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CONNECTICUT LIGHT & POWER COMPANY
AND UNITED ILLUMINATING COMPANY

JUNE 1, 2004
10:20 A.M.

APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION OF A NEW 345-kV ELECTRIC TRANSMISSION LINE AND ASSOCIATED FACILITIES BETWEEN THE SCOVILL ROCK SWITCHING STATION IN MIDDLETOWN AND THE NORWALK SUBSTATION IN NORWALK, CONNECTICUT

DOCKET NO. 272

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. . .Continued Verbatim Proceedings of a hearing before the State of Connecticut Siting Council in the matter of an application by Connecticut Light & Power Company and United Illuminating Company, held at Central Connecticut State University, Institute of Technology and Business, 185 Main Street, New Britain, Connecticut, on June 1, 2004, at 10:20 A.M., at which time the parties were represented as hereinbefore set forth. . .

CHAIRMAN PAMELA KATZ: I just have a few opening remarks. And then we're going to go into the Applicants' presentation. This is a continuation of Docket 272, public hearing.

And I'd just like to say something about the new legislation that passed in the legislature. This Council will thoroughly explore whether Segments 1 and 2 can be entirely underground as is our legislative mandate.

However, testimony may lead us to believe at some point that it has to be partially overhead and

partially underground. At this point, we don't know if partially underground is one mile or 44 miles. And I don't think we're going to know that this month.

But we do invite all parties and intervenors to submit to us briefs on how they interpret the new legislation. And I encourage briefs, if possible, and not motions.

I guess I'm going to start with a request to everybody in this room. Help us understand what the best route is in Segments 1 and 2. Help us understand what you think the most sensitive parts of the route are both from the point of view of people and flora and fauna. That way, when the Council does finally get an indication of how much this line can be underground, we know where to prioritize that undergrounding.

You know, the Council is going to decide how this final painting looks. But everybody in this room has been issued a paint brush. Please use it to help us determine this.

You know, when the basketball teams won the national championship, there was one song they kept playing over and over again at every victory rally. And that was "Simply the Best". Okay? And that's what this Council wants to do. We want simply the best route for

this transmission line.

And I ask you to start June with new energy and new focus on helping us see what the best route is for this line through your attorneys, through your Cross Examination of witnesses, through your Direct testimony. And, please, use that paint brush with alacrity.

We're going to start this hearing with a presentation by the Applicant, an audiovisual presentation. They are going to have that available for Cross during the rest of the day. So if you see a certain slide that you want to ask about, take a note of it and you can bring it back through Cross Examination.

After that, we will do -- the Applicant will verify some new exhibits and we'll take up some procedural matters.

MR. JOHN PRETE: Good morning. My name is John Prete. I'm Project Director for UI. And on behalf of both Applicants and Bob Kosowitz, a colleague, also Project Director for NU, we're here to, in the Chairman's words, at least paint the picture. We'd like to walk through, quite frankly, where we've been for the last 24 months to arrive at the application that was submitted in October. Anne and I will go back and forth so that you

don't get bored with my voice, certainly.

So here it is. We're going to jump into it. The Chairman said be as expeditious as possible. And we'll do that.

Al?

So, quickly, as an overview, you can see we have kind of four segments. What we want to do is summarize the process we use. And, again, that's kind of taking you back 24 months. And we'll page through very quickly. Then we're going to review the transportation corridors, as we're calling them, showing the highway, the parkway and the rail. I will do the highway. Anne will do the parkway. I'll come back and do the rail. And then Anne will do -- which is 3 and 4. Then we'll have a high-level look at the Segments 1 and 2.

We're going to do this by way of some photographs which I think are pretty telling. They're very telling as we begin to relook at the 45 miles.

Al?

So what we started 24 months ago really is in this first slide. And this has been in our testimony. It talks about what needs to be done. And, clearly, what this slide needs to say is you have to establish a source. And, indeed, that's what it is. And the Beseck

area where we talked about in Wallingford, we talk about the best strong source. That's in the No. 1 area, that square.

