is that fair to say?

THE WITNESS (Rega): Yes.

MR. ASHTON: And again, that is all controlled by NEPEX.

THE WITNESS (Rega): Okay. Again, I'm not familiar with NEPEX, but those breakers and disconnects in our system would be in our switchyard in our facility.

MR. ASHTON: That's not where I'm going. I asked a question, is it controlled by NEPEX; yes or no?

THE WITNESS (Rega): I do not know that answer.

MR. ASHTON: It may be nice to find out. That's a critical facility. No one, no one entity, Eversource or anybody else, can simply play with the facilities without getting NEPEX approval. And so that means all the facilities, all, A-L-L, must conform to the requirements of NEPEX. And whether you want it on a separate parcel or not, or whether you want it on three parcels, that's something you can ask for, but there's good reasons not to do it, I think. I

want to be careful here. But I want you to acknowledge that the final judgment in operating a system does not rest with the applicant, be it Eversource or whoever; it rests with NEPEX.

MR. BALDWIN: I think, perhaps, Mr. Ashton, we can take that as one of our classic homework assignments and just confirm that point.

MR. ASHTON: Thank you. I'm going to turn it back to you, but I think this directly relates.

MR. HENDRICKS: Thanks. I appreciate it.

Moving onto pages 22 and 23. In conditions 6 and 7, the planning & zoning commission is concerned about annual traffic control support, as well as the ability to oversee actual construction of the road to make sure that generally accepted construction principles are being used. And in the event there was noncompliance, they wanted to see the project shut down until there was compliance. Not surprisingly, you appealed that particular portion.

I don't know if there's a question here, more a comment, I guess. I feel as though

one of the issues towns typically run into is repeated noncompliance, especially in an area of town that's more rural that we're looking at here. Because a lot of times contractors will make it sort of out of sight, out of mind, the town came and looked at us today, and they're not going to come back for a while, so we'll just kind of do our thing. I mean, the Town of Killingly is concerned about making sure that the traffic flow goes in the direction that it needs to go to. It needs to stay away from Cotton Bridge Road. It needs to stay away from the westerly end of Lake Road.

So what kind of controls, I guess, does NTE have, or do you empower your GC, or something like that, in terms of ensuring that all the contractors and subs sort of play ball with the town on a regular basis, and don't just sort of say, okay, sorry, and wait for the next time?

THE WITNESS (Mirabito): I'll certainly let Chris or Scott respond to the specific controls. But just to clarify, the only reluctance, again, with this order was the finality of any issue resulting in a stop work. We're certainly going to coordinate carefully with

the town on a very frequent basis about those activities. If issues arise, we'll work together to find a resolution. And maybe stop work is the right solution for a certain issue, but we just didn't want to commit that it was going to always be the action taken. So that's just to clarify our response here. Certainly no reluctance in coordinating with the town on all those activities on an ongoing basis.

In terms of specific controls, I don't know if, Chris or Scott, you guys want to talk to that.

THE WITNESS (Rega): I would only say that there certainly will be signage that would require any of the trucks to not be able to take a right turn out of the facility. We would also be discussing that with the contractor, and have that as part of our contract with them, and require that they have that as part of their contract and purchase orders with their vendors and subcontractors.

MR. HENDRICKS: It's a very sensitive issue out there. I mean, the day that this Council came out to visit the site, I was directing people where to park, and a truck -- it

has nothing to do with NTE -- but it came down that road going the wrong direction. And I neglected to yell at him and show him the error of his ways. But it's not -- it's easy to sort of sit here and make light of it. I think it's very, very important.

And the town is very concerned that while this work is going on that these controls are actually put into place. It may take more than signage. Clearly, signs don't always work. People ignore signs. As an industrial park, a lot of -- we understand mistakes happen. Sometimes a driver who's unfamiliar with the area comes in from the wrong direction. I think the town really hopes that there is some real diligence in terms of monitoring and making sure that the controls actually work.

THE WITNESS (Mirabito): And we appreciate that there's some history there. We'll make sure that we start that coordination early enough that we can incorporate those specific concerns into the plan from the start.

MR. HENDRICKS: Thank you. Moving on to page 24, condition number 8. The Town of Killingly will require that the road widening of

Lake Road is completed prior to the commencement of site construction activities, and ask that NTE provide the town with a plan on property acquisition and actual sort of plan for the widening. What's your timetable in terms of -- the word "prior" is used a couple of times.

So, obviously, we've already had the discussion that some certain limited construction activity may occur on the site prior to some of this work being completed. But what kind of notice -- can you define "prior"? I understand that you may not be able to define it precisely, but is this something that, you know, in terms of prior notice of the plans and what things are going to look like, do you have an idea of what kind of notice the town and the residents can expect?

THE WITNESS (Mirabito): I'll ask Scott to elaborate on his process. But we've begun the design of that work. We've reviewed the initial design with the town engineer. We now have to turn that into a more detailed design that will define the extent of any property acquisition requirements. And ultimately it will be a sufficient design that we can present to the town

for approval.

Scott, is there anything you want to add to that in terms of the specific activities you've got underway?

THE WITNESS (Hesketh): Scott Hesketh, for the record. We are in the process now of preparing the construction documents. As indicated, we did provide some preliminary plans, general layouts to the town staff, which were deemed acceptable to move forward with. We're now working on a detailed design to try to identify any impediments or obstacles we need to overcome. And then we'll go back and meet with town staff, again, let them know what we found, and then proceed to the final design. We should be able to have that done within a couple of months. And if the town reviews and accepts the plans, we'd be ready to go to construction probably in the springtime, depending on whatever approvals are necessary and obtained from other agencies.

The widening of the roadway or softening of the curbiture is needed at the time the large industrial type items to be delivered. But I believe it's the intent of the applicant to move forward with the initial construction to get

the roadway widened, get it to a base level, and then finish the final completion of the final pavement, and striping, and signage of the roadway as the last portion of the project as they leave.

MR. HENDRICKS: Thank you. Just as kind of an ancillary question, in terms of clearing, not just for the parcel itself, but for the road, the widening, what's going to happen to all the timber and stumps, specifically, right? Stumps are a big issue in small towns, and people tend to bury them and dig holes on the property. Can you tell us where that stuff is going, or what your plan is for disposal of the cleared materials?

