STATE OF CONNECTICUT

SITING COUNCIL

THE CONNECTICUT LIGHT & POWER COMPANY	JUNE 26, 2012 (11:14 a.m.)
RE: CONNECTICUT PORTION OF THE INTERSTATE RELIABILITY PROJECT	DOCKET NO: 424

BEFORE: ROBIN STEIN, CHAIRMAN

BOARD MEMBERS: Colin C. Tait, Vice Chairman
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. . .Verbatim proceedings of a hearing before the State of Connecticut Siting Council in the matter of an application by The Connecticut Light and Power Company, Re: Connecticut Portion of the Interstate Reliability Project, held at the Central Connecticut State University, Institute of Technology and Business Development, 185 Main Street, New Britain, Connecticut on June 26, 2012 at 11:14 a.m., at which time the parties were represented as hereinbefore set forth . . .

CHAIRMAN ROBIN STEIN: Good morning everybody. I call this meeting -- hearing to order at approximately 11:15, June 26, 2012 --

(pause)

CHAIRMAN STEIN: Can you hear me now? This is a continuation of a hearing on Docket 424. For those and who didn't hear, I'm Robin Stein, Chairman. The meeting is today, June 26, 2012.

And we're going to proceed in accordance with the -- with the agenda. And before we continue with cross-examination of CL&P, we have three pending motions. The first one is CL&P request that the Council take administrative notice of the study of "Electric and

Magnetic Field Exposure Assessment of Power Line and Non-Power Line Sources for Public School Environments," dated June 18, 2012. Do I have a motion that we administratively notice --

MR. COLIN C. TAIT: So noticed.

MR. PHILIP T. ASHTON: Second.

CHAIRMAN STEIN: The motion is seconded. All those in favor, signify by saying aye.

VOICES: Aye.

CHAIRMAN STEIN: Opposed? Abstention? The motion carries.

The second motion is a motion from CL&P for Protective Order with respect to Mount Hope Underground Variation - in Right-of-Way Cost Estimate Details in response to a request from Mr. Victor Civie, dated 19, 2012. Do I have a motion?

MR. JAMES J. MURPHY, JR.: So moved, Mr. Chairman.

CHAIRMAN STEIN: A motion. And second --

MR. ASHTON: Mr. Chairman.

CHAIRMAN STEIN: I'll let Attorney Bachman comment and then I'll let Mr. Ashton -- okay?

MS. MELANIE BACHMAN: At the last evidentiary hearing, Mr. Civie had asked for some

detailed cost breakdown estimates of the underground line. The Applicant had indicated that that information would it -- were it to become public, would destroy any competition among any bidders. No one -- no other party or intervenor has objected to the Motion for Protective Order and I would recommend that we grant that motion.

CHAIRMAN STEIN: Mr. Ashton.

MR. ASHTON: Mr. Chairman, I'm a little bit troubled by this because many of the components of cost estimating where this is not out of line would go on for other civil works and I -- I have trouble believing that this is so unique and puts the company at such a disadvantage that it warrants that kind of protective order. The -- the -- an individual or an entity can put out an RFP for costs of various materials. The Engineering News Record and other magazines and journals provide cost estimates for labor, trenching, and so forth. And I don't quite understand it, any more than I can understand a protective order on the cost of an overhead line, which is far more common and goes on in every darn docket.

So, I'm not predisposed to support this motion on the basis that it's not inconsistent with -- that it is inconsistent, pardon me, with what has gone on

in the past, and that it is not unique sufficient to warrant such a protective order. Thank you.

CHAIRMAN STEIN: Okay.

MR. BRIAN GOLEMBIEWSKI: Second.

CHAIRMAN STEIN: We do have a motion and we do have a second. I'd just like to reiterate that none of the parties or intervenors objected. So with that, unless there's any more discussion, we'll have a vote. All those in favor of the Motion for Protective Order, signify by saying aye.

VOICES: Aye.

CHAIRMAN STEIN: Opposed?

MR. ASHTON: Nay.

MR. TAIT: No.

MR. LEVESQUE: No.

DR. BARBARA C. BELL: Nay.

CHAIRMAN STEIN: I guess we're going to have to have a -- we'll have to have a vote. We'll start with Mr. Levesque. Just how are you voting?

MR. LEVESQUE: No.

MR. MURPHY: Yes.

MR. GOLEMBIEWSKI: Yes.

MR. TAIT: No.

MR. ASHTON: No.

DR. BELL: No.

CHAIRMAN STEIN: I'm going to vote yes. What does that make --

MS. BACHMAN: Jerry and Brian --

CHAIRMAN STEIN: What do we have -- so the no's carry -- okay, the no's carry.

Okay, the third -- the third motion is -- we'll defer that depending on where we are, that is relative to CL&P Preliminary Request to Postpone the hearing scheduled for this Thursday, June 28th. We'll see where we are at lunchtime and determine whether or not we'll postpone the hearing for Thursday.

With -- with that, I'd like to go to administrative notice by the Council of the items shown on the hearing program marked as Roman Numeral I-E, Item 3, and I-F, Item 6, the Department of Energy and Environmental Protection, as well as the Town of Thompson has provided comments since the last hearing session. Does the Applicant or any party or intervenor have any objection to these items that the Council has administratively noticed? Hearing and seeing none, then they are therefore administratively noticed.

The appearance by the Applicant CL&P. I believe that all of your witnesses have been sworn in.

Is that correct?

MR. ANTHONY M. FITZGERALD: Yes, Mr. Chairman.

CHAIRMAN STEIN: But you do have some exhibits. And could you go through the verification process.

MR. FITZGERALD: Yes. Thank you. I think we will start skipping some of these items which have not been admitted yet because they require sponsorship by the need witnesses.

I think the first item we come to is Exhibit 22 for identification on page 13, which are the responses -- no, actually we're skipping that. The previous -- previously we have -- this panel has verified the response to Question 1 of this item. And we skipped 2, 3, and 4 to postpone for the need panel. So -- and that's actually already been done, so Question 1 is in. That -- that brings us to Item 23. And the items in the transmittal letter start with the executive summary of the California EMF Study, which the Council has just taken administrative notice a few minutes ago. It's listed on page 7 of this hearing program.

And Mr. Carberry, can you verify that the document included in the transmittal letter, Item 23,

identified as a copy of the Executive Summary of that California Study is a true copy of the Executive Summary?

MR. ROBERT CARBERRY: Yes, it is.

MR. FITZGERALD: The next item is Focus Area Zoning Table. And I suggest that it actually doesn't need to be verified because it's more like a brief. It's a compilation of information that's already in the Council's records. It cross-references zoning designations that are in the maps in the application with the bulk -- with the lot size provisions that are in the municipals regulations that are already in the record as part of the bulk filing. And this just puts those two pieces of information together. But that -- that was done by Marianne Dubuque, who's here. If you'd like, she can verify that it was done directly, but I -- I would suggest that that doesn't need a sponsor. And if you'll agree, I'll move on.

CHAIRMAN STEIN: Yeah, keep -- keep going, that's okay.

MR. FITZGERALD: Okay. The next item is corrected page 52 of the Carberry/Case/Mele Direct Testimony. Mr. Carberry, can you verify that the corrected page 52 that was submitted correctly revises an

error in the previous page 52?

MR. CARBERRY: Yes, it does.

MR. FITZGERALD: And do you -- and can you tell us what that -- what that -- I mean you've already testified to the error in the previous session, didn't you?

MR. CARBERRY: I did. The error was in a cost figure in the --

MR. FITZGERALD: Okay --

MR. CARBERRY: -- in the table at the bottom of that page.

MR. FITZGERALD: And the next item is corrected pages 53 and 56 from the Mango direct testimony. These provide corrections to Tables LMF-3 and LMF-4 and reflect corrections previously made in Miss Mango's oral testimony on June 4th.

Miss Mango, do these corrected tables include the corrections to the tabular data used to compare the Mansfield Hollow options to which you testified on June 4th?

MS. LOUISE MANGO: Yes.

MR. FITZGERALD: The next item is Revised Map Sheet 90 of 134 and Revised Map Sheet 25 of 40, which show FAA designations. Mr. Case, do these corrected maps

revise the FAA designations consistently with your oral testimony on June 4, 2012?

MR. JOHN CASE: Yes, they do.

MR. FITZGERALD: And as corrected, they are true and correct to the best of your knowledge?

MR. CASE: Yes.

MR. FITZGERALD: The next item is the corrected Mount Hope Underground Variation Map Sheets 1 and 2 of 2. Mr. Case, do these revised map sheets reflect the correct labeling of the existing and proposed lines to which you testified on June 5th?

MR. CASE: Yes, they do.

MR. FITZGERALD: And as revised are these map sheets true and correct to the best of your knowledge?

MR. CASE: Yes, they are.

MR. FITZGERALD: The next item -- oh -- or the last item in Exhibit 23 is the United States Army Corps of Engineers Application Appendix F, the Wetland Invasive Species Control Plan.

Miss Mango, is the document so designated here that was included in the transmittal letter a true copy of the Wetland Invasive Species Control Plan that the company has submitted as Appendix F to its

application from the U.S. Army Corps of Engineers?

MS. MANGO: Yes, it is.

MR. FITZGERALD: And is that document true and correct to the best of your knowledge and belief?

MS. MANGO: Yes, it is.

MR. FITZGERALD: May it please the Council, I would move that Exhibit 23 and its subparts that have just been sponsored here be accepted as a full exhibit.

CHAIRMAN STEIN: (Indiscernible) --

COURT REPORTER: A microphone please.

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

(Whereupon, Applicant Exhibit No. 23 was received into evidence.)

MR. FITZGERALD: Which brings us to Item 24, the Applicant's Agreement with the Highland Ridge -- well a cover letter describing an agreement with the Highland Ridge Golf Course owner and a drawing dated June 19, 2012, which shows the agreed upon configuration.

Mr. Case, are the statements in that cover letter and the illustration of the agreed upon configuration true and correct to the best of your

knowledge and belief?

MR. CASE: Yes, they are.

MR. FITZGERALD: I'd like to offer Exhibit 26 for identification -- I'm sorry -- Exhibit 27 for identification as a full exhibit.

CHAIRMAN STEIN: Are there any objections to these exhibits being admitted? Hearing and seeing none, they're admitted.

(Whereupon, Applicant Exhibit No. 24 and No. 27 were received into evidence.)

MR. FITZGERALD: I just realized that I skipped Item 26 --

CHAIRMAN STEIN: I noticed that --

MR. FITZGERALD: -- the Responses to Set 3 of the Civie Interrogatories. There's two interrogatories in that set. The second one is a need question, which I'm going to skip for now.

Mr. Carberry, is the response to Question 1 of Set 3 of the Civie interrogatories true and correct to the best of your knowledge and belief?

MR. CARBERRY: Yes, it is.

MR. FITZGERALD: I move -- I move that the response to Question 1 of the Civie interrogatories, Set 3, be admitted as a full exhibit.

CHAIRMAN STEIN: Is there any objection? Hearing and seeing none, it's admitted.

(Whereupon, Applicant Exhibit No. 26 was received into evidence as a full exhibit.)

MR. FITZGERALD: And I think that takes care of the open items.

CHAIRMAN STEIN: Okay, thank you. We'll now go to cross-examination first by staff.

MS. CHRISTINA WALSH: Thank you, Mr. Chairman.

Just as a clarification, during the June 5th hearing there was a discussion between CL&P and the Mount Hope Montessori School about the creation of a green screen between the school property and the transmission line right-of-way. Is this something that CL&P is willing to do in the future if required by the council or in agreement with the school?

MR. CARBERRY: I recall that we testified we would consider doing that with them if they were interested in it.

MS. WALSH: And that would be part of the D&M plan?

MR. CARBERRY: Yes, it would.

MS. WALSH: Regarding the changes that

were just admitted as part of Highland Ridge Golf Course negotiation, this -- just to clarify again, this was not any of the options that were provided in the prefiled testimony?

MR. CARBERRY: No. This was something that was discussed between us and the Cheneys on site as we were looking at what their concerns were and what we could -- what we could do to our design.

MS. WALSH: Okay. And is it true that the structure location is in basically the same spot as originally proposed, that it's just a different configuration --

MR. CARBERRY: Except --

MS. WALSH: -- and height?

MR. CARBERRY: That's correct. Structure 39 originally proposed as a delta in this area, a 2-pole delta configured structure will now be a single pole vertical reconfigured structure. So it -- it takes one of the poles out of the range area and raises all the conductors -- the top two conductors higher.

MS. WALSH: Okay. And would that require the surrounding structures to be any taller than originally proposed?

MR. CARBERRY: It did not have an impact

on the adjacent structures.

MS. WALSH: Okay. And approximately how much cost would this add to the project?

MR. CARBERRY: It would add no additional cost to the project because we are taking it -- at this angle structure it was a 2-pole. We're actually roughly about the same price to go to a single pole vertically configured structure in this one area.

MS. WALSH: Okay, thank you. As part of our Council administrative notice we took in an additional comment from the Thompson Inland/Wetlands Commission. Do you -- have you reviewed that and do you have any comment to offer?

MS. MANGO: You're referring to the June 19th letter from the Town of Thompson?

MS. WALSH: Yes.

MS. MANGO: Yes, we have reviewed this and we do have some responses. So, I guess the best way to go through this is simply to first say that between our June 4th and 5th hearings and today, we completed a constructability review along this portion of the right-of-way. This was a review that has been ongoing, but it was being conducted starting this spring from west to east and we simply had not gotten to Thompson yet.

And we did get to the portions of Thompson right-of-way in the last couple of weeks in June. And as a result of that review, what we did find is that in fact there is an existing access road that was probably put in when the first line -- the first 345-kV line was installed through this right-of-way in the early 70's. That road exists. It is gravel. And along the portions of the right-of-way that have now been flooded by the beaver dam, it is submerged, but it's visible.