And then what you need to do is you need to connect that source, that strong source, almost like an extension cord, into the intermediate terminals, which we call East Devon Substation, Singer Substation, then on its way to the terminating Substation in Norwalk.

Al?

Once we determine the four points, again, the two terminating points and the intermediate points, what we did is we launched with Burns & McDonnel a separate entity, a separate exercise. What we said is connect the points. Go from each of the four points separately overhead, separately underground, independent.

And as we did do, we looked again at the two criteria that are put below. We said, "This is your guideline, Burns & McDonnel." You've got to -- first of all, it has to work. And that's the system reliability, system benefit. That's on the bottom of the slide. And it has to be feasible. You've got to be able to build it, engineer it so that it does work.

And then, of course, all the impacts that we as applicants are under the guidelines, things like

the property impact, the environmental impact, cost to customers, safety and public health. And those are all in.

So that's what we have asked. Separate, very separate, distinct exercises for those intermediate points or four connection points.

And then, finally, as we have then all of the number of routes potentially identified, we said, "Okay. What is the best route?" And certainly one thing that came to mind a year ago, a year ago as we began, Anne and I, to go to the CEO's, all-underground was not technically feasible. So even though we had routes, we again then had a blend of what was realistic in life.

So this is a process we use. And we'll go through this as we cycle through the slides.

Al?

So, again, on a bigger scale, what needed to be done is in the one area, the SS, as you see it in the upper right, we needed to establish really a best strong source.

Mr. Emerick, you had a good question in March, dialogue with Mr. Zak, in what is a best strong source. And I believe the testimony, what was stated is it has to be tied in to rich generation. Right? That

supply has to reach where the load is. And that's southwest Connecticut.

And in that discussion, I believe the strong source was defined as a substation or hub that has at least three lines. Why three lines? Well, very simply, if you had two, as Mr. Zak had explained, and you're doing maintenance or any on one of those lines and you had a contingency, you would cease to have a strong source. You would cease to have an energy supply.

So Mr. Zak had testified that you need three lines at least. And beyond that, the more lines, the better.

And that's what we had developed in kind of that first barrel with the lightning book. That is the Beseck Substation. We have a number of lines going into that hub. And then, of course, we're on our way to East Devon where we know there's a lot of reliability problems with getting generation on 345. Then we get to Singer Substation. Very similarly, generation is getting tied to the 345. Huge fault current problems, short-circuit problems in Bridgeport, the Pequonnock Substation. And then finally to Norwalk where we complete the loop, which is in itself has great reliability.

So what are the options? Well, as we began looking, and certainly as our application displayed, we had a lot of aerial photography done, topology maps and so forth. And we hired Burns & McDonnel, as I stated before, as well with company personnel, and what we have done as well is, after we looked at these aerials --

Al?

We then did field reconnaissance. And the field reconnaissance obviously -- on helicopter view you can determine a lot of things. But when you're on the ground, so to speak, then you have other things to determine.

That really is our process that we used to go forward. So, again, as we then began to go forward and see these four independent links, we again -- same criteria. It has to work reliably. That's really the essence of the project. And then, of course, it has to be engineered. And, again, all of the balancing acts that need to occur with environmental, social aspects, public safety and health and the cost to customers.

So as we begin choosing a route -- and we're calling it an iterative process -- the middle where we said had the decision circle, largely that's the group

that's in front of you. That's the witness panel. And we closed ourselves in rooms almost every day and we hired around kind of this hub, this wheel, various experts to help along the lines. And you can read those names. And, again, all those are identified in our testimony.

Burns & McDonnel is on the front and the top. And as you go around there, as experts were needed, whether they were underground expertise, EMF expertise, marine, environmental, historical, HPDC, we integrated those. And on bi-weekly meetings that we've had -- and the meetings lasted eight to ten hours -- we then had all the data go into this decision circle because, again, no one entity could make that decision. It wasn't prudent for us. It wasn't prudent for the decision we needed to make for the customers of Connecticut.