THE WITNESS (Rega): I don't know if I can give you specifics. It will certainly be taken off site. We will not be burying anything on the site. But yes, trees, all the timber, and the stumps, and roots, and that will all be sort of pulled out and taken off site.

MR. HENDRICKS: Off site. Good. Thank you.

Page 27. Planning and zoning was requesting a fairly rigorous third-party inspection in terms of -- "rigorous" in terms of

frequency, I think it was, they requested daily. And I think it was that inspection frequency, NTE, that you specifically appealed in this. What do you think is a reasonable inspection frequency in terms of the work going on here from the town's perspective or the town's agent?

THE WITNESS (Mirabito): Yes. Again, we don't object to the use of a third-party inspector. This was really appealed simply because we know the Council typically makes that recommendation as well, and we were deferring to them to help define the scope and the frequency of that. In terms of what that potential frequency might be, I'd defer to either Chris or Norm and their experience on that --

MR. HENDRICKS: I understand that you --

THE WITNESS (Mirabito): Or Lynn.

MR. HENDRICKS: The appeal was clear in that you -- I think you were looking for guidance from this Council. I think I need to ask the question why the resistance to an inspection frequency that was imposed by the town?

THE WITNESS (Gresock): And I think there will be periods of time where daily

inspection will very much be appropriate, certainly, any time there are activities in close proximity to wetlands, any time any of the steep grades are underway. But I think there will be a period of time where the initial grading is completed. There is stabilization of all the slopes, daily checks. You know, we'll continue at that point to verify that there are no issues relative to stabilization.

And at that point in time, the frequency of the field visits can likely decrease, you know, being triggered by some regular frequency following rain events and such, because at that point in time if all of the perimeter areas near sensitive resources have been established, have been stabilized or vegetated or whatever, there's not that much to see as the interior portions of the site progress. I think that regular visits will still be expected, and they will still occur, but I think over the entire construction period you'll get to a point fairly early where the grades are established and stabilized, and daily visits wouldn't necessarily be meaningful.

THE CHAIRMAN: Mr. Hannon has a

follow-up.

MR. HANNON: Thank you. One of the things I'm kind of surprised that you did not respond to in this question is the third-party having the authority to direct the contractor to cure deficiencies. Because to me it looks like it's sort of wide open. I just want to make sure that you are fine with that request

THE WITNESS (Gresock): Oh, absolutely. We absolutely expect and assume that that party will have ability to correct and to address issues. And even to the degree that there are activities that will occur, there will be the flexibility for some stop work in certain areas until such deficiencies are corrected. It's an important role for that third-party, and there are definitely times while those measures are being put into place, and prior to stabilization occurring, where it will be critical for them to be engaged very, very actively and all the time.

But I think our appeal is simply, again, just not focused on the spirit of what was said, but focused on the fact that every day for three years there probably doesn't need to be somebody there. And I think it will be something

that can be managed between DEEP and the town and NTE, as that continues, and certainly well communicated in terms of what the schedule is intended to be and adjusted, as appropriate.

MR. HANNON: I just wanted to make sure that was okay, because you did not specifically address it in your response. Thank you.

THE WITNESS (Gresock): Sometimes we forget that things that go without saying ought to be said.

MR. HENDRICKS: But I appreciate Mr. Hannon's clarification because, again, that's one of the reasons that I'm here. Obviously, these responses can be interpreted by different minds. Right. And part of my job is to make sure that I've got solid answers, so that when residents come and town counselors ask me specifically, right -- I mean, my job, the town's job is to advocate for the citizens, the residents, and to make sure that in the event this thing lands in Killingly, that we've asked all the questions that we could ask; we've exercised our due diligence. So not in deference to you, sir, I interpreted NTE's response as being as it was okay with the third-party discretion there, but clearly

reasonable minds can differ. So I appreciate that.

My next question, I think we're moving on to page 29 and 30. It's a noise abatement question. I'm going to defer to Mr. Stopper here to word the question properly. I think it needs to be noted that, obviously, there are a lot of concerns on the parts of the residents, specifically the folks that live close in that neighborhood and the town in general. Clearly, noise is one of our primary concerns, specifically because there is already a power plant in that area. And so I think the attenuation of noise, whether in general, whether it's generated by construction, or simply the everyday operation of the plant, is something that the town really would like to see.

So Carl, would you mind referring to that particular --

MR. ASHTON: You use the expression of "another power plant in that area." I think those are your exact words. Do you know exactly what the distance is between the two plants .

MR. HENDRICKS: It's about a mile, as the crow flies.

MR. ASHTON: That's fine. Normally we measure distances in a straight line, unless you choose to follow an arc or something like that. So you're talking a mile in there. Do you know if there's any discernable noise from the existing plant at the site?

MR. HENDRICKS: At the site?

MR. ASHTON: At the site in question here.

MR. HENDRICKS: Yes. I mean, there is discernable noise from the existing power plant obviously miles away. There happens to be a lake community that's fairly close by.

MR. ASHTON: I'm asking, you're saying "obviously."

MR. HENDRICKS: Oh, I'm sorry.

MR. ASHTON: Has the town measured the noise level of the existing plant at the site in question today; yes or no?

MR. HENDRICKS: Yes, sir.

MR. ASHTON: What is that level?

MR. HENDRICKS: I don't have those numbers in front of me. I know my zoning enforcement officer has those numbers.

MR. ASHTON: I'd like to know what they

are, if you could submit them sometime?

MR. HENDRICKS: Yes, sir. I can tell you that they are in compliance with the town's noise ordinance which --

THE WITNESS (Gresock): And certainly, you know, we can offer that when our ambient measurement team was out at the site, we did not notice any sounds, in particular, from the Lake Road generating facility. And with the L90 ambient measurements during the day ranging in pretty low levels, it was, you know, in the 30s to 40 level, both day and nighttime for the ambient levels. I would expect that there might be times where people in the community might hear something from the Lake Road generating facility that might be outside of its normal operation, but we did not observe that there was any contribution to the typical background noise.

MR. ASHTON: Thank you. That's what I'm looking at for the town to say what it did observe, because there seems to be an intrinsic conflict here.

MR. HENDRICKS: Well, I don't know that anyone is saying that there's isn't any noise generated. It certainly isn't consistent. Right.