I think Miss Butts in her June 19th letter asks that we conduct some auger samples to see about the, you know, content of the road and if it existed. And our -- the people out there doing the constructability review did in fact do that. And what they found is that the road depth was at least 12 to 18 inches deep. This was below the water. It was gravel. They did not reach the end of the road with the auger, so this road could be potentially three feet deep, which is probably something that was a fairly standard thing that was done at that time to construct a project such as the 345, and it was simply left in place because at that time there were no regulations requiring that the road be removed and it was probably prudent to leave it.

We do actually have some photographs of

the road. We have some aerials and we have some photographs taken at ground level if the Council is interested. And the presence of the road is clearly indicated on the aerials. One can see that there is a road that goes through the upland area evidenced by brown -- you know, no evidence of vegetation, it just shows as dirt. And then when the road enters into the wetland, it's open water for the most part. There is no vegetation growing there because there is a submerged gravel access road there. So if the Council -- oh, go ahead.

MR. FITZGERALD: Excuse me, just -- I just wanted to point out that one of the photographs you referenced has been admitted as item -- CL&P Exhibit 27. So if you want to refer -- and we have a blow-up of it -- so if you want to refer to it in your answer, you -- you can.

MS. MANGO: Yeah. If the Council wants, I can show this to you on the blow-up. I think -- but it's up to you.

CHAIRMAN STEIN: Yes, please.

(pause)

MS. MANGO: This photograph is on the -- (indiscernible) --

COURT REPORTER: You need a microphone.

(pause)

MS. MANGO: This is a blow-up of Exhibit 27, which CL&P did submit to the Council. This is an aerial -- a fuller aerial view of the right-of-way relative to 2007. And what we've done here is we've labeled the limits of our right-of-way in black. One can see the outline of the existing conductors and the existing structures on the right-of-way. And then we've labeled our proposed new structures.

So when one looks at this, one can see coming from west to east, the Five-Mile River is where I'm standing here, so access is limited in this area, nobody crosses the Five-Mile River. We need access in and out from the east. So Structure 319, one can see the access road through the upland area shown as brown. When it enters the wetland, which is Wetland 20-203, one can see open water. And that open water signifies where the existing gravel road is. To the north of that is a heron rookery. And you can see the trees that were in this area which have now been killed. So at one time this was probably a wetland that was once flooded or perhaps the birds from roosting there over time have killed the trees.

Then one comes out of the wetland and we have this little upland area where our Structure 320 is going to be located. And you can see that that, for whatever reason, is kind of an open area, but we're putting the structure on an upland area, so to get to it where once again we traverse back to another part of the wetland -- here's -- (indiscernible) -- once again, open water is visible that's shows where the active -- the impounded beaver dam.

Then the same thing exists as you continue east. You come out in an upland area where Structure 321 is. So that structure itself and the work pattern would be in an upland area. Then back into the wetland, the same wetland, Wetland 20-203, more open water that shows where the access road exists beneath the impounded wetland. And then continue on to the east to Structure 322 and on to the nearest road crossing, which I think is Quaddick Town Farm Road. And each of these individual photos just shows things in greater detail so that you can actually see the areas of the location of the right-of-way between Structure 320 and 321 and you can see the water, you know, in a closer up view.

So in answer to this letter, the road does exist. We actually have photographs which we could

submit that shows the results of the survey where our field people took a view through the water and you can see the gravel underneath. We have some views that show the constructability team standing in the water and they're talking, you know, views of the open water towards the structures.

A VOICE: (Indiscernible) --

MS. MANGO: I think -- I thought you might possibly think that was enough.

A VOICE: (Indiscernible) --

MS. MANGO: That's Exhibit 27.

CHAIRMAN STEIN: Could you enter the photographs into the record just to be a hundred percent.

MR. FITZGERALD: Yes. The other -- the other two besides Exhibit 27 that she just referred to, we -- we can enter into the record. We also have the photographs that show the close-ups of the road. We -- we could enter those --

CHAIRMAN STEIN: Why don't you just give us a complete set --

MS. MANGO: We'll give you the complete set of photographs --

CHAIRMAN STEIN: Okay.

MR. FITZGERALD: Why don't -- why don't we put them all together at a break and then we'll -- or we can take a minute and do it now because they're here.

CHAIRMAN STEIN: We'll take a minute break while you get them together.

(Off the record)

MS. MANGO: We -- we're in the process of handing out six individual photographs, which I will go through and describe, that show the results of the on-ground field reconnaissance between Structures 319 and 322 in the Town of Thompson. And we will also hand out the three additional photos that show the close-up of each section between Structures 319 and 320, 320 and 321, and then 321 and 322. So they show the closer up view of the right-of-way. So that should be in a packet that everyone has stapled together. That's a companion to Exhibit 27 that's already filed, and Exhibit 27 shows the overview.

Now in terms of each of these photographs, what we have here -- and I'm not sure of the best way to do this -- we have one photograph that's clearly evident. It's a photo taken through the water of a view of a gravel road along this segment of right-of-way.

MR. FITZGERALD: Can we -- can we call that --

MS. MANGO: That could be --

MR. FITZGERALD: -- 27A.

MS. MANGO: Then -- the first of the individual photographs is a view to the west towards Structure 9317 or proposed Structure 321.

MR. FITZGERALD: That's 27B.

MS. MANGO: The next photograph is a view to the east towards existing Structure 9318 and proposed Structure 322. Take this one and label that.

MR. FITZGERALD: 27C.

(pause)

MS. MANGO: The next photograph is a westerly view toward structure -- (indiscernible, walked away from mic) --

COURT REPORTER: You need to --

MS. MANGO: The next -- the next photograph is a view to the west looking towards existing Structure 9315.

MR. FITZGERALD: 27D.

MS. MANGO: We then have a photograph looking west towards Structure 9316 -- existing Structure 9316, which is proposed Structure 320.

MR. FITZGERALD: 27E.

MS. MANGO: The last photograph is a view looking east towards Structure 9317 -- existing Structure 9317, which is proposed Structure 321. And that should be it. You're missing one.

(pause)

MS. MANGO: That should be A. That was the first one I had.

MR. FITZGERALD: No, A is --

(pause)

MS. MANGO: The last one I did or --

CHAIRMAN STEIN: I would think we can -- you can get us a complete package and we don't have to keep going back and forth at this stage. I think -- I think that should suffice.

MR. FITZGERALD: We will -- we will file and serve a package.

(pause)

MR. FITZGERALD: Do the -- the photographs that have been marked as Exhibits 27A through E for identification are they accurate representations of the conditions they depict on the right-of-way as you have testified to them and are they true and accurate to the best of your knowledge and belief?

MS. MANGO: Yes, they are. They were taken within the last we weeks, so they are accurate as of June 20, '12.

MR. FITZGERALD: And -- I offer Exhibit 27A through E as full exhibits -- oh, I left out F --

(pause)

MR. FITZGERALD: So it's A through -- it's A through -- I have the gravel, but I -- (pause) --

MS. BACHMAN: F was identified as an easterly view toward existing Structure 9317 and proposed Structure 321?

MR. FITZGERALD: Okay. So, I expand my previous question to include Exhibit 27F, are they true and correct to the best of your knowledge and belief?

MS. MANGO: Yes.

MR. FITZGERALD: Thank you. I move Exhibit 27A through F as full exhibits.

CHAIRMAN STEIN: Any objection for having these admitted? Hearing and seeing none, they're admitted. Thank you.

(Whereupon, Applicant Exhibit Nos. 27A through 27F were received into evidence.)

CHAIRMAN STEIN: I'm not sure, but I think the staff had asked you about the letter and I think

there were other issues, that hopefully don't require the same number of photos?

MS. MANGO: Yes. We were -- we did begin talking about the June 19th letter. And the exhibits that we just entered related to Exhibit 27 and the attachments do address most of the comments in Miss Butts' June 19th letter. In her first comment for example she notes that we should conduct borings of the road to determine if the road is there. And by virtue of the exhibits that we just provided, we have determined that there is an existing access road that does -- that is present across Wetland 20-203 within the CL&P right-of-way. That is the access road that we currently propose to use for construction and expand as necessary for that purpose.

Miss Butts also attached to her June 19th letter a soils report that she had generated by the U.S. Department of Agriculture Natural Resource Conservation Service. This is available on their website. And as I understand it, what she did is she compiled the soils along the right-of-way in the Town of Thompson. That is something that we also did as part of our application to the Siting Council. And I believe our summary of soils is provided in Table 5-1 of Volume 1 of our application.

We basically agree with the U.S.D.A. N.R.C.S. There might be some variations in terms of what soils are found in a specific location along the right-of-way, but we -- we generally agree with her. We agree that these are the soil types. What we found along these access roads however is that probably during construction of the 1970's era existing line some of the muck soils were perhaps excavated out and replaced with gravel, which is why we see the open water along our access road that you noted from the photographs.

In the third paragraph of Miss Butts' letter she noted that the testimony that I provided in early June had no evidence as to what conditions existed after the construction of the right-of-way -- or the construction of the line through the Town of Thompson in the early 70's. Once again, the field surveys that we've just done, which supplemented our previous field surveys, now confirm the presence of the road and the fact that there was a road left during probably the 1970's era of construction.

We also think that over time perhaps ATVs, you know, people that run mud off-road vehicles, or whatever they are called, they're probably also using these roads and, you know, keeping the vegetation off

them as well as the gravel itself.

Finally, in her letter Miss Butts reiterates again her concern that our proposed construction methods may create a mud wave. And I believe that by this she probably means that we put mats down, and when the equipment runs on the mats, the wetlands soils squish between the mats, or timber mats, and create -- creating some kind of sedimentation within the wetland. That could happen, but that's why in all of our construction procedures we have a silt fence up along the edges of the rights-of-way through wetlands. And in this particular wetland area we would pick a construction method that provides a stable means of getting to these structure sites, as well as we would adopt appropriate erosion control methods, or I guess I should say sedimentation controls to minimize that type of effect.

Finally, Miss Butts says that -- I think she's inferring that I hope that the beavers would move by the time that construction actually occurs through here. I -- I do not think that was the intent of my comment. My comment was simply to say that these are -- you know, these are environmental conditions that can vary from season to season based on the amount of

rainfall. We don't know what the beavers will do. In fact, it is not an uncommon construction practice that I've seen applied on pipelines to temporarily relocate beavers, allow the water level in a beaver impoundment to drop for construction purposes, and then allow the beavers to come back. If that is an option, it would have to be worked out with DEP, otherwise, you know, the constructability review indicated that we do feel that we can go through this area using the existing gravel road improvements, which would provide a stable base.

So, I -- I think that that fairly well covers the points that Miss Butts raised in her June 19th letter.

CHAIRMAN STEIN: Dr. Bell has a follow-up.

DR. BELL: Miss Mango, just asking -- going back to the mud wave, if the wave is created by the timber mats, which are within the access area, I understand you have a silt fence running along the side of the timber mats, but -- so that the actual wave that's in between the interstices where the mats come together, that wouldn't carry out into the wetlands just as you said because there's a silt fence there. But you -- how do you handle -- when you take the mats out, there is a

wave still left in the access-way. So I'm just asking how do you -- do you dig that out with some kind of a smoother so that the restoration of the road itself doesn't contain these mud waves that you're referring to? Is that how it works. I was -- I didn't really -- I'm not familiar with the term, so I'm just asking for clarification.

MS. MANGO: I'm not totally -- I mean the mud wave that I have seen -- and I'm assuming that that's what Miss Butts is referring to -- is caused when -- typically when you have several layers of mats or it could just be one layer, but in mucky soil conditions where you have heavy equipment, you know, sometimes running faster than it should run over those mats. So you can alleviate the potential for a mud wave in some cases by having equipment traverse these areas slowly, which in most cases the construction operators want to do just for safety purposes.

The other thing is that, you know, using the existing gravel access road, which our people feel has a fairly stable base, we should not be on wetland soils that would cause a mud wave.

And -- and then the final thing is we would keep our silt fence in place until our temporary

mats or whatever is used in this area were removed. And given the fact that the construction personnel, the team that did the constructability review were able to walk through this area just a couple of weeks ago, indicates to me that we could probably just put people out there to deploy the silt fence in the first place and then remove it afterwards.

The final thing -- the final point I want to make is that where we are asking for a width of an access road, and I believe in our testimony earlier this month we indicated we'd increase the width, we're doing that because that's the impact area that we're calculating on, and in this case it's a temporary impact, for the purpose of our Corps of Engineers permit and our 401 quality certification from the DEP.

So we're assuming that we will have some impacts within that area and we've asked for more room because -- to account for situations such as this, you know, because yes you could get some sedimentation for sure when your equipment is running on any type of timber mat, and that's why you want to -- you want to make it clear to everybody involved that yes there's going to be an impact, but it's going to be contained hopefully within this -- whatever it is -- a 20-foot area, a 30-

foot area, or whatever is designated on the plans for that particular site.

COURT REPORTER: One moment please.

(pause - tape change)

DR. BELL: Thank you. Thank you, Mr. Chair.

CHAIRMAN STEIN: Professor Tait had a follow-up.

MR. TAIT: What's the depth of water we're talking about?

MS. MANGO: As of the last couple of weeks, it was between -- the maximum depth they felt was -- well they said was about 30 inches toward the more western end near the Five Mile River, and then up to about 20 to 24 inches. They were able to walk through with waders the entire way.

MR. TAIT: And the equipment can go through that with timber mats?

MS. MANGO: This would be a construction -- the contractor would have to propose a specific method or the construction engineers, you know, during the D&M phase --

MR. TAIT: Big --

MS. MANGO: -- but yes, they could go

through that with timber mats. And that's something they would --

MR. TAIT: Big equipment?

MS. MANGO: Yes. I've seen -- I've seen --

MR. TAIT: Big tires?

MS. MANGO: Yes. I've seen -- I've seen like large equipment for a pipeline and things of that sort go through a much longer wetland with putting in nine or ten layers of mats.

MR. TAIT: Layers of mats?

MS. MANGO: One on top of the other.

MR. TAIT: So you'd bring it out of the water?

MS. MANGO: Yes -- yep. The goal would be to put the -- to keep the construction equipment out of the water.