So as we considered corridors, the most obvious is things that have been in place, these stretches of long real estate that you could potentially house either an underground or overhead. So we have highway corridors, 91, 95, Route 15. And on the right is railroad corridors, which we identified last time, Amtrak, Conrail, the air line. And, of course, the transmission rights-of-way.

Al?

So as we started looking at the corridors -- and this gives you a high-level view of the graphic of where the corridors are and where the potential termining points are. So we had 91 and 95 in blue, the Merritt in orange. And then look at the railroad as it spins through. Conrail kind is an intersection of the North Haven area. Then we have the transmission rights-of-way. And as those are being drawn in purple, I think it's important to understand a couple of things here.

If we start in the upper right side of that slide where you have Scovill Rock, again a strong source, we then have two real paths that we can get to both Chestnut, which is that first dot -- I'll use my handy-dandy laser here -- here and/or Oxbow. And each one of those are two routes that we have explored and, indeed, have information on.

And then from the Oxbow area into Beseck, two routes. And then from Beseck area here to Cook Hill, two routes. And then from the Cook Hill to East Devon, two routes. Again, we'll talk in detail as we go forward with those.

Then there's a host of secondary roads. And a lot of those secondary roads are roads that we have looked at in excruciating detail. If, indeed, there was

an underground route, what would be the best route to go?

And, in fact, Anne and I had gone through a number -- could you just go back one minute? Anne and I a year ago, a little over a year ago, went out to visit the CEO's of all 24 towns. And in the discussion, we, indeed, had an underground route. And to the Siting Council, I think it was Question 28, we've identified the best links if, indeed, underground was going to be installed here, which would be the best route going forward.

Al?

So that's the spaghetti that we'll talk about today as it goes forward and those are the number of things that we have, indeed, looked at.

So let's talk a little bit about 91 and 95. Obviously, what we see here is, number one, the distance that 91 or 95 comes from the area that we had to tie in to. You see the ten and seven miles there. That becomes troublesome, as you may expect. You need to somehow tap into that area to get to, again, the area of the Beseck Substation.

And in the application as we had 91 and 95, as sketched out in the blue here as you see it are areas where we believe either underground or overhead was

very practical in terms of construction. The orange areas are troublesome. They were troublesome from a construction or a social impact or others. And we'll kind of zoom into those. I think it's very important to take a graphic of those.

So if you look at the -- again, the top of the slide shows where this graphic is. This is the North Haven area. And, indeed, around Exit 10, you could see -- and it's color-coded. Can you see the color back there okay? The color code you could see on the bottom. The green reflects waterways where you're pinched up against the environment to do anything. The orange or red areas are buildings and their congestion close to the highway. And then some blue areas. This one happens to be a cemetery. Other areas.

And you can see in the areas here, here and even down here, you're pinched. Remember, an overhead on a 345, if you have a pole that's built vertically, that means phases on top of each other, you need a 125-foot right-of-way for safety clearances. Here you would have conflicts with the buildings and/or the cemetery or both. You'd have to remove those.

Al?

Similarly, you got a little bit further

down the highway on Exit 9 -- for those of you that are familiar, this is the Home Depot area and Costco and so forth. Again you've got tremendous congestion with buildings on both sides of the highway. You can't physically put an overhead line there.

Al?

A little bit further down, you now have railroad. This would be the Amtrak/Conrail area. And, again, huge congestion. You see some residential development as well. Congestion where, again, as an overhead line being installed down that way, you'd have to remove buildings or condemn them.

Then if you get through New Haven -- that's kind of the 91/95 split. You could see the huge residential development in these areas here down to this area.

Al?

And then as you get towards Long Wharf, again as the highway comes forward right through here, certainly as you can expect the highway kind of envisioned that, as you go through there, it was built -- it was built in a raised bed. And I'm going to use that often. And what that means is for a lot of reasons, the highway is 20, 30 feet above what's under there.