It depends on --

MR. ASHTON: Your statement to me said that you were concerned about noise for an existing power plant at this site, and I'm trying to find out what is your concern, how much is it. And you said you'd get it for me.

MR. HENDRICKS: Let me clarify. I'm not concerned about the noise from the current power plant at Killingly Energy Center. I'm concerned about any increase in ambient noise in that general area, combined, and any noise that Killingly Energy Center may add to the existing ambient noise.

MR. ASHTON: That's different from where we started. Thank you.

MR. STOPPER: I hope you can hear me.

MR. ASHTON: Get a microphone.

MR. STOPPER: My questions begin on page 29 of the same document. There were comments raised through the planning and zoning commission regarding noise measurements, noise calculations, that were prepared and submitted to that Commission by TRC's noise expert. And, in particular, a lot of our concerns and comments with regard to noise have to do with the standard

by which the noise measurements are being used to calculate the impact. And, in particular, there are representations in the documents that indicate that there will not be any noise impact to certain portions of the town, in particular, the area near Alexander Lake.

And noise is kind of a tricky subject, because there's a lot of numbers being thrown around; different standards that are used for assessing the impact that noise has. And our noise expert feels very strongly that there are calculations that have not been provided and furnished by the applicant that would support the conclusions made in their document that there would be no impact.

MR. BALDWIN: Mr. Stopper, excuse me. I'm sorry. I'm sorry, Mr. Chairman. Can we just get a question.

THE CHAIRMAN: We need questions.

MR. STOPPER: Okay. So the questions that we have, have to do with the means and methods used for measuring that impact. In particular, it appears that the applicant has stated that they are in compliance with the Connecticut regulations, but they are also

implying that there is no measurable impact to the residents in --

MR. BALDWIN: I think we heard a question. So maybe we can respond to that question and then move on. I don't mean to cut you off, but I want to make sure we get to your question.

THE WITNESS (Gresock): So we have a lot of information that has been submitted in the report and in the application, and we do provide information associated with the ambient background. But our compliance demonstration is based upon the requirements that are outlined in state regulations and also the local noise ordinance, which pertain specifically to the sound generated by the facility itself at certain property boundaries.

We have collected the ambient background levels in the original appendix document. We had reported the LEQ. We additionally reported in the application itself that L90 levels, also, all of that was collected. In both of the rules that ambient background is utilized to determine what the appropriate standards are that need to applied to demonstrate

compliance. For example, if those ambient levels had been higher than the required levels that are specified in the rules, then the area might be determined to be a high background noise area, and then a different standard would apply in terms of demonstrating compliance.

In this instance, the L90 levels that were collected demonstrated that it's not a particularly high background noise area. It has levels that are very consistent with its current zoning and use. And so, according to both the state and the local regulations, we have demonstrated compliance in accordance with the levels that are specified for sound level of an industrial source at the nearest residential property lines at both day and night.

MR. STOPPER: Okay. And I think the question I'm getting to here is not that you haven't demonstrated compliance with the noise regulation, per se, but the thing that we take exception to is the statement that there is no demonstrated impact to those residents in the vicinity of Lake Road Generating. And, in particular, the basis for providing that information has to do with the measurement of

background noise level using the L90 standard, and comparing those to the increase in noise levels that would be generated from the facility.

And the information that was provided in the application, when we looked at the graphs that were presented that showed the noise levels, and what was reported is that the increase would be greater than 3 decibels, which would be something that, by standard, would be noticeable. And what we're taking exception to is that that information --

MR. BALDWIN: I'm sorry, Mr. Chairman, the town is going to have their opportunity. I'm just trying to get through this session with the question. I don't want to be disruptive, but I just want to get to the question.

MR. STOPPER: So the question is why the applicant hasn't furnished the information that we've requested with regard to those calculations. They've provided the information that was required in order to demonstrate compliance with the regulation, but have not provided the information that was requested to show what these comparisons would be and the impact as a result.

THE WITNESS (Gresock): And it's our assumption that in developing the regulations and in developing the ordinance that establishes a 51 dBA limit for industrial sources at residential property lines, that the town and the state have determined that those are acceptable levels for this type of use. We had provided some color around comparing what the project's sound levels were to some of the existing ambient numbers, but in no way were we intending to reflect that we were providing a detailed analysis of impacts. To our mind, what we need to demonstrate is that we're meeting the required standards.

I think you can appreciate that noise and noise impact is oftentimes a very subjective thing. And everyone experiences the potential for disruption and sound influence in a different way, depending on specifically where they are, what their conditions are, what happens to be going on in the rest of the world around them.

MR. STOPPER: So the position of the applicant is that just demonstrating compliance with the regulation is sufficient, that showing the potential impact from the project using the L90 ambient readings at nighttime levels and

showing what that impact is, is not required?

THE WITNESS (Gresock): Our goal is to demonstrate compliance with the standards, correct.

THE CHAIRMAN: Mr. Silvestri has a follow-up.

MR. SILVESTRI: Thank you, Mr. Chairman. I was just kind of looking for clarification as to where we're going with this one. And I'm not sure if we have a difference between compliance with the noise standard as opposed to what type of impact might be to the resident.

MR. STOPPER: Correct.

MR. SILVESTRI: So while it seems that they're demonstrating compliance with the standard, you're looking for what would be the impact --

MR. STOPPER: Correct.

MR. SILVESTRI: Beyond whatever the noise level would be at that property?

MR. STOPPER: Correct.

MR. SILVESTRI: Did you get an answer to your question?

MR. STOPPER: The applicant has, I

believe, stated that they only feel they need to comply with the noise standard, and that demonstrating what that impact is, or potential impact is, is not required is what I'm hearing.

THE WITNESS (Gresock): Right. And we have provided in figure 7-5, in revised figure 7-5, the manner in which the sound level from the facility decreases as it moves away from the project itself. That drawing does show in different color bands the compliance level in terms of keeping the sound where it needs to be at the property boundaries, but also the manner in which the project's sound contribution extends in the surrounding area. And that figure certainly shows that it's a fairly short distance away before the sound level from the project is at around the 30 dB range.

MR. BALDWIN: And just for my benefit as the one who will be working on the brief, that's found in Exhibit 4 of our regulate and restrict order appeals that are in the record.

THE WITNESS (Gresock): Thank you, Ken.

MR. BALDWIN: Thank you.