MR. TAIT: If they breach the beaver dam, would that bring the water down sufficiently?

MS. MANGO: Probably.

MR. TAIT: Beavers are not an endangered species as far as I know, at least not in the Town of Norfolk -- (laughter) --

MS. MANGO: No.

MR. TAIT: -- they outnumber the rest of us. Thank you.

CHAIRMAN STEIN: Okay. Staff.

MS. WALSH: Thank you, Mr. Chair. Moving on to the comments received from the Department of Energy and Environmental Protection, page 9 of the comments discusses homes that are at 133 and 135 Old Willimantic Road in Columbia. These homes have a driveway that runs along the right-of-way. And the comments state that there a proposed pole location in the center of the driveway. Is there some ability to shift the structure location or to move the driveway, or is there any consideration so far about that?

MR. CARBERRY: This is the location, Miss Walsh, where I believe the driveway has to be relocated. The structure needs to stay in its alignment at that location. The driveway has been put in a vacant space today and it will have to be relocated.

MS. WALSH: Okay, thank you. The bottom of page 11 discusses the crossing of the Natchaug River and the recommendation to leave trees in that area to allow the shading of the river in that section. Is that something that could be done?

MR. CASE: Yeah, that -- that is something

that we could consider. We would have to take a closer detailed look, but that might be something that we may be able to accommodate.

MS. WALSH: Thank you. Throughout the document there are a number of recommendations to shift structures due to either stonewalls or visibility to residences. Is -- have you looked through these and considered these shifts are feasible or particularly unfeasible?

MR. CASE: We have taken a preliminary look through the letter and the structures that are referenced in there. There's -- there's about a dozen structures with proposed or requested shifts either in alignment or longitudinally. There are -- there's probably a mix in there, and some that we can accommodate. There are some such as at angles or some that we've already shifted significantly that will be more difficult to accommodate, but we -- we are going to take a closer look through the detailed engineering of these 12 structures and see if we can accommodate these additional moves.

MS. WALSH: Is -- is that something that is done during the planning phase or do you do it -- would you do that in the D&M plan phase of the project?

MR. CASE: We'd anticipate doing that through the D&M. Some of these -- like I said, we've done quite a bit of work to relocate out of wetlands already. So these would be going above and beyond to where we've already felt comfortable. So it have to be refined and designed, so it's going to take us some time to get through those.

MS. WALSH: Okay, thank you. On the last page of the comments there are a number of questions. One of the questions that was brought up, kind of a curiosity question was the proposed structures are about five feet taller on average than the existing structures. Is that something that was a change in the technology or requirements on your end --

MR. CASE: Yeah --

MS. WALSH: -- or what was the reason for that?

MR. CASE: Well it's -- it's a little bit of both. We are using a larger conductor on this and we are -- we have -- in some instances do have more stringent clearance requirements than when the original line was built. But -- but for the most part what we are trying to capture here was a conservative estimate for a structure height increase. When we're showing cross-

sections to residents at open houses, we're showing typical values and we want to be able to accurately reflect any increase in impacts to them. The average structure is roughly five foot taller through or preliminary design. But through a refined design once we get our constructability reviews done and move on to that next D&M level design, we do anticipate that that five feet will shrink down to less than that.

MS. WALSH: And there was also a paragraph about the cancellation effects of EMFs. It's the third paragraph from the end. Could you take a stab at answering that question?

MR. CARBERRY: So you're speaking about the paragraph that begins the three charts on page 7B-18?

MS. WALSH: Right. Thank you.

MR. CARBERRY: And those charts are the focus area A, B, and C Magnetic Field Management Results, looking at the various different configurations that we considered in the Field Management Design Plan. There's a figure on the previous page as well, Figure 6, which graphs the complete results across the right-of-way and a short distance beyond each edge. So the tables themselves are only showing specific values, but the

curves you can see as you approach the north right-of-ways in particular are all coming very close together. The proposed new line has more than the normal distance to the edge of the north -- the north edge of the right-of-way than we would normally have. We're building a -- we're building a south line for example where that's centered 85 feet from the south edge. If we build an H-frame line where we've proposed it, we'd have approximately 130 feet from the center of that line to the north right-of-way edge. So we have more distance for the height effect to disappear. And I think I testified in one of the previous days that small differences in height do matter to the magnetic fields over some distance to either side of the line, but that the further you go to one side away from a line, the more that effect diminishes. And so we're -- we're at a distance here where the height effect is wearing itself out.

In addition, you have two lines here working with each other for a cancelling influence. These -- these two lines have approximately equal currents in them and so the cancelling effect is very good. When you move one set of conductors in a delta configuration or a vertical configuration up and down

relative to the H-frame line, you -- you alter that cancelling influence. And it's a bit like pushing on a balloon; it may go down on the right-of-way and up at the edge of the right-of-way or vice versa. And so what you're seeing here sometimes is that if a vertical is normally lower than a delta and then you change the 20-foot difference, you might switch that around at the edge of the right-of-way and the other one is a little bit higher than the other one. These are relatively small differences at that point, but fundamentally you do affect the cancellation to some degree, including at the edge of the right-of-way when you move the delta or vertical line up and down.

MS. WALSH: Thank you. I have nothing further at this time. Thank you.

CHAIRMAN STEIN: Thank you. We'll now go to cross-examination by the Council members. Professor Tait.

MR. TAIT: On that page 19 of the report that says not has been left out, do you agree with that? On page 6-26.

MR. CARBERRY: Yes, we do. I thought yesterday we submitted a corrected page.

MR. FITZGERALD: Yes.

MR. TAIT: Thank you.

MR. FITZGERALD: That -- that was received in evidence today.

MR. TAIT: At the last session I inquired whether the Montessori School was a 501C-3 institution. Can you verify that -- have you verified that? And the other -- would you please verify that. And I'm also interested in is -- the day care center, the Green Dragon, has a state license as a day care center? I would like a copy of that license to see if there's any conditions on it. Thank you.

CHAIRMAN STEIN: And we can probably ask those parties those appropriate questions to.

MR. TAIT: If they are a party.

CHAIRMAN STEIN: Yes, they are -- I believe they are.

MR. TAIT: Okay.

MR. FITZGERALD: Montessori is. The Green Dragon is not --

CHAIRMAN STEIN: Oh --

MR. FITZGERALD: -- is the Green Dragon a party? The Montessori School is a party, but the Green Dragon Day Care is not.

CHAIRMAN STEIN: Okay. We'll now go to

Mr. Ashton.

MR. ASHTON: Again referring to the document we received from the Department of Energy and Environmental Protection and recognizing full well that you've only had a few days to look at this, is it possible that you could prepare a late file which indicates your acceptance or concurrence with the points that are raised in there? Quite frankly, from my own experience, it would almost be -- if you could do it, it would almost work to mark -- to put a marking alongside the particular paragraphs saying yes, no, perhaps, or whatever, you know, right on the document itself so we don't have to go back and forth. Just a suggestion.

I want to go back to the Mansfield Hollow, Mansfield park area. And in particular, I want to open up the field tour booklet that we were given when we took the tour to Section 8, which is Summary of the Proposed Configuration for Federally Owned Land in Mansfield Hollow. Mr. Reese makes reference to it on page 4. And I want to be sure we're all singing the same song, that the earlier discussion did not include any visual aspects of -- any visual considerations, and the Reese document does. So that is it your opinion that the proposed configuration which shows on that Section 8 would be more

desirable than one which would avoid trifling disturbance of any wetlands in the area? And specifically I'm looking at the two delta configurations -- double delta configurations that shows on page 21, Section 8, the Summary of Proposed Configuration Options for Federally Owned Land.

MR. CARBERRY: We're trying to locate a copy of that, Mr. Ashton.

MR. ASHTON: Would you like for me to give you one?

MR. CARBERRY: Maybe -- (laughter).

(pause)

MR. CARBERRY: You have us looking at page 21 of that document?

MR. ASHTON: Yeah. And the heading on it -- it's No. 8, Summary Proposed Line Configuration Options for Federally Owned Land in Mansfield Hollow.

MR. CARBERRY: And the question again was? Sorry.

MR. ASHTON: Is it the Applicant's preferred configuration the double delta arrangement with an expansion of the right-of-way of 55 or 85 feet?

MR. CARBERRY: That was our initial preference in our initial proposed configuration until we

sensed that the Army Corps of Engineers preferred the minimal right-of-way expansion option.

MR. ASHTON: Okay. Could you say that again a little bit louder?

MR. CARBERRY: That was our, as it's labeled here, the proposed configuration --

MR. ASHTON: Yeah --

MR. CARBERRY: -- of these three it was CL&P's preferred configuration, it was slightly the lowest cost --

MR. ASHTON: Okay --

MR. CARBERRY: -- however -- and I think we said this in response to some data request, it has become clear through the process with the Army Corps of Engineers that they were leaning towards the minimal right-of-way expansion option.

MR. ASHTON: That -- but that was before we had this communication from Mr. Reese. Is that not correct?

MR. CARBERRY: Yes. We had a correspondence about this from the DEEP back in February as I recall --

MR. ASHTON: Right --

MR. CARBERRY: -- it wasn't from Mr.

Reese.

MR. ASHTON: And that earlier DEEP letter made no mention whatsoever of visual effect, did it?

MR. CARBERRY: It was from the Wetlands Division --

MR. ASHTON: It mentioned only disturbance -- minor disturbance to wetlands. It didn't mention anything about beneficial effects of clearing to wildlife. It mentioned nothing about visual effects of a lower structure -- the visual benefits of a lower structure, is that correct?

MR. CARBERRY: Do you recall --

MR. ASHTON: I'm not sure I heard an answer.

MS. MANGO: Mr. Carberry asked me to answer part of your question. The letter in February was from the DEEP Inland Water Resources Division --

MR. ASHTON: Okay --

MS. MANGO: -- and that letter was provided in response to a general outreach that we had conducted at the request of the Corps of Engineers to solicit input from the various agencies that would be involved in the project. So in addition to the Inland Water Resources Division of DEEP, we had also requested

similar information from the parks department and I think wildlife, but we did not receive letters from them at that time.

So you are correct, the Inland Water Resources Division focused on water resource minimization of water resource impacts and the selection of the least environmentally damaging practicable alternative from a water resources perspective. But he didn't -- you know, in that particular letter the DEEP Inland Water Resources Division did not comment on the park per se because the park -- the alignment of the right-of-way through the park spans Mansfield Hollow Lake, but does not affect other water resources.

MR. ASHTON: Now let me refer to Mr. Reese's letter, page 4, the top full paragraph beginning with the acronym DEEP. DEEP did provide a letter and I'll give you a second to read it --

MS. MANGO: Yes, that's the letter from the Inland Water Resources Division --

MR. ASHTON: Right. Then I -- I want to go down a little bit beyond that and I note the word at the end of the third line beginning with the word this; this preference was based solely on an analysis of wetland impacts and did not reflect any coordination with

state parks or wildlife division. While our State Parks and Wildlife Division have voiced a slight preference for the original proposed alternative for reasons revolving around aesthetics and habitat types respectively, DEEP finds that the original proposed configuration or the minimal right-of-way expansion to be acceptable.

The visual effects would push for a right-of-way expansion, would they not?

MS. MANGO: Well I think as I -- as I mentioned in our testimony in early June, we were very cognizant of the potential visual effects and how the public may view the different structure types and heights. As a result, in our application to the Siting Council in Section 10, Volume 1, we include a visual simulation of each one of the different right-of-way configuration options in Mansfield Hollow.

We also discussed this extensively with the U.S. Army Corps and provided them with the visual simulations and also the depiction of the different structure heights that you mentioned was in your right-of-way tour brochure. And the Corps of Engineers as the lead agency and the owner of the property has not expressed a concern about the visual effects of the taller height of the structures. They are principally

concerned about minimization of impacts to forest clearing and to wetlands --

MR. ASHTON: Okay, regarding the clearing, doesn't the DEEP prefer some clearing for the benefit of wildlife?

MS. MANGO: There's certainly evidence that scrubland habitat is very important and DEP -- DEEP does I believe recognize that --

MR. ASHTON: Okay --

MS. MANGO: -- but in none of the letters have they indicated that thus far.

MR. ASHTON: Looking at page 21 of that handout that went on the tour of CL&P's proposed configuration, the two delta structures have -- shown on this drawing the two conductors on the right-hand side. Suppose the new line was built with the -- just flipped over, so the two conductors were on the outside, would that have any benefit on the EMF propagation or any effect on the EMF propagation?

MR. CARBERRY: Well I'm sure it would change the profile somewhat. This is in an area where there are not adjacent land uses --

MR. ASHTON: Right, you've got a water body --

MR. CARBERRY: -- and things like that. I think it was primarily done this way to -- such that the conductor nearest to the edge of the right-of-way was not the lowest one, which would allow a little bit more safety against falling trees from an edge of a right-of-way hitting the lowest conductor --

MR. ASHTON: So does that say that if you had to do it all over again, the first circuit would be flipped around?

MR. CARBERRY: For that reason you can think of flipping it around, yes.

MR. ASHTON: Okay.

MR. CARBERRY: We're not proposing to do that now. It's -- that's --

MR. ASHTON: I'm sorry?

MR. CARBERRY: We're not proposing to reverse that decision now.

MR. ASHTON: Well I thought you might have second thoughts. I have nothing further. Thank you, Mr. Chairman.

CHAIRMAN STEIN: Thank you. Dr. Bell.

DR. BELL: Thank you, Mr. Chair. I just have one question about the material that was submitted that I think I requested of Dr. Bailey, which was a study

of EMFs in California schools, and that was -- and the name of the author was Zaffenella -- and that was supplied to us and I thank you for that. I -- but I have a very simple question about a definition. A -- frequent mention is made in the study of net -- net current -- two words -- which they determined to be in many cases the major -- the major force affecting -- a major driver of EMF. So I think I know what that means, but I just want a quick definition. It's not defined in the paper itself.