Typically, there's other roads. So if you can envision kind of a graphic where you have a bed raised. You then have sides. The fact of the matter is you can't physically put the pole on the sides. And below that is typically street. So you'd be spanned out quite a large distance.

In this area here, clearly the only way to go across New Haven was to do underground. And this is along Sargent Drive where UI has a 115 underground line as it is. Certainly there's real estate to do that.

As you get into West Haven, this is one of two. This is kind of the New Haven/West Haven line. You again see in the blue here this raised beds or rock cut. Here, the physical dimensions -- whereas you're in a helicopter, kind of on a plane, you can't really see it -- it's coming out of the picture. To physically put overhead lines there, in addition to the aesthetic problems that you would have, there's just too much real estate that's close. And here's where you have two residential developments through the West Haven area and down.

Al?

And as we continue in West Haven, you can see again just huge complications as you contain either

buildings or residences on both sides of the highway.

And then finally, going into Milford, here's the West Haven line. Again, the blue area here is talking about construction difficulties. This orange area here is talking about the pinches between businesses and residential. And then, finally, you have wetlands that would constrain it on the side, the south side.

And then finally, going into Milford a little bit further, you could still see some huge development along this line and you'll see some raised areas. And, again, I think you could picture that as you drive -- visually drive that in your mind.

And then, lastly, as you get to the end of Milford, this is the area right here where the substation is being proposed. Again, huge development down there.

So, with that, that was 91 and 95. And in the application, our summary is it's not real practical; whereas, you could build anything, the fact of the matter is you'd have to displace a number of businesses and residences if you were to use that.

And what the problem with 91 and 95 is if there were 10 or 20 or 15 miles that were okay, you could make parameters. But this is almost every four or five miles you had a mile or two that you'd have to contend

with. And you know that the transmission isn't like an extension cord. You just can't plug and play going forward.

And with that, I'll turn it over to Anne, who will talk about -- do you have a question, Chairman?

CHAIRMAN KATZ: No.

MR. PRETE: Okay.

MS. ANNE BARTOSEWICZ: So this map, we're going to talk about the Wilbur Cross. And like 91 and 95, the Wilbur Cross looks well-situated to get from Meriden to Milford. However, one of the first problems with the Wilbur Cross is it's not close to Scovill Rock nor Oxbow Junction. You can see the 10-1/2 and 9-mile distances.

What one would do here to use Route 15 or the upper part, which is the Wilbur Cross part, is you would pick it up somewhere I believe in Wallingford where it crosses the right-of-way. It actually crosses the right-of-way several times.

Go ahead.

We're going to start with a few photographs. I know we did Route 15 last month. But these are just some highlights. And here's -- going too fast. Go back. Here's an example of a photograph just

driving down the highway. And you see a couple of interesting things. If you look at the median in the center, you see it's very narrow. If you look at the edge of the right-of-way, you see trees.

If we were to go along -- I think one of the Siting Council questions was from Point B to C on our earlier maps, what would it take to go overhead, I believe, or underground from B to C.

Certainly, it would require removal of close to 130 acres of the trees that you see on the side of the road.

Go to the next one.

And you can see in the center median, you see how it's narrow. You also see the bridge abutment. There are many bridges. And those abutments are right dead center. And as we heard from DOT, they have a lot of drainage in the center median. One more close picture.

So we're going to look at the aerial photograph of the Wilbur Cross, starting in Wallingford. The tan line or I guess light orange line is a woodland buffer. And if you drive the Wilbur Cross, you know actually there's a woodland buffer on both sides. The green lines here are again flood plain and the red lines

are some building impacts. It shows that it is feasible in the orange or the tan line, although you have woodland buffer issues.

Next one. You go lower into Wallingford. You also see some flood plain issues. So you see in some areas you are tight. In this part of Wallingford, I believe our application would say that there are -- these are infeasible areas in which to build because you've got back-to-back buildings on one side and flood plain on the other side. So to actually put an overhead line there would be infeasible.

But as you get down into North Haven, you see that the buildings and the flood plain are still there, the woodland buffer, and this will cross our right-of-way further south, I believe.