THE CHAIRMAN: And I think from the Council's standpoint, although, obviously, issues

such as impact of any additional noise is, I guess, of interest, but our concern is will this meet the appropriate state and local ordinances regarding sound? And I don't really think that as a Council that we can go beyond that.

So, unless you can give us a reason why we should be addressing impacts that would still be below the state and local ordinances on sound, I'm not sure there's any point in continuing this discussion.

MR. STOPPER: I just wanted to clarify that. Thank you.

MR. HENDRICKS: Thank you, Mr. Chair. I think that's kind of the road the town was kind of going down. I think that our concern over the difference between simple compliance versus actual impact, if that's not appropriate, that's all well and good.

I'm moving on to page -- we're almost done, I think. We're getting down to page 33, actually 32 and 33. Condition number 5, it stated the construction may occur seven days per week; construction could last for three years. Again, sort of the discussion of impact. Can the potential impact of construction, you know, noise,

or whatever, be sort of evaluated prior to the start of the project, and remediation, I guess, too?

THE WITNESS (Gresock): So we did not provide a detailed analysis of construction noise because both the state and the local ordinances exempt from regulation noise that's generated by construction that occurs during daytime hours, including noise created by blasting and such activities during the day.

That said, I know that there are certain types of construction measures, like steam blows, for example, where we are anticipating that mitigation measures will be employed to keep those sound levels down as much as possible. One of the challenges of producing impact analyses associated with construction is the very dynamic and changing nature of that construction. And when we provide those kinds of analyses for projects by their very nature they are somewhat generalized in terms of the potential impact associated with phasing. And you just have to kind of make some assumptions in terms of how many pieces of equipment are doing what. And it typically isn't a terribly satisfying analysis, simply because it does change

over time.

MR. HENDRICKS: Thank you. Page 34 and 35, air quality. So this was a difficult question for me to address here. But I think your response to air quality condition number 1 could sort of be interpreted that you didn't feel as though you needed to address or it wasn't necessarily -- because you were complying with the state and federal air quality standards, that you didn't necessarily need to address those particular points that P&Z had brought up.

And so I think the question I had was sort of like a "why not" question. Do you know what I mean? These were, as was stated somewhere, you know, unfortunately, Wyndham County, the county in which Killingly is in, has historically state high rates of respiratory illness. So obviously -- and so the populations that tend to be most affected by those illnesses, and by extension, the potential effects of the energy center on that population is very important to the local groups.

THE WITNESS (Sellars): Yes. And we share -- obviously I've been working on air pollution for close to 40 years now, and so it's

very important to me as well.

The National Ambient Air Quality Standards are established by the Environmental Protection Agency, and they've been adopted by the Connecticut Department and Energy and Environmental Protection. And when US EPA establishes those Ambient Air Quality Standards, they do so with input from a number of epidemiological organizations, as well as institutes like the National Institute of Health, the National Academy of Sciences. And the target of those Ambient Air Quality Standards is precisely those populations, is the most sensitive and most susceptible populations that the standards are set to protect with an adequate margin of safety.

So those Ambient Air Quality Standards are established to protect chronic asthmatics and emphysemics, primarily. And this facility, using modeling, very, very conservative assumptions, assuming, for example, ultra low sulfur distillate use year round, even though that's not going to be allowed by our air permit, results in ambient concentrations, at places like the nearest school, somewhere in the order of less than 1 percent of

those Ambient Air Quality Standards.

So we feel very, very strongly that the emissions controls have been placed on this facility, it's very clean. The inherent nature itself is very very protective of those Ambient Air Quality Standards that have been established specifically to protect the health of those very very sensitive populations. So we didn't feel that an additional epidemiological study is really appropriate or warranted.

MR. HENDRICKS: So you feel as though the plan to meet those minimum compliance standards, or whatever, is sufficient enough to protect that population?

THE WITNESS (Sellars): Not just meeting those standards, but the fact that our maximum impacts are a small fraction of those standards.

MR. HENDRICKS: Thank you. Page 35, number 2. I may defer to Mr. Stopper on this. Again, I just sort of had a simple question. Based on my consultation with Mr. Stopper, it sounds as though, in reading the response here, you're going to use a tier 2 emergency generator. And it would seem as though under the BACT or

whatever, that combined with the availability of emergency generators that satisfy your needs, that tier 3 generators are available.

Why could you not, or will you or will you not, maybe, incorporate an emergency generator that complies with a tier 3 generator as opposed to a tier 2?

THE WITNESS (Sellars): I think, as we said in our response, EPA has not established tier 3 standards for generators larger than 560 kilowatts, and our generator is 1.5 megawatts. So there are no tier 3 standards with which to comply for generators of that size.

Now, that said, we still have to do a best available control technology demonstration. And we've submitted our BACT analysis to the Department of Energy and Environmental Protection, and they will determine whether we've applied BACT or not. Those are the levels that we've proposed are the same ones that the department has determined was best available control technology in its most recent air permit application for a facility of this type in Connecticut, which was the Towantic Energy Center.

That said, Mr. James Grillo from the

Department of Energy and Environmental Protection will be reviewing that information, and he will determine what BACT is.

MR. ASHTON: May I inquire? What specifically is the town concern about the emergency generator situation?

MR. HENDRICKS: I don't know that there's a specific concern. I think it's just a use of best available control technologies. I understand, I was just about to sort of address your question.

So I think the fact that the Commission was looking at it from a standpoint of I don't think, maybe, they understood that generators of that size, that there were no tier 3 standards. But they were looking at the use of innovative technology, sort of standards of BACT, and saying, okay, we understand your belief anyway that there are generators out there on the market that do comply with tier 3 standards or R tier 3.

MR. ASHTON: For what purpose, though? I can give you a dozen different scenarios of emergency generators, and I'm trying to understand which one the town really is after. Is it for total operation of the plant in the event of loss

of external power?

MR. HENDRICKS: Carl, do you want to field that? I think there's a technical answer maybe better given by --

MR. STOPPER: Well, I can't say the entire purpose of the electrical generating equipment that's being proposed. The applicant would have to address that.

MR. ASHTON: Do you understand that the equipment proposed now takes its station service, that is, its local power demand, off the transmission system? That's question one.

THE CHAIRMAN: Excuse me, Mr. Ashton. They're not sworn.