MR. CARBERRY: Sure -- I will try. Roger Zaffenella, by the way, is one of my mentors in the whole EMF field and was for many years the head of Project UHV up in Lenox, Massachusetts when it was owned by General Electric Company, but also later when it became owned by the Electric Power Research Institute as the high voltage transmission research center, and EMF research was one of his engineering type research, his specialty. And he had subsequently gone on to work for InterTech Consultants. You had Mr. Silva before you in the past from InterTech Consultants and Dr. Zaffenella worked with Mike Silva and was the author of this report.

Net currents is a term that basically -- I'm going to have to have you visualize some things and

I'll start with a lamp cord. A lamp cord has two wires. One is the so-called hot wire, it has 120 volts on it, and when the lamp is on, current is going down that wire to the lamp and it is returning in the other wire. All -- - all current that goes to a load must return. That's what a circuit is. So if you were to wrap your fingers around the lamp cord, you would say I'm holding on to zero current -- zero net current because what came -- what went down came back all in the same place, there's no net current. What if the current that went down one wire did not all come back in the other wire, there would be a difference, and we would now say that this lamp cord has a net current. And likewise, the part of the current that didn't come back where it should have and went someplace else, might be flowing by itself, on a water pipe for example. And you would say that the water pipe has a net current because there's no adjacent wire carrying current to cancel it.

So -- it happens both in homes and in schools. I happen to have it in the house that I live in. The typical way it happens is if you have a water pipe grounding system in your neighborhood, metallic water piping and copper water piping in your home, a number of homes might be served by the same transformer.

So the current that they're using in their homes, when it reaches the neutral point of their electric panel, that neutral point is connected back to the transformer. However, it's also grounded to the water pipe in the house. And so that return current has a choice, do I follow the neutral wire back to the transformer or do I follow the water pipe system. Well the water pipe system doesn't go back to the transformer, but it does go to your neighbor's house. And so it can follow the water pipe system into your neighbor's house where it connects to their neutral point at their panel and then exits back to the transformer that way. The house I live in is the closest one to the transformer, so I collect the net current from the neighbors' houses and it comes into my house as a connection from the water pipe ground to the service entrance. Now in a lot of houses that's no big deal because those two connections are right close together. The house I'm in has an electric panel on one end of the house in one corner. And completely in the opposite corner is where the water pipe enters. So there's a special ground wire connected from the water pipe throughout the house under a bedroom, over a family room before it gets to the other side. And that -- that regularly carries a net current of a couple of amps and

so you get a magnetic field in the vicinity of that in the bedroom above and in the room down below because of that flow of net current.

So that's how it typically happens in a neighborhood. It's also possible to get net current if you have an electrician who has done some things he shouldn't have done in three-way switch wiring for example because he didn't have the right wire and he tried doing something different and it works but it leads to a net current.

In schools it's -- and basically in facilities that need subpanels because they're large. You have a main panel and then you have a need from there that goes to a subpanel that serves a different part of the building, an extension that was built later, those kinds of things. The ground -- the connection of the neutral to ground is supposed to be made only once. Those are made at the service entrance. But when you buy a subpanel and you install it, you have to consciously -- it's made with a neutral ground connection already made and you have to disconnect it if you're adding a subpanel. And a lot of electricians either don't do it or forget to do it or think they're supposed to actually make it. The more connections to neutral ground the

better some people think. But by doing that you create more opportunities for neutral current to find other ways to get back to the source and so they're not following the wires that brought the current there and you're creating net current.

In schools you have more water pipes, you could have, you know, shields of cable TV wires, lots of metallic objects that could make incidental contact with a ground wire or a neutral wire, and there's many different ways that you could have small net currents. They tend to be small currents, you know, a few amps, nothing that's going to burn anything up, but when they flow by themselves, you basically don't have this cancelling benefit of the wire next to it carrying equal and opposite current. It's all by itself. When you have a wire by itself carrying current, the magnetic field around it is circular and it's equal to two times the current divided by the distance in meters. So if you're one meter away and you have two amps, two times two is four, divided by one and you have four milligauss one meter away. So if that's under the floor of a room with your bed above it, you know, that's where you can get above average magnetic fields in a home from a relatively small net current. That's what his study observed quite

a lot of in the California schools.

DR. BELL: Thank you for explaining. Thank you, Mr. Chair, that's my question.

CHAIRMAN STEIN: I was wondering if that question is going to be on the test -- (laughter). Okay.

Let me just ask a question which really is a follow-up and then we'll -- Mansfield Hollow, it's -- the land is the Army Corps of Engineers where you want to go through. What is the status of your request to the Army Corps to make a decision? And when will that decision be made? I mean how does that work because I assume they're listening to others as we're listening to others, but they ultimately have to come to a decision as to whether they're going to allow you to have additional land unless you -- you don't have eminent domain over the Army Corps I don't think -- so how -- where are we in that process?

MS. MANGO: That's a good question. Yes, the land is owned by the Federal Government under the auspices of the U.S. Army Corps of Engineers, who took control of this property for flood control purposes in the late 40's or 50's and hence built Mansfield Hollow Dam. They lease large portions of the property, something like twenty-three hundred acres to DEEP, who

manages it for the state park and the wildlife management area.

CL&P has an easement from the Corps of Engineers, and that's what it, it's an easement, a hundred and fifty feet wide for that approximately 1.5 miles across the two separate segments. So to expand the easement, CL&P had to provide a real estate request for an additional grant of easement to the U.S. Army Corps of Engineers, New England Division. And there's a special real estate branch with whom one deals with for this sort of thing. The real estate branch of the U.S. Army Corps of Engineers in turn must complete its own internal review of CL&P's request. And there's different branches involved. There's an operations branch, who handles, you know, the management of the dam itself and the flood control levy that we span over, and there's other divisions that have to weigh in. So the Corps is doing that internally. At the same time the real estate branch contracts with its own internal environmental evaluation branch, which is a separate branch. And the environmental evaluation branch must prepare an environmental assessment that analyzes the potential impacts of CL&P's easement expansion request.

So we've met with the Corps over the years

about this. We've provided several -- I wouldn't even call them preliminary environmental assessments, but they were sort of like here's our -- here's our data, what do you think, here's what we're proposing. As part of that dialogue, which started about 2008, we have modified the request. For example, originally CL&P wanted to expand the right-of-way by 150 feet to match the 300-foot wide width of the right-of-way that's common along the rest of the project between Card Street and the Rhode Island border. And at that time, very quickly, DEP weighed in and said, you know, you really don't need an additional 150 feet through, you know, the areas that we're using for the park and wildlife management area, why don't you scale back to exactly what you need. And so that's how we came to develop the originally proposed configuration, which was the 11 acres. What that represented was the minimal amount that CL&P had to acquire and vegetatively maintain to support matching structures, which as Bob Carberry will tell you the least cost option. So that's how we came to get our 11 acres.

What we did is we met with the Corps real estate branch and the environmental evaluation branch. We have a person assigned in the environmental evaluation branch who's in charge of preparing our environmental

assessment. We provided the basic data for the environmental assessment and we submitted that to her in draft form back in April. That EA reflected what the Corps asked us to do, which was pick the approximately five acre minimal right-of-way expansion, not the 11 acre expansion which they had, you know, earlier this year told us they did not support, so right now the EA is with the environmental evaluation branch. They will provide us comments back, you know, later this summer. Then we work with them to finalize the EA. It goes to public notice, which is notice like any other Corps of Engineers or regulatory requirement. And then after that, once the EA is accepted and assuming there's no comments, it goes back to within the Corps of Engineers itself and has to be approved by the colonel of the district. And then once that all happens, the real estate branch, who has indicated they are in acceptance -- they basically agree with what CL&P is proposing. There's no technical problems with the easement request, alright. There's no problem with the dam safety, no levy issues, nothing that we know of. But the environmental -- the environmental evaluation branch must provide that EA to the real estate branch before the real estate branch can act.

So, I hope that answers your question.

And one final thing I should say --

MR. FITZGERALD: Well --

MS. MANGO: -- is unusually for a project like this, the Corps of Engineers is a landowner whose property we traverse. They also are the key federal agency for the Clean Water Act Section 404 permit for the entire project. And as a project CL&P and National Grid filed for that permit at the end of May. A different branch of the Corps, the regulatory branch is in charge of reviewing the Section 404 permit. So there are two parallel processes, but obviously the Corps won't let us construct through Mansfield Hollow until they likely issue the 404 for the project as a whole.

MR. FITZGERALD: I think there's one part of the question that you didn't answer, which was what is the current expectation about the timing of when we're going to hear from the Corps.

MS. MANGO: Yeah, I need to get to that, but first I had to explain the different Army Corps branches and how they interact.

Our -- what we currently expect -- and I just spoke to the environmental evaluation branch this week was -- is that we hope to have the EA issued around the end of August and go to public notice in September.

There's a 30-day public notice. We hope that the Corps can then complete the EA process and get like a preliminary approval or whatever they call it internally by the end of the year to the real estate branch. So that's -- that's the current time frame that we're -- we're looking at, some kind of resolution by the end of this year. And we'll know -- if the EA receives no public comment, no major issues, then it's -- it's really just a formality of winding its way through the Corps' internal organization to get the signatures required.

CHAIRMAN STEIN: But we as the Siting Council can't make a decision -- or I guess the question is how can we make a decision until we at least have that preliminary approval? That's not something for the D&M. These are pretty radically different I assume.

MS. MANGO: Well we're hoping to have the preliminary approval, you know, like this fall. After the EA is out to public notice, once that's completed, we'll know right away if there's any push-back on anything. So, I think that we can be fairly confident of a proposed configuration.

MR. FITZGERALD: And in our application and testimony what -- what we've said is that it would be nice if we get a definitive answer from the Corps real

estate division before you have to decide. But if you don't, our first choice would be that the decision and order approve the route, which is the same in both cases, and leave -- and leave to the D&M the choice between the two options or the three options if you wanted to do that.

We -- we felt that the Corps has taken the matching structures option off the table and it's -- it's now a race between the five acre minimal expansion and the no expansion option. So we -- we'd ask that you would approve the project and the route and leave that to the D&M plan.

And then as a fall back we've - we've said well if there's -- if there's no signal from the Corps that you are satisfied with before you render your decision and you're not willing to defer the choice to the D&M, then the only thing to do is to pick one of the configurations, you know, presumably the one that it's felt the Corps is most likely to approve since we can only build what they approve, and we have no condemnation rights. And then if that prediction turns out to be wrong, we would have to come back for an amendment or a reopening.

CHAIRMAN STEIN: Okay. Thank you. Mr.

Golembiewski.

MR. GOLEMBIEWSKI: Thank you, Chairman. I just wanted to ask questions on one matter. Getting back -- not -- not that we haven't talked about it a lot, but that large wetland system between Structures 319 and 322 in Thompson, I had just some questions on where in particular are the Great Blue -- the Great Blue Heron rookeries. And I can see sort of the dead wood areas on your aerial photos.

COURT REPORTER: One moment please.

(pause - tape change)

MS. MANGO: Yeah, my understanding is it's -- it's mostly between 321 and 322, structure -- you know, proposed Structures 321 and 322, and to the northwest of the right-of-way --

MR. GOLEMBIEWSKI: Okay --

MS. MANGO: -- there might be a few birds nesting or using a rookery between -- in the wetland between 320 and 321. I wouldn't rule that out --

MR. GOLEMBIEWSKI: Okay --

MS. MANGO: -- you know, they are -- historically they've been in this area. And I think Mr. Reese in his walk-over noted them on nests in April. And -- and our people who have walked through this area for

wetland surveys in the recent constructability review noted them in this general area as well.

MR. GOLEMBIEWSKI: Now -- now my question to you is do you believe that part of the inaccessibility of your right-of-way is part of the factor why they're in that area? Because my -- my experience is that they find areas where there's not a lot of people.

MS. MANGO: Well there are not a lot of people in the Town of Thompson in this north end -- (laughter) -- in this particular area, and -- I mean I would have to say that ironically of the areas in the Town of Thompson our right-of-way provides the most access.

MR. GOLEMBIEWSKI: What's that?

MS. MANGO: The right-of-way provides the most access, because I think that -- you know, based on the condition of the access roads where they are being used in the upland area, you can tell they're being used. I don't think that Tony Johnson's right-of-way management people are going in here and causing that kind of use that's visible on an aerial photograph. So I would anticipate that this right-of-way is being used by ATVs and, you know, third-parties. So, I mean --

MR. GOLEMBIEWSKI: So -- so you think it's

accessible currently?

MS. MANGO: Well, I -- you know, in the sense of -- to the extent that there's entirely, you know, unbroken tracts of woodland that are accessible, this is more accessible than some of those areas. And I think that one would need to take, you know, the nesting habitats of the birds into effect doing construction. And certainly construction disturbance would be different than a couple of guys going along on their ATVs or late season snowmobilers or something like that.

MR. GOLEMBIEWSKI: So, I -- you're getting I guess to where my questions hopefully are leading. One is their breeding season -- my understanding -- well do you know what the Great Blue Heron breeding season is?

MS. MANGO: I would have to look that up, but I would imagine it's like spring to -- you know, it might be the standard August 1st or it might be a little bit earlier.

MR. GOLEMBIEWSKI: Based on that -- I'll just take that as fact -- would you be able to have some type of seasonal restriction of the activities in that area?

MS. MANGO: That would be something that, you know, I would want the construction people to weigh

in on, but this is a relatively short segment of right-of-way. It is an area where as I mentioned we have to get in from Quaddick Town Farm Road, we would not cross the Five Mile River. But I would think that this could be planned to meet some kind of seasonal timing restriction that would avoid the critical periods in the Blue Heron lifecycle. And to cross this wetland, it might actually be better to cross it in the winter under frozen conditions, which is a fairly standard construction technique for Minnesota, Wisconsin. You know, work in areas where there are a lot of wetlands, they'll go in there in the winter.

MR. GOLEMBIEWSKI: Okay. And then my -- my last question is -- I was a little confused -- is the plan to put in gravel roads in these low areas?