Al, go down one more?

This is Route 40, just to give you an idea of where you are, in the North Haven/Hamden line. We still have flood plain issues and buildings adjacent to the Wilbur Cross.

One more?

In Hamden, you've got some -- a little bit of wetlands. You've got some buildings. And you see that beige line. It shows you continuous woodland

buffer.

Hamden is very similar. It's the woodland buffer.

Keep going through.

Here's the orange service area. The red line you see here would be off of the DOT right-of-way. You have to get around this service area to do overhead construction. And that red line would be an approximate location of how you would get around that area.

West Rock tunnel. This is a picture looking south as you're entering the tunnel. The arrow to the left there -- one of our homework assignments was to come up with an engineering alternative on how you actually get around the tunnel. And I think we've provided that in a filing to the Siting Council.

What it would take is -- you see how the tree gets lower on that side of the ridge. You have to -- for 220 feet, you would build this transmission line on the left side of this photograph over that, over the mountainside. And you're kind of going -- there's a little swale there. So you're kind of going around and into that swale as you get around the tunnel.

Here's an aerial view of West Rock. And you can see where the highlight ends you see the portion

that you see no street. That is the tunnel here. And the path that we looked at would actually come -- oh, it's there for me -- in the blue line around the tunnel in the lower end of that path. You would cross over again to near Amity Plaza. That was another tight area at Amity Plaza, which is a very narrow DOT right-of-way and it is bounded by buildings on either side of the highway. So you see at Amity Plaza, you only have an 80-foot right-of-way. So your structures would have to go to 150 feet tall in order to accommodate the 345 overhead.

Here is another photograph where we tried to give you an idea of where structures might be placed.

And to just summarize the Wilbur Cross then, we believe from Points B to C you could, indeed, build this overhead with the engineering solutions that Burns & McDonnel has developed. I believe that's information that was filed. Underground, certainly along the median, would be infeasible to build. If you were looking at all-underground routes, you could certainly -- you might look at underground along the -- from Points B to C. It would be more difficult construction than the overhead would be.

MR. PRETE: And with the railroad, we'll

have a great deal more detail in the East Shore presentation because most of the rail, as you see, goes almost into the heart of New Haven/East Haven area certainly where that terminus is of East Shore. But I think this will give a good starting point.

The green there references Amtrak railroad and the beige is Conrail, otherwise known as Air Line. As we look in the Wallingford area on the Amtrak, once again what we could see here -- and we'll have numbers for you on exactly what type of clearing we would have to do from the residences. But very, very congested stretch here. The businesses -- you know, you go back just 70 or 80 years ago, most businesses went along the rail because that was their mode of business. So along this area here, again, thinking about the 125 foot that you need for the right-of-way, you would have congestion and conflicts with the buildings that you'd have to contend with.

This is in the Wallingford area, a little bit south of where we were, again in the Wallingford area. You can see along this stretch here exactly the same thing. You have businesses and starting to get some residences pinched right up against the railroad.

Al?

And then finally, going south, here's the 91 interchange just as -- and the Wilbur Cross over here that Anne just did. And, again, as you start to see here, really on kind of the west side you see a fair amount of businesses and then pockets of pretty good density of residential development.

Similarly on the Conrail, there's a -- the North Haven school here in the North Haven area. Unlike we saw in Wallingford, most of this is residential development, as you begin to see, on both sides of the railroad.

Al?

And again going through the Conrail area, North Haven High is here that you just saw in the other slide, again as you get to this area.

That was quick.

So, again, we'll get into a lot more detail because, again, the railroad itself ties more into the East Shore. And in that discussion, I think we'll have a lot more figures and facts.

MS. BARTOSEWICZ: We'll get into Segments 1 and 2 next. The idea -- the purpose of Segment 1 was to create that strong source that we needed at Beseck. And to do this, you have three paths. You have the

Millstone, Massachusetts-Millstone path. You have the Rhode Island-Millstone path. And you have the New York-New England path.