MR. ASHTON: No, I know that. But I'm just trying to get a definition here.

THE CHAIRMAN: You're asking the town the question. You really have to go to --

MR. ASHTON: I understand that. I'm trying to get a definition out of them, and I'm not sure they understand it. When you say "emergency generator," it could be an emergency generator to back up the potable water well on site. And so there's all kinds of gradients here. And I don't know whether the town understands that

as to what they are.

MR. STOPPER: The question is not about what the equipment is necessarily being used for. The question pertains to the emissions being generated from the equipment.

MR. ASHTON: Oh, it's emissions. Okay.

MR. STOPPER: Air emissions, and the use of best available control technology.

MR. ASHTON: For the emergency generator?

MR. STOPPER: For the emergency generator.

MR. ASHTON: I'm sorry, I did not understand that.

MR. STOPPER: Okay.

MR. HENDRICKS: I'm sorry if I was unclear. Do you see a pattern for me here?

MR. ASHTON: Keep going. We're having fun.

MR. HENDRICKS: I'm glad you are.

(Laughter.)

SENATOR MURPHY: It's a good day anyhow.

MR. ASHTON: Too cold to go out.

MR. HENDRICKS: Page 36 -- 35 and 36, I

guess, talking about the formaldehyde. So I gleaned it. I don't know that I really ran this by Mr. Stopper. But it struck me there was no evaluation of what the formaldehyde levels are actually going to be?

THE WITNESS (Sellars): No, that's not correct. We've quantified the formaldehyde emissions from all of our equipment in our air permit application. I think the question in your regulate and restrict order was the use of which emission factor, and they specifically pointed to something called AP-42, which is US EPA's compilation of emission factors.

MR. HENDRICKS: Which you've sort of characterized as not obsolete, certainly archaic or old standards or --

THE WITNESS (Sellars): The AP-42 emission factor for formaldehyde is obsolete. It's based on older combustion turbine technology in excess of -- the emission factor itself is in excess of 20 years old. It routinely, in air permit applications for equipment of this sort for the formaldehyde emission factor, the applicants and engineers will rely on a different database than AP-42, since recognizing that the AP-42

factor is not based on the type of combustion turbine and certainly the presence of an oxidation catalyst is emissions controls.

So there are essentially two different emission factors that most applicants rely on. One is an emission factor pushed by the California Air Resources Board. And, in fact, there's a couple of recent permit applications by your consultant, by TRC, one for the 630-megawatt combined cycle combustion turbine project in Wawayanda, New York, the CPV Valley project, and another for a similar project in Jordan Cove in Oregon.

And I'll just basically read right from the BACT analysis from those applications. Potential emissions of hazardous air pollutants have been based on and quantified based on AP-42 emission factors, with the exception of formaldehyde, which is based on the California Air Resources Board emission testing and it is more appropriate for advanced technology dry low-NOx model units, such as that proposed.

The EPA has recently done additional testing on combustion turbines of this sort when they were trying to establish under maximum

available control technology standards, or what's called the the MACT 4 document. They did testing on a number of more modern combustion turbines that are these low NOx designs that have oxidation catalysts. And they published a dataset and have established what they consider the MACT 4 level to be. So we're faced with, should we use the California Air Resources Board Emission Factor, which is pretty commonly used, as TRC has done in their applications, or the MACT 4 document.

Now, we're not subject to MACT for this, as you correctly pointed out, but we weren't insinuating that we were, but rather pointing to that as the most appropriate database.

The California Air Resources Board Emission Factor for formaldehyde is exactly one-half of the level that we used. So we thought it was more conservative to use the MACT 4 level than the California Air Resources Board level, which we could also defend as an appropriate factor.

MR. HENDRICKS: So you feel that the analysis was done using a much more conservative standard?

THE WITNESS (Sellars): More

conservative than the California Air Resources Board factor, but the AP-42 factor was, in our professional opinion, is not applicable to this type of permit.

MR. HENDRICKS: So it just kind of boils down to a professional disagreement over a particular standard or the appropriateness of the standard.

THE WITNESS (Sellars): We were confused about the disagreement in that a much lower factor is routinely used elsewhere, including in TRC's applications.

THE WITNESS (Gresock): And at the end of the day DEEP will conduct their review on this basis and will also render their own opinion. So that will certainly be a part of the ongoing review of the air permit application.

MR. HENDRICKS: Thank you. I only have a couple more questions. Moving on to page 41, number 2. There's a town requirement for setback, or, you know, the buffers to be doubled. In your response to this particular order the applicant stated it wasn't able to commit. So I guess the easy question is why not, or what's standing in your way of being able to double the vegetation

there?

THE WITNESS (Mirabito): Norm might want to weigh in here as well, but I think, again, it gets just to the absolute nature of the request. Right. We'll certainly extend those buffers, to the extent we can, and in some cases double what's in the town regs, but we can't commit to that unilaterally across the site.

THE WITNESS (Thibeault): I think I could add to that, too. I think in some of the areas where we're doing some grading, those are really the -- it's really the issue that kind of drives whether or not the area is going to remain vegetated. I think there's certainly some opportunity to revegetate in some of the areas after the grading is completed adjacent to the property lines.

And I think for the most part the 75 feet is met, or can be met, throughout most of the site. There's a lot of opportunity, I think, along Lake Road to provide some greater buffering, and certainly to the eastern side as well. The western side where we've got the storage tank and things of that nature, there's also access to the basins on that side. That's where, I think,

probably the minimal of the 75 feet could be achieved, but I think it would be difficult to get any larger than that in that area.

MR. HENDRICKS: Thank you. I just have, I think, two more questions that are not related to this report. In terms of -- and this is probably contained in your application someplace, but either I missed it or it just blurred on me. So exactly how much in terms of moving material, right, in terms of cut and fill, how much material is actually going to be removed from the property and/or brought into the property onto the parcel for the project?

THE WITNESS (Rega): Our calculations estimate that we'll be able to do a neutral cut and fill, so no net import or export. Of course, we'll have to see what we find, you know. And if there's maybe, perhaps, some structural fill that might need to be brought in, because suitable structural fill is not available on site, we may have to import a little bit for that. But, again, we've done calculations, and those show neutral cut and fill, so zero net import/export.

MR. HENDRICKS: I think the removal tends to be the larger concern, obviously.