MS. MANGO: No. Right -- well once again, you know, this kind of detail which we've sort of drifted into as a result of Marla Butts' letters, is something that we would typically leave to the D&M plan phase. But I think the concern initially was that Miss Butts was concerned that we'd be putting in layers and layers and layers of timber mats --

MR. GOLEMBIEWSKI: Mmm-hmm --

MS. MANGO: -- to get across these

wetlands to reach our structure sites in the upland inclusion area. And our point is that there is a gravel road, so we would put mats on top of the gravel road at this point in time. The gravel road is about 18 feet wide, the mats are about 16 feet wide I believe, so the idea would be to mat right across the top of the road. Now whether -- whether the construction people believe you have to add more gravel or not, I couldn't say at this point.

MR. GOLEMBIEWSKI: Okay. I mean -- I guess my only concern is that if we made it more accessible afterwards, would the rookeries be adversely affected?

MS. MANGO: Well that's always a potential. I mean, you know, the other option is -- you know, the Blue Herons are not endangered as far as I know, and they would move around. So -- I mean it could become more accessible.

MR. GOLEMBIEWSKI: But I think the rookery location -- they're fairly limited in where they -- where they nest.

MS. MANGO: Yes. I -- I mean, I -- traditionally, CL&P does not like people using their rights-of-way for third-party type of use --

MR. GOLEMBIEWSKI: Okay --

MS. MANGO: -- so this might be an area where one would investigate during the D&M plan phase some types of -- you know, some types of techniques to preclude access --

MR. GOLEMBIEWSKI: Okay --

MS. MANGO: -- you know, except for where CL&P needs to get back in there for a maintenance issue.

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

CHAIRMAN STEIN: Thank you. Senator Murphy.

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

CHAIRMAN STEIN: Mr. Wilensky.

MR. EDWARD S. WILENSKY: Yes. I apologize if this question has been asked prior to my coming here, and I apologize for being late. In Mr. Reese's letter from DEEP on paragraph -- on page 7, the second paragraph down, and the bottom sentence, the benefits of using taller steel poles are also called into question. And the use of H-frame structures compared to steel poles -- in other words, they -- Mr. Reese I think feels that the lower magnetic fields between these two facilities reduce

-- the H-frame structures compared to steel poles would -- has that question been addressed at this meeting this morning? If not, could I get an answer to that?

MR. CARBERRY: I don't believe anyone asked that question this morning. The company's recommendation and focus Area B, after a review of alternatives in the Field Management Design Plan was to build an H-frame line and not a -- not a steel delta line.

MR. WILENSKY: What is -- what is recommended -- the delta pole is recommended or is the H-frame recommended?

MR. CARBERRY: In this area here CL&P has recommended that we build an H-frame line.

MR. WILENSKY: Okay. Because according to this letter, I think the interpretation that he had is that delta poles are going to be used. And pretty much what you've just -- if you've said what you've just said, that would concur with --

MR. CARBERRY: I'm guessing that his comment might have been stimulated by the fact that the Town of Mansfield I think in their recommendation letter had recommended that the -- I'm not sure of the way they phrased it, but I think they were referring to the delta

steel pole line here because it's farm area and they're trying to minimize the footprint of it --

MR. WILENSKY: Okay --

MR. CARBERRY: -- and so I think Mr. Reese was agreeing with CL&P.

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

CHAIRMAN STEIN: Mr. Levesque.

MR. LEVESQUE: Mr. Carberry, there was a few questions about the possible -- the height of the most common tower you're going to use, the H-frames being a little taller than the existing ones. How will the visual impact of those towers be less than the existing ones?

MR. CARBERRY: I didn't hear the last part of your question, sir?

MR. LEVESQUE: It will -- because there's -- you don't have the cable ties on the top of those, will that decrease the visual impact?

MR. CARBERRY: Well --

MR. LEVESQUE: Compared to the existing --

MR. CARBERRY: Well the existing -- the tops of the existing structures have -- you just referred

to them as cable ties or wire ties from the poles down to a cross-arm and also a V-brace between the two poles that also connects to the cross-arm, and in the proposed steel pole configuration of a new line those braces wouldn't be necessary. But the -- you know, the wires themselves are relatively thin. I'm not sure that that stands out very much in terms of visual -- of people's visual sense of what that structure looks like.

MR. LEVESQUE: Well those interior ones between the two poles are those angle steel that are a little bigger?

MR. CASE: Yeah, it's actually a T-shaped steel. It's a couple of inches wide.

MR. LEVESQUE: Yeah. I think that decreases the visual clutter, and since it's the highest spot too.

And then along most of the entire route of the transmission line for all the types of poles, it seems like the proposed poles are right next to the existing poles. Why was it designed like that? And does that improve -- will that make less of a visual impact than having them all different places?

MR. CARBERRY: I'll -- I'll start the response to this and maybe others can chime in. But

certainly it's the starting point in any new line design to put structures of a new line adjacent to those of an existing line. It -- first of all, there's an assumption that the people who built the existing line were relatively smart and put the structures in good places, good upland places as much as they could have --

MR. LEVESQUE: This was for access and avoidance of wetlands and --

MR. CARBERRY: Well -- yes. And so there might be existing access -- remnants of access roads that go to that general vicinity, so it's to -- easier to put a new structure right next to it, a shorter spur to get there to build a new structure. You're also going to have some symmetry in the lines so that these structures being opposite one another, the conductors themselves, the catenaries that they have will have a more symmetrical appearance side-by-side.

So that's the -- you know, the starting point. And then you begin to look at conflicts. For example if the placing of a new structure side-by-side to an existing line structure would put it in a wetland, you know. And next we'll look at how do you get it out of the wetland. And if you are able to move it out of the wetland by moving the structure some distance out of the

way, you know, there's a tradeoff, you've lost some of the symmetry and maybe now you have to build more of an access road spur to this new location than otherwise. So the more you look at other kinds of constraints, the more numbers of structures -- and you saw Mr. Reese suggested a few as well -- some of those suggestions he made could well be to move structures apart that we otherwise had located side-by-side. I haven't checked that for a fact yet, but that could be the case.

MR. LEVESQUE: Okay. And then as far as your project management schedule, if -- if the Siting Council -- and I don't know where it's going to end up -- regarding the crossing of the core lands, if -- if the Council thought their approval should be for the -- you're settled upon the current widest route that has the lowest towers was the best choice and that's how the decision went hypothetically, how -- and then you go ahead and contact the Corps of Engineers with this conclusion, how would that affect your schedule?

MR. CARBERRY: I want to make sure I understand the premise of your question. If -- I think you said if the -- if the Council approved the original proposed configuration --

MR. LEVESQUE: Right, for cost savings --

MR. CARBERRY: -- so the matching structures design, but ultimately the Corps did not, the Corps only approve --

MR. LEVESQUE: Well I'm saying what -- what would you do if the decision was like that?

MR. CARBERRY: Well as soon as we learn the Corps decision, we would have to be coming back to the Siting Council with a request to reopen the proceedings under changed conditions and have a proceeding to see if the Council would approve what the Army Corps would now approve. Some things like that have happened on previous projects. They do add some number of months of consideration to that part of the scope of the project.

And as you see, sometimes in projects we break up development and management plans into portions of the project. So as long as the company was confident that all pieces of the project were ultimately going to be approved, we could go ahead with the construction of some of other part of the project while this matter was still being attended to. Now there's some risk in doing so, and we haven't really discussed that yet, but -- so maybe very little total schedule impact, maybe not.

MR. LEVESQUE: Thank you.

CHAIRMAN STEIN: Attorney Fitzgerald.

MR. FITZGERALD: Thank you. I -- I think in the -- in the past we've found that these post-certification proceedings in coming back for a change have typically taken about six months. And whether that is a critical path item or not, I don't know. We'd have to leave that to them.

But one thing that did occur to me in listening to you today is that, you know, if you wanted to see if you could have some influence on the Corps decision, one way to do that without jeopardizing the project schedule so much would be to do something like Mr. Reese did in your decision and order and say we'd prefer the original matching structures proposal because we believe that the visual improvement outweighs the minimal additional wetlands effect, and then there's the habitat issue as well, and -- but then go on and -- you know, so make the case for it, and then go on and say however we recognize that there's only one decider here, which is the Corps, and so the other two -- you know, the other two options would be, to use Mr. Reese's language, acceptable in the event that the Corps were to certify. So that -- we had a pipeline case once where something like that was done and -- and it worked, the Corps

actually was persuaded by Mr. Gelston's persuasiveness and changed -- changed -- or selected a different route than they were leaning towards initially.

CHAIRMAN STEIN: Okay. Before we break for lunch, I just want to see who of the various parties intends to cross-examine this afternoon just to get a sense. So, I'm just going to go down the list. I suspect most of the parties I name don't even -- aren't even here, but I want to be sure I don't miss anybody. NRG? I don't think -- Mr. Civie, you -- is that -- is that a yes from both of you?

MR. VICTOR CIVIE: Yes.

CHAIRMAN STEIN: Okay. EquiPower Resource? UI? Mr. Bullard? The Office of Consumer Counsel? Richard Cheney and The Highland Golf Course? And the Montessori School?

Okay, so we'll come back at -- we'll be back at 2:00 for the cross-examination. Thank you.

(Whereupon, a luncheon recess was taken.)

CHAIRMAN STEIN: I'd like to call the meeting back into order. You're -- Attorney Fitzgerald, your -- your team is ready for -- I think you've got everybody -- okay --

(mic feedback)

CHAIRMAN STEIN: Now that everybody is awake -- okay. Before we go into the cross-examination, we did have a motion to I guess cancel or postpone the meeting that's scheduled for this Thursday. This was at the I guess request of the Applicant. And I think we sent a notice around to all the parties and I don't believe we had any objections to doing it. Attorney Bachman can --

MS. BACHMAN: Thank you -- thank you, Mr. Chairman. Late last week CL&P had filed a preliminary request for postponement that was basically dependent upon how far we would get today on cross of the need and alternative topic. Given that the Civies are planning to conduct their cross-examination and no other parties or intervenors have any further cross, it would likely be recommended that we postpone the hearing for Thursday. We did receive a letter from EquiPower Resources late yesterday afternoon indicating that they would prefer that we postpone the hearing for Thursday. However, now that Mr. Civie is equipped with the microphone, I would just like to ask his opinion?

MR. VICTOR CIVIE: Well I think we have no alternative from a number of issues, so I'm for it.

MS. BACHMAN: Okay. So hearing no

objections from any of the parties or intervenors, Mr. Chairman, I would recommend that we grant this motion for postponement and continue the evidentiary hearing.

MR. ASHTON: So moved.

DR. BELL: Second.

CHAIRMAN STEIN: All those in favor of the motion, signify by saying aye.

VOICES: Aye.

CHAIRMAN STEIN: Opposed? Abstention? The motion carries.

And we'll now resume cross-examination. Mr. Civie.

MR. VICTOR CIVIE: Prior to this, I have a procedural issue. I signed a non-disclosure agreement with Mr. Fitzgerald, so I'm requesting that Mr. Fitzgerald respectfully release me from this agreement.

MR. FITZGERALD: Yes. I'm in agreement with that. Mr. Civie signed a subscription to the protective order in anticipation of it being entered so that I could give him the information ahead of time, he wouldn't have to wait for it. And that's obviously been overtaken by events now. So there is no protective order to subscribe to and the paper that he signed and gave to me is -- has no effect.

MR. VICTOR CIVIE: Thank you, Mr. Fitzgerald.

COURT REPORTER: (Indiscernible) --

MR. VICTOR CIVIE: Victor. Referring to the document in question entitled Mount Hope Underground Variation Cost Estimate Details, two general questions -- and we discussed some of these questions before -- can you review how these figures were obtained?

MR. CASE: The -- the figures contained within the estimate are a combination of experience in working with contractors, vendors. We've reached out to several vendors and received competitive pricing from them. And some of it is professional experience and knowledge that we've garnered over the years that's gone into this estimate.

MR. VICTOR CIVIE: Also in review, these figures are based on a three underground circuit configuration as opposed to a typical two-circuit configuration, correct?

MR. CASE: It is based on a three -- correct, a three-circuit underground.

MR. VICTOR CIVIE: So if the plan was for two circuits instead of three, would these costs be substantially lower?

MR. CASE: The cost would most likely be lower, yeah.

MR. VICTOR CIVIE: Alright. Moving on down to the actual items, rock excavation, how did you arrive at this figure?

MR. CASE: We -- we established what we would call a typical trench. There was a previous exhibit that was shown during the June 5th hearings that we provided that shows the typical cross-section for the underground duct bank. We've -- in order to accommodate any work space that's necessary in there and the minimum depths required for this, we assumed a minimum trench of six-foot wide by seven-foot deep. That allows enough room for workers to work alongside the conduit. And then what we assumed for rock excavation was -- roughly 15 percent of that total excavation we assumed would be rock.

MR. VICTOR CIVIE: The page you're referring to, was that 15-B3, the picture?

MR. CASE: I'm referring to what was provided to you on June 5th. The -- it's similar to --

MR. VICTOR CIVIE: Oh, the -- the --

MR. CASE: -- the cross-section of the underground conduit, yeah.

MR. VICTOR CIVIE: Alright. Did you dig a test hole to determine the rock content of the area?

MR. CASE: No. We -- in this area these estimates are conceptual. We have not yet done any subsurface investigation. We've assumed 15 percent. That's based on what we've seen in past areas. Frankly, it's probably a little low in this area depending on what the area looks like, but it does look like a rocky mountainous area, so 15 percent was what we assumed as reasonable when we were crossing from -- you know, overall -- an overall percentage of rock throughout the entire route.

MR. VICTOR CIVIE: I have a document from Eastern Highlands Health District indicating the content of one of the test holes in the region. And Mr. Fitzgerald, I do not intend to proffer this document at this time unless you request it. I'm just going to read off of that and ask a question about it, about the information in general.

So what this document indicates is zero to six inches topsoil, six to thirty-two orange brown fine sandy loam, and thirty-two to a hundred gray sandy loam, and no rocks are indicated. If we have test holes throughout this region similar to this, that is no rocks

are indicated, it's basically sandy loam, would you estimate then that this rock excavation cost would be lower?