And the configuration in Segment 1 is to have these three paths come in to Beseck Substation. That creates the strong source that we need there.

These -- go back. Well, yeah, I want to -- you went too fast. I'm sorry.

The lines that you see coming in are the lines that we talked about. There we go. Those are the highway lines, the 91, 95, the Wilbur Cross. And so the other path we have to build a transmission facility is the overhead right-of-way. And this shows two overhead rights-of-way paths from Scovill Rock to Black Pond Junction to Beseck and from Scovill to Oxbow to Beseck.

So we talk about these separately. Our proposal has a segment between Scovill Rock and Chestnut Junction. It is 2-1/2 miles. Currently today, you have 85-foot H-frame structures on that right-of-way. This is the only portion of the proposal that has to be widened. To put the new set of H-frame structures on this right-of-way, you would have to widen it for 80 feet -- to 80 -- widen it 80 feet.

There's about 9-1/2 acres required. If

you do the math, you'll see that there's a lot less acres required than what it shows. And that's because Connecticut Light & Power Company owns quite a bit of land around Scovill Rock Substation. So it's only having to acquire about 9-1/2 acres there.

Next one?

Here is a visual of what it looks like in Middletown between Scovill Rock, the triangle, and Chestnut Junction, the circle. And as you can see, most of this land out here -- there's not much out there. It's a lot of forest and trees. And I believe there's a lot of hunting that goes on out here. But there's very little residential development.

So the question is how do you get from Chestnut Junction to Beseck? And this path which we call the northerly route today has three sets of 345 H-frames that run between Chestnut Junction and Black Pond Junction. The right-of-way is about 250 feet wide.

And what we did is we looked at could you put the -- could you put the new 345 line in this right-of-way? And we actually looked at three configurations for going from Chestnut to Black Pond. It's about 10-1/2 miles. So it's a little longer than the proposed. You would put new structures in.

Now, if you were to match those structures that you put in with what's there today, you would have to acquire -- you'd have to expand the right-of-way by about 80 feet. That would require you to remove eight homes which would be in its new path. And it would require you to purchase or acquire 78 acres of property along that route.

Now, what we did was said to ourselves, well, is there another configuration we can build along that route that would have less of an impact? You could, instead of putting the H-frame in, you could put 130-foot monopole in. So it would be a different configuration than what it is today, but it would reduce the number of homes from eight to four and it would reduce the number of acres to be acquired from 78 to about 38. So you have less of an impact, but you have a taller structure.

Then we took it one step further. We said is there a way to build this right-of-way by not having to take any homes and acquire any property between Chestnut and Black Pond? And there is one way. And it is to rebuild this entire right-of-way, remove all three sets of 345 H-frame structures, rebuild them all to 130-foot monopoles.

The biggest problem with this is building

-- reconfiguring, rebuilding the three sets of structures on this right-of-way, it would cost more in uplift charges than it would to construct. This would be a huge outage on the system to try to get the ability to take these lines out of service to rebuild them.

Additionally, one of the things that the planners look at with the NPCC code is you try not to put all your 345 lines on a common right-of-way. So that was another issue, reliability issue, we had to look at.

From Black Pond down to Beseck, you'd have to -- you have to expand the right-of-way by about 20 feet the entire length to put in the 130-foot monopoles to finish this strong source into Beseck.

So that is what we looked at as the northerly route.

A second way in is -- keep going -- from the -- our proposed -- the application has a proposed route from Haddam to Beseck. It's about seven miles. So it's a little shorter. The right-of-way is 125 feet. It is wide enough to replace the existing structures. Today you've got two H-frames that make -- that form one 115-kV circuit on the 125-foot right-of-way. You'd replace the existing structures with 105-foot monopole, composite monopole where you have 115 on one side, 345 on the other

side. You don't need to widen the right-of-way. And what it does is it gives you reliability issue. It allows you not to put four 345-kV circuits on that northerly right-of-way which we would have to do in the previous example.