Can you tell me where you're at in terms of investigation of alternative water sources? As you know, the other large issue, especially, it's probably the largest issue on the part of the town council, as most of you read in the letter that I sent to you from the town council, the fairly high amount of potable water used in the operation of this plant is of concern, not just in the near term, but in terms of the town's ability to grow economically, residentially, everything. So can you give me an idea, something I can report back, as far as where you are with that analysis of specifically the gray water? I think that was the latest thing.

THE WITNESS (Rega): I guess probably the easiest thing to do is, obviously, refer you to what we submitted in the gray water analysis. So certainly a lot of the details are in there. We continue to do water analyses with the wastewater treatment plant, and those are scheduled about monthly. We continue to sort of pick up analyses just to continue our knowledge of what the quality of that water looks like coming out of the Killingly wastewater treatment plant.

MR. HENDRICKS: Given the now existence

of, what was it, 28 or 29, the letter from Connecticut Water, sort of being -- coming out into much more concrete terms addressing the future availability of water, which is something we hadn't really seen before, has that affected your analysis or your pursuit of the gray water solution? Whereas, in my quick perusal of Connecticut Water's letter, it looked as though Connecticut Water was saying that, you know, a project of this nature wasn't going to pose a problem in terms of future water availability to the area.

THE WITNESS (Mirabito): That's correct. We've only recently got the letter ourselves. We're still evaluating it. We might have some questions for Connecticut Water. But it does support the feedback we got previously, which is that there's adequate supply.

MR. HENDRICKS: So your preference would still be to use potable water as opposed to --

THE WITNESS (Mirabito): Correct. We still think that that's the preferable choice for a number reasons that we outlined in that memo, including benefits to the town, not just the

project. We think that there is, by connecting those two systems, there's an increase in the reliability of the overall system, and more volume, more capacity, for future development; the exact same concerns that were expressed in the letter from the town council.

MR. HENDRICKS: So not the gray water, but the interconnection of the Plainfield and Killingly systems is still something that's --

THE WITNESS (Mirabito): Yes. We still understand that that's going to be required, and we're committing to, if that's the path forward, we'll be proceeding with that and paying for that.

MR. HENDRICKS: I believe that's all I have, sir.

THE CHAIRMAN: Thank you.

We still have another 15 minutes. So, Sierra Club, will the grouped parties please come up?

MR. BERMAN: Good afternoon. Josh Berman on behalf of the Sierra Club. I think I can get through my questions for the open session in the 15 minutes we have before lunch.

My questions are largely directed to Mr. Paterno. Good afternoon, Mr. Paterno. Do you

have a copy of your rebuttal testimony in front of you?

THE WITNESS (Paterno): I do indeed.

MR. BERMAN: Great. Can you turn to page 6 of your rebuttal testimony?

MR. BALDWIN: We are talking about the redacted portion?

MR. BERMAN: Yes. The questions are not confidential. There's no page numbering in the unredacted version. I believe it's on page 6 of both, though.

THE WITNESS (Paterno): Okay.

MR. BERMAN: In particular, I'm looking at the response to the question about how the sloped demand curve differs from the vertical demand curve. Is that on page 6 of the version that you're looking at?

THE WITNESS (Paterno): Yes, I believe on line 6 on that page.

MR. BERMAN: And you state that "ISO New England transitioned away from the antiquated vertical demand curve to the sloped demand curve in recommendation that procuring capacity greater than the net installed capacity requirement has value, and improves the reliability of the

electric system while simultaneously decreasing capacity clearing prices." Correct?

THE WITNESS (Paterno): Yes, that's correct.

MR. BERMAN: Okay. And does the transition from the vertical demand curve to the sloped demand curve change the supply curve for capacity?

THE WITNESS (Paterno): It could change how much capacity clears, but does not change the shape of that supply curve.

MR. BERMAN: Thank you. I'm hoping that counsel and Mr. Paterno will humor me for a second. I was hoping he could illustrate the point that he articulated in that sentence. And I brought an easel today so we can see it.

THE WITNESS (Paterno): I defer to you. I've never had to illustrate this before in this type of setting, but I certainly am able to.

MR. BERMAN: Sure. And this would be largely combining figures 1 and 2, but adding the supply curve. And I'm looking at the next page of your testimony.

THE WITNESS (Paterno): You know, without knowing the shape of the actual supply

curves in FCA 8 and 10, I don't know what we would hope to accomplish with that exercise. Because clearly the actual shapes used in the supply curves in FCA 8 and 10 differ.

MR. BERMAN: Sure. Not to literally layer these, but to put the net installed capacity requirement on top of the downward sloping demand curve that you illustrate in figure 1, and then to illustrate with your preference of a supply curve that clears capacity in excess of the net installed capacity reserve. I'm just trying to understand how it's possible that you can, by procuring capacity in excess, actually lower capacity prices. And so that's what I'm hoping you'll illustrate.

MR. BALDWIN: I think we probably can do that through a response to that question rather than --

THE CHAIRMAN: Maybe we can, and maybe we can't. Let's go ahead.

SENATOR MURPHY: Let's find out.

THE WITNESS (Paterno): Sure. Absolutely.

MR. BERMAN: Thank you, Mr. Paterno.

THE WITNESS (Paterno): It's going to

be easiest if I just draw it.

MR. BERMAN: Okay. Is this an appropriate location?

THE WITNESS (Paterno): Do you have a couple of different colors of these?

THE CHAIRMAN: Get out your smartphones and --

MR. BERMAN: Thank you, Mr. Paterno, for humoring me.

MR. BALDWIN: Make sure we can hear you.

THE WITNESS (Paterno): I'll do my best. I failed art class. So if this looks bad, I do apologize.

MR. BERMAN: We can work from your figure 1.

MR. ASHTON: Just remember, we have a stenotypist who's trying to make sense out of what appears to be heading to the irrational because there's no transcription available of it. I don't know. Council, how nervous are you about this?

THE CHAIRMAN: I hope you're going to be explaining what you're drawing.

MR. BALDWIN: I think we'll get enough explanation. Then ultimately whatever is drawn

would have to be an exhibit in the record.

THE CHAIRMAN: Thank you.

MR. BERMAN: So thank you, Mr. Paterno. So, Mr. Paterno, can you draw a downward sloping demand curve?