MR. CASE: With -- with your assumption that that single typical boring would apply throughout the length of the route, yes.

MR. VICTOR CIVIE: Alright, thank you. Moving on down the list, we have fluidized -- fluidized thermal backfill. Can you tell me how you arrived at that?

MR. CASE: The -- the cost for the fluidized thermal backfill?

MR. VICTOR CIVIE: Yes.

MR. CASE: Was -- was based on -- the trench itself requires high strength concrete to cover the entire conduits and cables. Above that is a fluidized thermal backfill. The units that were pulled from that were from previous project experience.

MR. VICTOR CIVIE: Alright. The next item is zero. Can you comment on the item after that?

MR. CASE: Pavement restoration?

MR. VICTOR CIVIE: No, the item after that.

MR. CASE: Plating?

MR. VICTOR CIVIE: Plating.

MR. CASE: Yeah. That's -- that's for plating for covering holes to leave any excavation that needs to end at the end of the day in a safe condition. So we made sure that -- regardless of where that excavation is, you want to make sure that you leave it in a safe condition so nobody is going to fall --

MR. VICTOR CIVIE: Let's move down to contaminated soil testing and disposal. Can you comment on that estimate?

MR. CASE: Yeah. Because when we're excavating this seven-foot by six-foot trench, those spoils because they're being replaced by concrete and a fluidized thermal backfill need to go somewhere. So we have to haul off the majority of or all of the spoils that are pulled from the trench.

There's -- the majority of that is what we consider to be relatively clean, so it can go to a facility that will accept clean fill. There is an assumption of some polluted soils that will need to go to a facility that would accept that at a higher rate. And because we are originally at Mount Hope looking at excavating throughout some agricultural lands where pesticides could have been used, we -- we think that's a

reasonable assumption.

MR. VICTOR CIVIE: Can you tell me where this consideration -- it's a large amount, one-million and three-hundred thousand dollars. Can you tell me a prior proposal where such a large amount of even where this item appeared on a cost proposal?

MR. CASE: Absolutely. The Middletown/Norwalk we had extensive contaminate soils disposal. Even on our GSRP project now, just excavating the soils for the foundations and for the overhead line structures, that excavated soil needs to be removed from the right-of-way in most cases, so --

MR. VICTOR CIVIE: And why is that?

MR. CASE: Well in most cases we don't want to spread it in somebody's yard or --

MR. VICTOR CIVIE: No, but I mean what was -- what is the source of the contaminates?

MR. CASE: Why is it contaminated?

MR. VICTOR CIVIE: Yes.

MR. CASE: That's a broad topic. I'd ask Miss Mango perhaps if she could help on that, but there's a variety of pesticide use throughout the right-of-way --

CHAIRMAN STEIN: Excuse me. Mr. Ashton

would like to clarify.

MR. ASHTON: I have a couple of clarifying questions if I may, Mr. Civie.

MR. VICTOR CIVIE: No problem.

MR. ASHTON: You're using underground construction costs. Are those the costs that were incurred in the Greater Bridgeport area as part of Docket 370 -- 272?

MR. CASE: We used Middletown/Norwalk as a basis for much of our estimates here.

MR. ASHTON: And that is Docket 272?

MR. CASE: That's 272.

MR. ASHTON: Why are the costs in an urban area like Greater Bridgeport, if you'll forgive me, relevant to the relatively open spaces that we're getting here on this line?

MR. CASE: Actually if we did a comparison, where you would see on Middletown/Norwalk police protection, plating, those items are obviously going to be much higher than -- than they are here. So we've actually taken into account the rural atmosphere of this route --

MR. ASHTON: Are you going to need any police protection on this route?

MR. CASE: We -- we do have police protection on here, but it's a much lower amount than what we've seen in the Middletown/Norwalk.

MR. ASHTON: How -- how about contaminated soil? That's again an urban area, it's been worked, reworked, and abused for a couple of centuries, where I think that the applicable ground here is probably virgin soil.

MR. CASE: Yeah. Again, we made an assumption that there is going to be a portion of it that is going to be -- is going to contain pollutants. And what we assumed was that roughly -- that there's -- well a lot of different -- different factors that go into that, but there's potentially some soil that would have to go to a facility that would handle those types of polluted soils.

MR. ASHTON: When you say some, what are we -- what does some mean, five percent, three percent, thirty percent, fifty percent?

MR. CASE: Well we're disposing of all of the soil, all of --

MR. ASHTON: Yeah, I understand the difference with what you're doing.

MR. CASE: Yeah.

MS. MANGO: I think there's two parts to your question. The first part is that before anyone will take any soil these days, they all -- all the soils --

MR. ASHTON: They do samplings --

MS. MANGO: -- have to be tested --

MR. ASHTON: Yeah --

MS. MANGO: -- so even -- you're correct, you know, compared to the Middletown/Norwalk Project where we were doing underground construction beneath streets through Bridgeport, Fairfield, Norwalk, we have different issues, but the problem is that we would still have to do a test -- test all the soils and have a materials handling plan for any underground construction. And then based on the results of your testing, then you would decide where the different soils would have to go. And I think one of the problems we have is in an area where you might have had some historical agricultural use, you may still get some residual heavy metals or something that might have been in pesticides or herbicides or something that was put there. So you can't just assume that it's clean --

MR. ASHTON: Okay --

MS. MANGO: -- but there's no way that you could say with certainty, you know, X percent is clean.

And I think, you know, what Mr. Case is saying is they made an assumption. It's not as though you're in Bridgeport --

MR. ASHTON: Yeah, I'm just trying to find out what the assumption was --

MS. MANGO: Right.

MR. CASE: I'd be happy to -- we -- we've got an assumption of a hundred percent going to a Subtitle D landfill. So that's a polluted soil with -- it meets RSRs, which I would have to dig into that a little bit more and --

MR. ASHTON: Would Mrs. Mango explain what that is please for us untutored ones?

MS. MANGO: You know, I don't have those regulations in front of me. We'd have to check that for you --

MR. ASHTON: Okay --

MS. MANGO: -- because those regulations are complicated --

MR. ASHTON: I have --

MS. MANGO: -- but I would assume that the calculations did not assume that these soils would be shipped say to a Love Canal area --

MR. ASHTON: I have no problem

understanding that you have to check all the soils --

MR. CASE: Yeah --

MR. ASHTON: -- I have no problem understanding that even uncontaminated soil has to be disposed of differently and properly. What I'm questioning is what was the proportion of seriously contaminated soil.

MR. CASE: Yeah, the --

MR. ASHTON: The -- the other -- well go ahead.

MR. CASE: I was going to say we did assume -- and this will be my layman's language, that it will go to a Subtitle D landfill, that's polluted soils greater than a non-detect that meet the RSRs. We did not assume any hazardous soils, which are the more polluted, more as you'd say Love Canal type of soils in a Subtitle C landfill. So it's all a -- you know, greater than a non-detect. You're -- you're going to see some potential --

MR. ASHTON: Okay, I -- I'm not going to flog this to death, but there's something in there that says material contamination, significant contamination. I think in fairness we ought to know what is part of the estimate.

MR. CASE: It -- zero percent of what's been assumed is hazardous --

MR. ASHTON: Okay --

MR. CASE: -- contaminated --

MR. ASHTON: In the same vein were excavation rates, the cost of excavation used in Southwest Connecticut the same rates that were used in this Card Street to Rhode Island line?

MR. CASE: Yes, they were, with the appropriate escalation factors for the cost of labor.

MR. ASHTON: How do you -- that's interesting because the cost of labor in Southwest Connecticut is much higher than it is in Eastern Connecticut. Did your estimates recognize that?

MR. CASE: They utilized the same unions, which pay --

MR. ASHTON: They did what?

MR. CASE: They utilized the same unions, same union scale throughout Connecticut.

MR. ASHTON: Are you proposing this work only be done by union labor?

MR. CASE: We have assumed that this would be done by union labor, yes.

MR. ASHTON: Why? There's all kinds of

non-union contractors in Eastern Connecticut.

MR. CASE: Our -- our assumption was that -- we've typically constructed with union forces. We've had a good relationship. We've established relationships with union contractors and that was our assumption.

MR. ASHTON: Okay, I'll let it go. Thank you.

MR. VICTOR CIVIE: Alright. Getting back to the testing issue, so you haven't performed any of these tests right now, correct?

MR. CASE: We have done no subsurface investigation.

MR. VICTOR CIVIE: Alright. So can you describe the testing process?

MR. CASE: The testing process? What testing process?

MR. VICTOR CIVIE: The process to test the soils, the contaminated soil testing and disposal.

MR. CASE: Well, we would start with -- with -- are you asking how we would test the contaminated soils?

MR. VICTOR CIVIE: To test for contaminated soils.

MR. CASE: We would have a soil scientist

go out and take soil samples and send it to a lab for analysis.

MR. VICTOR CIVIE: Alright. And what -- how much of that do you think that would cost as part of this estimate?

MR. CASE: A few thousand dollars.

MR. VICTOR CIVIE: A few thousand dollars. So I'm still -- don't know where this million three is coming from.

MR. CASE: I can provide you a little further breakdown if that -- if that helps.

MR. VICTOR CIVIE: That would be fine.

MR. CASE: Okay. For hauling earth spoils to a staging, there's -- there's grading costs, grading at the dump with a dozer, there's excavating and loading all the spoils to go out, there's transport and dispose of polluted fill. And that's all at roughly $79.00 total per ton.

MR. VICTOR CIVIE: Alright. And all this is assuming that it goes to that special dump site?

MR. CASE: It's assuming it goes to a Subtitle D landfill.

MR. VICTOR CIVIE: So if it didn't, the cost would be substantially less, correct?

MR. CASE: It would be less if it was not polluted soils. It could get pulled somewhere else, yeah.

MR. VICTOR CIVIE: Alright. Miss Mango, Mr. Case was referring to perhaps -- and you did too to residual pollutants. What herbicides are used right now on the right-of-way?

MS. MANGO: What herbicides does CL&P use?

MR. VICTOR CIVIE: Correct.

MS. MANGO: I -- I have no idea. That would be a question for Tony Johnson from the right-of-way management crew.

MR. VICTOR CIVIE: I see. In regards to residual pollutants, we're talking -- do you have any idea of how long ago or what the duration of these residual pollutants might -- how long they might last?

MS. MANGO: Well I think what we're talking about here is that -- when CL&P takes any dirt out of the ground, even if it's for their overhead lines when they're doing an excavation, they still have to test the soil before they dispose of it somewhere. And the issue that we have is that you really don't know what the land was used for, even before you bought it. I mean in

the old days people used to just take their equipment out in a field and they dumped their oil. You know, there are a lot of things that were done that we now know are not good. For example, along railroads -- and you don't have railroads near your property -- but arsenic was used. So whenever I've worked on projects involving the crossing of a railroad, we always have to test for arsenic, you know, because that's apparently what they used to, you know, keep weeds down from the track bed.

So you really don't know what you have out there, but what we've found, whether it's an overhead line or an underground line, you do have to test the soils. And what typically is involved, following up on what Mr. Case said, is typically CL&P hires a specialized soils, groundwater/laboratory firm. They have people that go out there and they take soil borings. They go to project depth and somewhat beyond. And if there's a chance of encountering groundwater, if they do encounter groundwater, then we have to test for the groundwater as well. So there are really two separate programs. I don't -- I was not involved in the estimate here, so I don't know what was included, but -- for example, the Middletown/Norwalk Project that Mr. Ashton referred to, there was a very big program to do that; the testing of

soils, the testing of groundwater, separate firms involved in each, separate laboratory analyses. The laboratory analyses for a full scale chemical scan, you know, it could run fifteen hundred dollars apiece. I have no idea how many soil samples will be taken here. It wouldn't be every foot of the right-of-way, but it would be, you know, some kind of sampling design, and sometimes it has to be approved in advance by DEP.

MR. VICTOR CIVIE: How long have you had this policy in effect, that is testing the soils in this way?

MR. CASE: We've -- we've had that in effect for quite some time now. I wouldn't know the original start date for when we started testing soils for contaminates.

MR. VICTOR CIVIE: In the year 2000, would you have had it by then?

MR. CASE: It was in place by then, yeah.

MR. VICTOR CIVIE: Alright. Referring to the Bethel/Norwalk Project, Schedule C -- 12-C application dated January 12, 2005, on the Appendix 5-7 you propose 9.4 miles of HPFF line. And in looking at that page, I don't see any column for --

A VOICE: (Indiscernible) -- copies of --

MR. VICTOR CIVIE: I -- I do not.

MR. CASE: We probably would not have broken out contaminated soils as a separate line item in the 12-C application.

MR. VICTOR CIVIE: Alright.

MR. CASE: It's most likely within the cost of the construction --

MR. VICTOR CIVIE: Alright, that's -- that's okay.

MR. CASE: I do know that we did have extensive soil disposal costs on the Bethel/Norwalk.

MR. VICTOR CIVIE: Wouldn't it have been prudent in looking at the differences in the costs of possible contamination and non-contamination to have tested -- at least spot tested the soil first?

MR. FITZGERALD: Objection. I don't understand the question.

MR. VICTOR CIVIE: Well the estimate was for 1.3 million dollars. I would guess that if you're putting this soil into a regular landfill, it would be a fraction of that cost. And yet, you have an estimate for the highest possible cost instead of the lowest possible cost. Wouldn't it have been prudent to find out which applied?

MR. FITZGERALD: Is the question wouldn't it have been prudent to do a soil sampling --

MR. VICTOR CIVIE: Prior to --

MR. FITZGERALD: -- prior to doing a cost estimate?

MR. VICTOR CIVIE: Correct.

MR. CASE: We have various levels of cost estimates as -- as dictated by ISO PP4 guidelines. This would be what we consider a conceptual grade estimate. We do have to make estimates, we do have to understand the order of magnitude costs of projects before we can get out in the field and do further refinements of those costs.

This is a conceptual grade estimate. We assumed -- we have a level of project definition between 15 and 40 percent. We have done no subsurface investigation as you said. That -- that conceptual grade estimate because of the detailed engineering that has not been done has a -- has a range of minus 25 percent to plus 50 percent accuracy ban on it to account for -- just what you say, it will allow us to get an idea of what our costs are at this point before we take that next step and begin further investigation.

MR. VICTOR CIVIE: Thank you. The next

item, clearing and grubbing the access road, another one million dollars for that. As I look at the map and just a general -- at one of the maps that was provided, can you tell me where this clearing and grubbing is going to occur -- at least the clearing is going to occur?

COURT REPORTER: One moment please.

(pause - tape change)

MR. CASE: The -- the clearing and grubbing in the existing right-of-way, that number includes the construction of access roads, 1.1 miles of access roads through this area of wetlands. It's not an unreasonable number and one that we've found to be consistent with our overhead estimate.

MR. VICTOR CIVIE: Okay, so part of this is for an access road. Now I understand in just going the property, the first perhaps half-mile, not quite that long, until you get to 192, it's going through CL&P land, which is flat field, and it's going through someone using the land -- still another field, a farmer using it for the field. Would you need an additional access road through there?

MR. CASE: We would need to build an access road through there. The -- the farmer's field would not provide an adequate base for concrete trucks,

for excavators --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CASE: -- for the type of construction equipment that we're required to bring in.

MR. VICTOR CIVIE: So the access road that's there now will meet your standards. Is that what you're telling me?

MR. CASE: It -- it would require improvements even under the overhead alternative.

MR. VICTOR CIVIE: Mmm-hmm. Going -- so can you identify any spot where there's going to be clearing and grubbing?

MR. CASE: I would say all up the hill from Storrs Road to the west.

MR. VICTOR CIVIE: And why would you need clearing and grubbing there?

MR. CASE: Because there's -- there's trees, there's brush, there's stumps that need to be removed out of there.

MR. VICTOR CIVIE: So you're suggesting then that trees need to be cut?

MR. CASE: There would be -- there are -- there would be some vegetation clearing.

MR. VICTOR CIVIE: If we take your cross-

section on 15B-3, this is going back to the underground variation, what it indicates is that the underground configuration can be put right in the road that's already been cleared, correct?

MR. CASE: It would be able to fit within the area that has been cleared of large trees, but -- I know you're very familiar with that right-of-way, and it is very well overgrown. Clearing and grubbing is really taking a mowing machine in there to prune down all of the overgrown brush that has come up.

MR. VICTOR CIVIE: So not necessarily taking down stumps, but taking down the brush and things of that nature, clearing it out and making sure that the access road is acceptable --

MR. CASE: Correct --

MR. VICTOR CIVIE: -- is that -- is that correct?

MR. CASE: Yeah.

MR. VICTOR CIVIE: Alright. And you feel you need one million dollars for that?

MR. CASE: We feel that that's a reasonable estimate absolutely, particularly based on what we've been seeing on access roads anywhere, particularly when you start adding in matting

requirements. It's not very far off of where we're seeing our overhead line construction. And this would be a much more substantial road. It would require end-to-end construction of an access road that would require, you know, full-time access going forward from transition station down to transition station. It would be more than what would be required for an overhead line.

MR. VICTOR CIVIE: The equipment you have proposed then in regards to the access road -- I mean I'm familiar with some of this equipment and they could get into just about anything. In regards to justifying the one million dollar cost are you suggesting then that you don't have that same amount of equipment or you're using different equipment? What -- what particular equipment do you need that can't use the road right now?

MR. CASE: I would --

MR. FITZGERALD: Excuse me. What equipment do they need that can't use --

MR. VICTOR CIVIE: Right, that can't --

MR. FITZGERALD: -- the existing --

MR. VICTOR CIVIE: -- that can't use the existing access road.

MR. CASE: There's -- along the existing access road that runs up that hill there's no way that a

concrete truck can get up there now. There's no way that the cable low-boy vehicle that's hauling a reel of this cable that's 30 pounds a foot, and probably about 2,000 pounds of it, up that 15 to -- 12 to 15 percent slope. And not just the construction of the underground line, but again this is going to be required for permanent maintenance of the transition station. It would require people to access that transition station on probably a weekly basis.

MR. VICTOR CIVIE: Mmm-hmm. Alright, moving along, engineering, permitting, you have nine million dollars scheduled for that. Can you discuss that?

MR. CASE: Yeah, we -- we have to take assumptions again based on prior project experience on the costs for the engineering, construction management, permitting, siting support, legal support, environmental support, to site, engineer, and build a project. So we base that on percentages of construction, and that's -- that's roughly -- I'll have to double check on the exact numbers, but it's in the 10 to 15 percent range, which is -- is entirely reasonable for a project of this size magnitude.

MR. VICTOR CIVIE: For one mile?

MR. CASE: Yes --

MR. VICTOR CIVIE: -- of underground line -- alright. I would appreciate it if we did get Schedule 12-C.

MR. CASE: Yeah. If I can just go back to your point on the one-mile? If we were building just one mile, that would be true, but what we're working on right now would also have to be considered within that one mile. We are building a 36-mile project --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CASE: -- and those costs for the engineering get supported throughout the cost of the project. So it's not just allocating those costs. There are some costs that are shared among the entire project that have to get put in there as well.

MR. VICTOR CIVIE: Alright. So these costs don't particularly pertain to this project, some of them do -- a portion of them do and some of them don't basically is what you're saying. It's allocated throughout the project?

MR. CASE: We have to allocate -- yes, we have to -- and when we recover rates, we have to allocate all of our costs into the assets that they've gone to help build.

MR. VICTOR CIVIE: Alright. Escalation. When you're talking about the Middletown Project and can you tell me when or what dates you're looking at as far as the Middletown Project in regards to obtaining these costs, roughly?

MR. CASE: The procurement effort for Middletown was probably in the 2006 time frame, construction in 2007.

MR. VICTOR CIVIE: 2007. So you're saying '06, '07 is when you obtained these particular costs?

MR. CASE: Correct.

MR. VICTOR CIVIE: Are you familiar with the prices of aluminum and steel? That is are you aware that aluminum steel reached its highest cost in about 2007, 2008?

MR. CASE: I am aware of that.

MR. VICTOR CIVIE: So if aluminum steel were lower today than that time, these estimates might be lower?

MR. CASE: What we've done -- we would construct this out of copper -- the cable would be copper and not aluminum. The steel that we have quoted in here is based on recent prices. We have gone out to vendors for the price of the cable. We've gone out to four

different vendors. And this is where we're getting into our concerns with confidentiality. We received unit pricing from four different cable vendors --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CASE: -- at the time that this estimate was made. We selected the lowest of those four vendors to utilize for our construction unit pricing.

MR. VICTOR CIVIE: Going back then, let me add copper to the list then. So copper was at its high in 2007 and 2008 also, correct?

MR. CASE: I'll have to trust you on that, I'm not sure --

MR. VICTOR CIVIE: Alright --

MR. CASE: -- I know copper has been -- still going up --

MR. VICTOR CIVIE: That's fine. But what you're saying is then that part of your quote then was not escalated?

MR. CASE: Well when -- when we say escalation, I think we need to clarify. We have not been -- what we've done is we've rebased lined our estimate in 2011 with reaching out to the various vendors, to reaching out to contractors, utilizing the experience that we're gaining on GSRP with contractor installation

costs. So these numbers that you see here, take out the escalation, those numbers are 2011 numbers. What we are escalating is we have to assume that -- you know, we don't know what the price of copper is going to do between now and two years when we may be constructing this. So we do -- we have to assume a certain amount of escalation that's going to continue. We've assumed -- we've estimated in 2011. We're taking these dollars out to the year of spend and we're escalating them at three percent a year.

MR. VICTOR CIVIE: It's possible then it could go down as well if prices go down and labor is cheaper?

MR. CASE: We -- we've got -- it's possible. We've -- we've run these escalation rates through our -- we have a forecasting group within the company. We've also use Handy Whitman Indexes to see where they -- you know, the global market to see where prices are going to continue to rise.

MR. VICTOR CIVIE: Transition station construction. We've discussed the different possibilities for transition stations. What this price I'm assuming -- there was this one page that you had in the application describing the station itself. The cost

is based on this page? That is I'm assuming this is not based on those pictures of the H feed at that line?

MR. CASE: That's correct. We've -- we've estimated what we are proposing in this option.

MR. VICTOR CIVIE: Alright. And these transition stations were based on what we discussed prior to that, three circuits, the extended 3K bus with a switching --

MR. CASE: Correct.

MR. VICTOR CIVIE: Alright. So going back then again, if we were only doing two circuits and limited 345-k, these costs would be a lot less?

MR. CASE: You would have less equipment and your costs would be -- would be lower. I don't know if I would categorize it as a lot, but it would be less.

MR. VICTOR CIVIE: Alright. In regards to contingency, you have 8.7 million for contingency. Can you explain that?

MR. CASE: Yeah, we've -- we've assumed contingency based on our direct costs. These are to account for what we've seen to be occasions that crop up that in any project are hard to estimate, hard to account for, but you always have issues that crop up. We've estimated contingency on this at roughly 15 percent of

the direct costs, a little bit less. And that is consistent with typical industry practice for an estimate of this grade.

MR. VICTOR CIVIE: Alright. In regard to contingency then -- where have you used this before?

MR. CASE: Where have we used contingency?

MR. VICTOR CIVIE: Yeah.

MR. CASE: On every single project that we've ever constructed has had to utilize some level of contingency. That may be a broad statement, but --

MR. VICTOR CIVIE: Alright --

MR. CASE: -- we're always running into issues in the field that you just wouldn't imagine that require contingency.

MR. VICTOR CIVIE: Of eight million dollars?

MR. CASE: It's based on a percentage of construction, and this is a lot of construction going on.

MR. VICTOR CIVIE: Alright. I really want to go back to Schedule -- to the Schedule 12-C application dated January 12, 2005. Can we get that? And let's look at Appendix A, 5 of 7. This is the cost for the underground 9.4 mile line.

MR. CASE: Okay, I see it, yeah.

MR. VICTOR CIVIE: Where is contingency on that?

MR. CASE: Contingency has been pulled into -- at the time that a project is built contingency has been put into the assets. So it's baked in there. If I were to take a look at the estimate that was provided prior to this being built, there would be contingency in there, and I would be pretty sure that some of that contingency has gone into all of these line items.

MR. VICTOR CIVIE: So you don't see though a separate item for contingency on there?

MR. CASE: Not after a project is built, no.

MR. VICTOR CIVIE: No. Just taking a look at that 10 miles, what was the engineering and administrative costs for the 10 miles of cable?

MR. CASE: It looks like about 10 percent -- a little bit less than 10 percent.

MR. VICTOR CIVIE: Alright, about 10 percent --

MR. CASE: Yeah --

MR. VICTOR CIVIE: -- of the total costs.

So if this cost was a lot less -- let's say that we had a proposal -- you could do this for 10 million dollars, then you're saying that the engineering and administrative costs would only be 10 percent of that, a hundred thousand -- or I'm sorry -- 10 percent of 10 million, so one million?

MR. CASE: In this case yes, but our -- our estimate assumes it's around 13 percent.

MR. VICTOR CIVIE: Mmm-hmm. And we're taking this -- so -- we're also planning on -- in -- well in regards to the contingency then, basically the engineering since we're doing a flat 10 to 15 percent of the board, we're basing our engineering and permitting on that contingency -- or that contingency? You have a total, the total -- that contingency is part of the total. So basically we're saying -- what you're saying is that the engineering and permitting is going to be 10 percent of the contingency as well?

MR. CASE: I don't think --

MR. VICTOR CIVIE: Well can you -- can you tell me where again -- how you arrived at the engineering and permitting?

MR. CASE: Well in this case it was again based on actuals. This was after a project was built or

nearly completely built --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CASE: -- so what they were able to do was, you know, account for any charging through the work order system that engineers and lawyers and various administrative personnel charged to that particular work order and spread it among the -- among the assets. So this is an actual. This was not based on a percentage, but this is how we base future estimates.

MR. VICTOR CIVIE: Mmm-hmm. Alright. So what we're looking at then for the contingency -- just to -- just to finish this off then, it's 8.7 million dollars. Basically, it's derived on a percentage of the total -- a percentage of what your total estimate was. And the question I asked then is if that total estimate was a lot less, the contingency would be a lot less.

MR. CASE: Was there a question?

MR. VICTOR CIVIE: Yes.

MR. FITZGERALD: That's a question --

MR. VICTOR CIVIE: That's a question.

MR. CASE: Yeah.

MR. VICTOR CIVIE: Alright. So if the estimate, the total estimate of 65 million dollars was let's say 10 million dollars, your contingency would be a

lot less, correct?

MR. CASE: Yes.

MR. VICTOR CIVIE: Alright. Why would the underground costs not be regionalized?

MR. CARBERRY: ISO New England in the transmission cost allocation process for regionalizing costs in New England looks at something called good utility practice, and they -- they have set some precedents in previous rulings in this regard. So they're looking to see that a project has been designed and built in a lowest reasonable cost way, practical and feasible way. And if they find in the examination of a cost allocation application that a project has been built more expensively than it could have been built, they localize the difference. If underground -- building something underground when it could have been built overhead was the cause of it being higher in costs than it could have been built overhead if it was practical and feasible to build overhead, that difference spent on underground would be localized. So it isn't the fact that it's underground per se that makes it localized. It's the fact that it's anything you do to make it a higher cost project than it was -- than you could have done in a practical and feasible engineering way.

MR. VICTOR CIVIE: How long were these directives in place, that is this process in place? Was it -- this process in place, the regionalization process the same methodology used in the Bethel/Norwalk Project?

MR. CARBERRY: It certainly was in place. I don't know if any -- if any of its rules have changed since then, but the basic process was in place at that time. And Bethel/Norwalk is one of the first projects to see a large localization of its costs.