THE WITNESS (Paterno): Sure. And I'll use my example from figure 1 in my testimony, which is the demand curve from FCA 10. I will note, I'm likely not going to draw this exactly to scale, so I would couch this as being illustrative and not actual.

THE CHAIRMAN: Thank you.

THE WITNESS (Paterno): So I'm going to start drawing the demand curve now. I've drawn the y-axis; I've drawn the x-axis. The y-axis is denoted by price, and dollars per kW month. The x-axis is denoted by quantity in megawatts -- I'm sorry, gigawatts.

MR. ASHTON: Are these the same curves that are appearing on page 7 of the testimony?

THE WITNESS (Paterno): Yes, Mr. Ashton. They are.

MR. ASHTON: Thank you.

MR. BERMAN: Thank you. And can you please layer on top of that a vertical line at the

level of the net installed capacity requirement?

THE WITNESS (Paterno): From which particular FCA would you like?

MR. BERMAN: For the same FCA that you were -- so for FCA 10, if this is a curve that represents FCA 10.

THE WITNESS (Paterno): Understood.

MR. BERMAN: Okay. And can you please draw a supply curve -- you know, I recognize that you don't know exactly, necessarily, what the supply curve for FCA 10 may look like, but something that you believe would be an appropriate approximation of the supply curve for FCA 10. And again, this is one that would, since FCA 10 did clear capacity in excess of the net installed capacity requirement, one that is going to clear capacity greater than the net installed capacity requirement.

MR. BALDWIN: And if you can't, say that also.

THE WITNESS (Paterno): So it would be, as I think about how to draw the supply curve and superimpose it, what I pause at is that it wasn't the way FCA 8 versus FCA 10 was conducted at the end of the day. So, all else equal, as we think

about the FCA 10 pricing, it procured capacity in excess of the NICR value here somewhere in this range at the end of the day. That led to more capacity being cleared, and all else equal, at a lower price, because you have moved down on the demand curve, all else equal.

MR. BERMAN: At a lower price than what?

THE WITNESS (Paterno): Than what would have been achieved if we had just cleared capacity exactly equal to the NICR.

MR. BERMAN: Can you draw a supply curve that would make that true, any supply curve that has to meet the requirements of a supply curve, and that it can't be downward sloping?

THE WITNESS (Paterno): The way that we think about FCA 8, though, is if procuring a single amount of capacity equal to the NICR based on the vertical demand curve. As we transitioned to FCA 10, there was an allowance for more capacity to be cleared at a lower capacity price and more megawatts.

MR. BERMAN: What I'm getting at is lower than what? If --

THE WITNESS (Paterno): I'm sorry, yes.

My apologies, Mr. Berman. I didn't mean to cut you off.

MR. BERMAN: I do believe it would be helpful, and again, I'm happy to have it be any supply curve you want, but I do believe it would be helpful to draw a supply curve on top of these two different -- on top of your demand curve and on top of the line with the net installed capacity requirement, because I am still not understanding how installing capacity above the net installed capacity requirement lowers capacity prices.

THE WITNESS (Paterno): Well, it's simple. As we shift down the demand curve, we procure more capacity, and economics tells us, as we procure more of a particular resource, the price decreases across that demand curve.

MR. BERMAN: Right. But as you testified right at the beginning, my first question, the supply curve is the supply curve. The supply curve didn't change, correct?

THE WITNESS (Paterno): That's not what I said. The supply curve was different between FCAs 8 and 10.

MR. BERMAN: Sorry. The supply curve for a given auction is what it is, correct, it's

not dependent on whether or not ISO New England for that auction is using a vertical or a sloped demand curve. Correct?

THE WITNESS (Paterno): That is correct. But the amount of capacity that the ISO is looking to purchase within a particular FCA is dependent on the shape of that demand curve. And, in particular, under the vertical demand curve, all else equal, it is looking to purchase capacity equal to the NICR.

MR. BERMAN: Right. And if, based on what you've drawn, if ISO New England were to procure capacity at the level of the net installed capacity requirement, it would be at a price that is less than, or equal to, the price that is going to be the clearing price for capacity by clearing a level above the net installed capacity requirement. Correct?

THE WITNESS (Paterno): I don't think I understood the question. Would you please repeat it?

MR. BERMAN: Yes. I mean, it's up to the Council to make him draw a supply curve. But without the supply curve, I think it's a little hard.

If the clearing price for capacity must necessarily be at least as high -- if ISO New England is clearing capacity in excess of the net installed capacity requirement, then it's simply clearing capacity at the level of the net installed capacity requirement. Correct?

THE WITNESS (Paterno): I'm still not following you.

MR. BERMAN: The shape of the supply curve must be either flat or upward sloping in the range of the demand curve that we are looking at. Correct?

THE WITNESS (Paterno): Yes, yes. The indicative supply curve in FCA 10, yes, should be flat or upward sloping. Economics 101 tells you you shouldn't have a downward sloping supply curve.

MR. BERMAN: It would be a complicated auction if that were the case.

The clearing price for capacity in this hypothetical, which is clearing, we've acknowledged, above the net installed capacity requirement, must necessarily be -- the supply curve must cross the downward sloping demand curve at a level that is at least as high as where it

crosses the vertical line you drew at the net installed capacity requirement. Correct?

THE WITNESS (Paterno): All else equal, yes. However, my testimony, what I was trying to illustrate, was the following. And if I could humor the Council a little more with arts and crafts for a second.

This is FCA 10 demand curves. Let's say that's NICR. It's really not, but for hypothetical purposes. The old way they looked at the vertical demand curve is they basically said, we need the NICR value, because that's the minimum amount of reliability capacity we need to operate the system. That results in this price. Let's call it P1. You shift to the downward sloping demand curve, and it enables you to procure capacity in excess of the NICR because you have a downward sloping curve.

Let's say in FCA 10 I believe we cleared excess capacity above the NICR of approximately 1,400 megawatts, give or take. So let's say it's about that. Let's call that P2. All my testimony was supposed to be saying is basically that P1 is greater than P2, and that there are lower capacity costs achievable with the

sloped demand curve, which did two things. One, they lower wholesale electricity costs, because you're lowering wholesale capacity prices; and two, they're procuring incrementally more megawatts than the NICR, which is making the system more reliable because the LOLE, which is the loss of load expectation, actually decreases as you move further out from the NICR to the end of the demand curve. In particular, the NICR is about a 1-in-10 concept; LOLE is about 1-in-87 at the end of the day.

MR. BERMAN: Just to be clear, it would require two different supply curves to intersect the demand curve in the two places that you've drawn, correct?

THE WITNESS (Paterno): Well, obviously, there is only one supply curve in the auction.

MR. BERMAN: Correct. And that supply curve must necessarily hit the net installed capacity requirement vertical line at a level, at a price that is lower than -- less than or equal to the price that it hits the downward sloping demand curve, if that auction clears more capacity than is required, or more capacity than the net

installed capacity requirement. Correct?

THE WITNESS (Paterno): Could you draw it? I'm having trouble visualizing?

MR. BERMAN: So the supply curve is necessarily a -- it's a stepwise increasing curve. Correct?

THE WITNESS (Paterno): In broad terms, yes.

MR. BERMAN: And where it crosses the antiquated vertical demand curve is necessary -- if you are clearing more capacity than the net installed capacity requirement, where it crosses the antiquated vertical demand curve is necessarily at a price that is less than, or equal to, the price that it is crossing the downward sloping demand curve. Correct?

THE WITNESS (Paterno): Or it could be at the same value, if this curve here was to extend --

MR. BERMAN: Right. And I said "less than or equal to," correct?

THE WITNESS (Paterno): That is correct.

MR. BERMAN: Thank you. So by clearing capacity in excess of a net installed capacity

requirement, the actual price per kilowatt month is necessarily the same or higher than it would have been if they had cleared capacity at exactly the level of the net installed capacity requirement. Correct?

THE WITNESS (Paterno): Assuming the same supply curves, yes.

MR. BERMAN: Thank you, Mr. Paterno.

And under the downward sloped demand curve, can ISO New England clear capacity in the amount less than the net installed capacity requirement?

THE WITNESS (Paterno): In theory, yes.

MR. BERMAN: Okay. And to date, that has not happened?

THE WITNESS (Paterno): Under the downward sloping demand curve, no. Under the vertical supply curve -- demand curve, yes.

MR. BERMAN: Okay. I just have a couple questions. Can you turn to page 3 of your rebuttal testimony?

THE WITNESS (Paterno): Yes.

MR. BERMAN: Okay. This is kind of in the summary section. I believe in the version I have, lines 12 through 15, you state that

"Projects that enter the market with a power purchase agreement, like most renewable generation, transfer nearly all of the financial risk to ratepayers, since the cost of the PPA is typically passed onto ratepayers in their retail electric rates." Is that correct?

THE WITNESS (Paterno): That is correct.

MR. BERMAN: And renewables, like wind and solar, have no fuel costs, correct?

THE WITNESS (Paterno): That is correct, but they do sometimes have a variable cost of operations.

MR. BERMAN: Sure. But there are fixed price PPAs for wind and solar, correct?

THE WITNESS (Paterno): There are, and I believe there's variable price PPAs as well. So it's a little of both at the end of the day.

MR. BERMAN: And a fixed price renewable PPA could actually serve as a hedge against future energy price fluctuations. Is that correct?

THE WITNESS (Paterno): Yes, it could. And I would say that same benefit is not exclusive to renewables with fixed price PPAs. It could

also be thermal generation with fixed price PPAs.

MR. BERMAN: Sure. Generally fixed price PPAs could serve as a hedge against future energy price fluctuations. Correct?

THE WITNESS (Paterno): It could serve as a hedge; that's correct.

MR. BERMAN: And for a fixed price PPA, the risk that is passed along to ratepayers is the risk that the PPA price is above the price of energy during the time frame of the PPA. Is that correct?

THE WITNESS (Paterno): There are several risks, but obviously that would be a key one, yes.

MR. BERMAN: Okay. But it's possible that the fixed price of the PPA is actually lower than energy prices during some portion of the time frame of the PPA. Correct?

THE WITNESS (Paterno): Yes. And there's also a chance it could be higher as well.

MR. BERMAN: Correct. So it could be lower or higher?

THE WITNESS (Paterno): It could be lower or it could be higher. And depending on the fixed price of that PPA and outlook as to future

electricity prices, that risk of higher or lower is not symmetric; it could be asymmetric.

MR. BERMAN: Sure. In a grid that is dominated by generation powered by a single fuel type, which sets the marginal price the large majority of the time, ratepayers bear the risk of that fuel type increasing in price. Do they not?

THE WITNESS (Paterno): They do, that's correct. But they also enjoy the benefits to the extent that the fuel price decreases over time.

MR. BERMAN: Sure. And this may be a little aside, but NTE's firm gas contract, does it establish a fixed price for the gas during the duration of the contract?

THE WITNESS (Paterno): I would defer to Mr. Bradley.

THE WITNESS (Bradley): No, it does not. It's a daily index price.

MR. BERMAN: Thank you. That's all I wanted to ask until the closed session.

THE CHAIRMAN: Okay. We're going to end this morning's open session, and that will be continued on January -- the open cross-examination will be continued, Tuesday, January 10th, obviously, 2017, at 11 a.m. in this hearing room.

We're now going to break for lunch. We're going to resume at 2, but 2 p.m. will be a closed session for only those who have signed the nondisclosure agreement. And the rest of you, I guess, best wishes for the holidays.

(Whereupon, the witnesses were excused, and the above proceedings adjourned at 1:05 p.m.)

CERTIFICATE

I hereby certify that the foregoing 101 pages are a complete and accurate computer-aided transcription of my original stenotype notes taken of the Council Meeting in Re: DOCKET NO. 470, APPLICATION OF NTE CONNECTICUT, LLC FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF A 550-MEGAWATT DUAL-FUEL COMBINED CYCLE ELECTRIC GENERATING FACILITY AND ASSOCIATED ELECTRICAL INTERCONNECTION SWITCHYARD LOCATED AT 180 AND 189 LAKE ROAD, KILLINGLY, CONNECTICUT, which was held before ROBERT STEIN, Chairman, at Ten Franklin Square, New Britain, Connecticut, on December 15, 2016.

Lisa L. Warner, L.S.R., 061

Court Reporter

I N D E X

I N D E X (Cont'd)

APPLICANT'S EXHIBITS
(Received in evidence)

I N D E X (Cont'd)