MR. VICTOR CIVIE: How does the regionalization affect the taxpayer? That is how does the -- where does the money come from?

MR. FITZGERALD: Excuse me --

A VOICE: Taxpayer?

MR. VICTOR CIVIE: The Connecticut taxpayer.

MR. FITZGERALD: Taxpayer, not -- not ratepayer -- electric consumer.

MR. VICTOR CIVIE: Right, ratepayers.

MR. CARBERRY: Well the -- using the Bethel/Norwalk Project as an example, the portion of the project costs that were regionalized, and I don't recall the exact number, but it was approximately two-thirds of the total costs were regionalized, Connecticut electric

consumers ended up paying 27 percent of the total cost of the project. And all of the remaining electricity users in New England are paying the rest.

MR. VICTOR CIVIE: Alright. And how does that work? Where does that money come from?

MR. CARBERRY: It comes from everyone who pays an electric bill throughout New England.

MR. VICTOR CIVIE: Alright. So --

MR. CARBERRY: And --

MR. VICTOR CIVIE: -- what you're saying -- go ahead, I'm sorry.

MR. CARBERRY: I was just going to say the part that is regionalized is paid -- is taken care of that way. If ISO declares that some portion of the project should be localized, as they did in Bethel/Norwalk about a third of the costs, they are basically saying that they are not willing to make the other states pay a share of the costs -- a share of that localized cost --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CARBERRY: -- and then it falls to, you know, a process involving a state as to how those costs should be recovered, should they be recovered in this case just from CL&P ratepayers, should they be

recovered from all ratepayers in Connecticut, or what else. And I think in Bethel/Norwalk's case they ended up being recovered from all ratepayers, all electricity users in Connecticut regardless of whether they were CL&P customers or not. I don't know if that's a decision that will be the precedent for the next one or the next one, but that's what was -- that's what happened with that case.

MR. VICTOR CIVIE: Okay. That's not really what I was asking. So basically you as a company, you're ready to start construction -- or you've started the construction and you need to get paid, you need to have funds. What -- what -- 27 percent is coming from the state. We have another 73 percent though that's coming from someplace else. Where is that coming from? How -- how are you obtaining that money?

MR. FITZGERALD: Excuse me. You're asking a question about the flow of funds, not ultimately who ends up with the ultimate responsibility for paying it, but how do they finance the construction --

MR. VICTOR CIVIE: Correct --

MR. FITZGERALD: -- and then -- and then collect the cost of it?

MR. VICTOR CIVIE: No, what I'm -- well

basically what I'm asking is how do they collect the cost of it, that 73 percent, where does that money come from?

MR. CARBERRY: There's a -- there's a transmission rate assessed against all ratepayers in New England --

MR. VICTOR CIVIE: Including Connecticut. So Connecticut's -- even though we're only paying 27 percent, we pay again for that 73 percent as well?

MR. CARBERRY: If there are localized costs -- Connecticut pays not only their 27 percent share of the regional costs, but they pay 100 percent of the localized costs. Connecticut's ratepayers will be paying that part and the other states -- everyone in the other states in New England would pay none of it.

MR. VICTOR CIVIE: But in addition to that as you said, the 73 percent has to be funded as well. And so all of New England is paying for that other 73 percent.

MR. CARBERRY: Oh -- so if the -- let's take an example where the whole project was regionalized --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CARBERRY: -- alright -- yes, Connecticut ratepayers would pay 27 percent --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CARBERRY: -- and ratepayers in the other states are paying all of the rest, the other 73 percent --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CARBERRY: -- likewise if Maine builds a project, their ratepayers pay approximately nine percent, and I don't know if that figure has changed recently --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CARBERRY: -- and the rest of New England is paying the remaining 81 percent. That's what regionalized means. We're -- it's a New England sharing of costs of transmission that's built for reliability projects.

MR. VICTOR CIVIE: Right. So the taxpayers then -- or the ratepayers are paying first of all the 27 percent. And then they're paying something extra to contribute to that 73 percent?

A VOICE: No --

MR. TAIT: Can -- can somebody -- this is just going nowhere because I don't think Mr. Civie understands the problem. Can somebody lay it out clearly?

CHAIRMAN STEIN: And Dr. Bell also wants to try to help out.

MR. TAIT: I don't want to try to help out, but this is going nowhere.

MR. VICTOR CIVIE: Alright, so I -- I guess my question is then that 73 percent, where does that money come from? How does that extra 73 percent get paid?

A VOICE: The rest of New England --

A VOICE: Everybody --

MR. VICTOR CIVIE: Right -- well -- and that's what I said --

CHAIRMAN STEIN: It's been answered --

MR. VICTOR CIVIE: -- but he's saying no, including Connecticut --

MR. CASE: Connecticut's portion is the -- is the 27 percent --

A VOICE: (Indiscernible) --

CHAIRMAN STEIN: Of the hundred percent, the whole pie, Connecticut pays 27 percent, and the rest pay the other -- no?

A VOICE: (Indiscernible) --

MR. VICTOR CIVIE: Right -- no, I understand that, but then -- then we still have that 73

percent --

A VOICE: No, we don't --

A VOICE: Yes, you do --

A VOICE: (Indiscernible) --

MR. VICTOR CIVIE: Right, all the other --

A VOICE: (Indiscernible) --

(multiple voices in background, mics not turned on, indiscernible)

MR. VICTOR CIVIE: Right -- okay --

A VOICE: (Indiscernible) --

COURT REPORTER: Microphone --

MR. VICTOR CIVIE: Are we all set or can we --

MR. MURPHY: The 27 percent paid by Connecticut is 27 percent of the 100 percent of the project that is regionalized. Maine pays 9 percent of that --

MR. VICTOR CIVIE: I understand that.

MR. MURPHY: So Connecticut effectively pays -- its ratepayers pay 27 percent of this project if approved total costs that's regionalized --

MR. VICTOR CIVIE: No, I -- and I understand that --

MR. MURPHY: -- it's not 27 and then

sharing in the other 73.

MR. VICTOR CIVIE: That's not -- alright -- and I understand that also --

MR. MURPHY: Okay --

MR. VICTOR CIVIE: -- but that's not the point I'm trying to make, but in the interest of time, I'll move on --

MR. CARBERRY: Let me -- let me just try to use a simple example. First of all, the transmission rate --

MR. FITZGERALD: He's moving on. There's no question pending.

MR. VICTOR CIVIE: Alright. In regards to your experience as far as regionalization goes, has there been a time where CL&P predicted non-regionalization or regionalization and CL&P was wrong?

MR. CARBERRY: Let me understand your question. Have we predicted in a proceeding like this that certain costs would be localized?

MR. VICTOR CIVIE: Yes, or regionalized, and that turned out to be --

MR. CARBERRY: And that turned out to be wrong?

MR. VICTOR CIVIE: Correct.

MR. CARBERRY: I don't know how to answer that. No one -- in the Bethel/Norwalk case we really didn't have experience yet with the transmission line cost allocation process. There really wasn't a precedent set yet on underground. We -- certainly when we went into the transmission cost allocation asked for 100 percent regionalization, and we did not get that, alright --

MR. VICTOR CIVIE: Mmm-hmm --

MR. CARBERRY: -- so I don't recall whether in the Connecticut Siting Council proceeding we made a prediction as to whether we'd be successful or not. But based on that precedent, I think every time we've been in a siting proceeding since, we've said that our expectation about regionalization and localization would be matching previous precedents.

MR. VICTOR CIVIE: Alright. Back to the Middletown/Norwalk Project then, I believe only five percent of that was not eligible for regionalization?

MR. CARBERRY: I forget the exact total, but there was some amount that was localized.

MR. VICTOR CIVIE: If you could take a look at Question 5 of my interrogatories, No. 1, what you have listed there was five percent.

MR. CARBERRY: Which set of interrogatories?

MR. VICTOR CIVIE: The first set.

CHAIRMAN STEIN: Could we -- we have a couple of -- Senator Murphy.

MR. MURPHY: My suggestion really is on regionalization and what's considered gold plating, if ISO appears in this thing, you can ask them those questions. You'll probably get, you know, a definitive answer from them.

MR. VICTOR CIVIE: I'll wrap it up in two minutes.

MR. MURPHY: Thank you.

MR. CARBERRY: Your question on No. 5 again was?

MR. VICTOR CIVIE: Question 5, Interrogatory 1, the Middletown/Norwalk Project, five percent was non-regionalized.

MR. CARBERRY: Five percent. Yes, that's what it says.

MR. VICTOR CIVIE: Alright. And there was a very large underground project in the Middletown/Norwalk, correct?

MR. CARBERRY: Yes.

MR. VICTOR CIVIE: One of the largest. So if that was regionalized, why wouldn't this one be regionalized?

MR. CARBERRY: That was regionalized because they compared it to other feasible and practical alternatives and found that in the portion of the project where the line was built underground, that for the most part there were not feasible and practical alternatives to doing so. There was not adequate right-of-way available and the acquisition of sufficient right-of-way to build the overhead line would have been -- or made that project more expensive, or at least as expensive as the underground alternative. I don't think that was true for a hundred percent of the underground route, subject to check. I think if you read the decision, some portion of the project they -- they deemed could have been built overhead and they regionalized -- excuse me -- they localized a small portion of the underground. But that's an example of just comparing costs. If you built the more expensive one than you could have, they're going to localize the difference. In Middletown/Norwalk's case that was a relatively small difference for what they did for underground. To the contrary in Bethel/Norwalk's case there was -- they deemed it to be practical and

feasible to build the entire project overhead. And because any of it was built underground, all of that contributed to localized costs. A more substantial percentage in that case.

MR. VICTOR CIVIE: Mmm-hmm.

MR. CARBERRY: When do those comparisons to this case here, right away there's plenty wide enough to build an overhead line. It's quite clear that any additional cost spent to underground a line when it's very practical and feasible to build it overhead would be localized.

MR. VICTOR CIVIE: When -- moving on now -- I promised I'd wrap this up, so just one more question in regards to the environment. In the application identified are serious risks to native birds, specifically referencing transmission lines with blinking lights for aircraft warning purposes. Miss Mango, are you familiar with that section? Volume 4, page 15.

MS. MANGO: I would need to take a look at -- it's Volume 4?

MR. VICTOR CIVIE: Mmm-hmm. Page 15.

MS. MANGO: Let me just get the reference -- (pause) -- so you're in Volume 4, the environmental volume. Are you in Exhibit 1, which is the Green Urn

Report or what --

MR. VICTOR CIVIE: It references the Connecticut State -- well, the Connecticut State of Birds Report 2007. It's an Audubon reference.

MR. FITZGERALD: Do you have a copy of the page in front of you?

MR. VICTOR CIVIE: I don't have a copy of the page. I just have a copy of the quote from the page.

MS. MANGO: Yes, this -- this part of the breeding bird inventory is summarizing a Connecticut State of Birds Report from 2007, which was I think published by the -- published by the Audubon Society. And each year they do a different analysis of things that are important to preserving native birds. And in 2006 they focused on habitat lost. And then in 2007 they describe secondary effects, like glass strikes, cats, interference with tall structures. And they do cite cell towers and transmission lines with blinking lights. And then they focus on conservation strategies for six species that were in decline.

MR. VICTOR CIVIE: Would CL&P's position be then -- well does CL&P agree with the serious risk to native birds and again blinking lights for aircraft warning?

MR. CASE: I'd actually just clarify that the FAA determinations in these areas were for steady state low intensity lighting and not blinking lights.

MR. VICTOR CIVIE: Alright. But in regards to blinking lights then, CL&P does not promote those for this particular project, correct?

MR. CASE: We would -- we would do whatever the FAA directs us, but right now they're telling us to put in steady state low intensity blinking - or low intensity steady state lights.

MR. VICTOR CIVIE: Okay.

(pause)

MR. VICTOR CIVIE: Alright. Just one more question. In regards to bird strikes from transmission lines and lights in general, it would be safer if the transmission lines were put under ground than over ground for birds?

MS. MANGO: Well I'm not sure that we could totally say that. We don't have much trouble in the northeast with the types of bird strikes that you have issues with out west where the transmission towers are often the tallest point and you have a lot of raptors with very wide wing spans using them as perches and ruse for hunting. I think that, you know, the Audubon -- the

Connecticut Audubon has actually come out in favor of this particular --

MR. TAIT: Excuse -- excuse me. I thought the question was if it was buried underground would you have bird strikes.

MS. MANGO: Well I guess -- I'm not sure that we have a problem with bird strikes is what I'm saying --

MR. TAIT: That wasn't the question. The question was --

MS. MANGO: Alright. Then I guess the answer is no, we don't have a problem with bird strikes.

MR. TAIT: Thank you.

MR. CARBERRY: Except that the transmission stations are aboveground.

MS. MANGO: Right.

MR. VICTOR CIVIE: Alright. Thank you.

MR. RICHARD CIVIE: This is Richard Civie. Are you saying that bird strikes don't happen with electric transmission lines?

MS. MANGO: I'm not saying they don't happen at all --

MR. RICHARD CIVIE: Okay --

MS. MANGO: -- I'm saying that in the

Northeast we don't have as much of a problem as they do out west with overhead lines --

MR. RICHARD CIVIE: Okay --

MS. MANGO: -- but overhead -- it's an overhead structure issue. For example, you know, the wind towers have a big problem with bird strikes and killing bats. We don't have that kind of issue as I understand it from the CL&P system.

MR. RICHARD CIVIE: Okay. No more questions.

CHAIRMAN STEIN: Thank you. This concludes today's evidentiary hearing. As I mentioned before, the Thursday hearing has been postponed. And the next evidentiary hearing dates have been scheduled for Tuesday, July 31st this year, and also Thursday, August 2nd of this year.

The Council further directs that all testimony and exhibits be prefiled with the Council by all parties and intervenors by July 17th of this year.

Thank you all for your participation and please drive home safely.

(Whereupon, the hearing adjourned at 3:08 p.m.)

HEARING RE: INTERSTATE RELIABILITY PROJECT
JUNE 26, 2012

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