This portion is what's in the -- is the proposal in the application.

Let's take a look at this visually. And now we're starting at Oxbow to Beseck. And as you can see, as you go more into Durham, you get to the Royal Oak neighborhood on the far left of the screen where you see some development. You cross Route 17 and you cross that and you go into Lyman Orchard Golf Club. And coming in to Beseck, you cross the Wallingford town line. There is a small development to the right of Beseck. Beseck is that red -- the blue circle. That is currently a junction today. And CL&P owns about 55 acres of property there in which the proposed Beseck switching station would be built.

The portion to complete the best strong source, the portion from Black Pond to Beseck, is about 2-1/2 miles long. The right-of-way is quite large. It's 275 to 320 feet. We would have to set two new sets of structures. Today on this right-of-way, you have a 130-

foot monopole that exists today going from Beseck -- going from Black Pond to the junction that is currently at Beseck. We would be adding two new sets of structures, same height, same proportion. No widening of the right-of-way is needed. I think we have some pictures of that.

You start up on the blue circle. You start up at Black Pond. You cross those two bodies of water, one of which is Black Pond itself. You're going south toward Wallingford. And the blue circle again is Beseck Substation -- excuse me -- the proposed Beseck switching station.

Now that we're at Beseck, we need to get to East Devon. Oh. I'm sorry. We're going to look at underground considerations in Segment 1 first.

As John had said earlier, as we were doing our overhead look, we looked at underground. And to get from Oxbow to Beseck underground, the -- there's not a lot of roads in this area. We looked for the simplest, straightest road we could find, which is pretty windy. It's about 8.2 miles. You actually have to go on the right-of-way for a small portion. Oxbow Junction is kind of in the woods. So you have to get to a street from Oxbow. So you're in the right-of-way for a short amount

of time.

The route you would use is Johnson, Maiden, Route 68, High Hill. It's -- we're going to have some pictures of it. It's a steep slope that's very winding. We thought it was very problematic to build.

But coming down from Black Pond to Beseck, you use essentially Research Parkway, which, if you're familiar with that, is a very nice, wide, flat, straight, fairly easy to build underground construction.

These are photographs of the Durham underground. Maiden Lane I think these are. These are all Maiden Lane. So you can see that they are very curvy. They are not flat and straight. Not ideal for underground construction. But this is the most direct path that we could find to go from point to point.

Now Segment 2, Beseck to East Devon. There exists a right-of-way between Beseck and Cook Hill in Cheshire and between -- the other way is Beseck to East Wallingford Junction to Cook Hill to East Devon. These are two existing rights-of-way. They both have 115 circuits on them today.

The other transmission path, transmission right-of-way we have is the line coming from East Wallingford Junction south to East Shore. But you have

to get from East Shore to East Devon somehow. And that dotted line there shows underwater path. It also shows two underground paths. The first one is underground to Orange, where you would need a transition station with full switching capabilities. The second one is all underground, mostly on Route 1 through Milford to East Devon.

So now I think we're going to -- okay. Now, to complete the underground look, we looked at a variety of ways to get from Beseck to East Devon underground. And the one that we -- that came out on top because it was straightest, least amount of traffic and certainly the -- the Hartford Turnpike is the road that's the dotted line that goes through Wallingford and North Haven. In Hamden, it picks up Dixwell Avenue, comes down and it -- I think we're going on Route 48, Congress Avenue. I think we have another picture with all of the roads identified. So let's move on.

Swabb Junction. From Beseck to Swabb to Cook Hill there exists a 115 line on that right-of-way. The problem with this route is the Meriden Airport. Meriden Airport a while back did an expansion. CL&P actually moved their -- moved their right-of-way. The purple line is the original path. The red line is where

we moved our structures to accommodate the airport.

And if you were to build a 345 line down this path, you see the big blue square. Well, your right-of-way, you would have to come out this way. Your structure would have to go here and then back into the right-of-way. That's for airplane clearance. The airport will not allow you -- will not be able to operate should you put a 345 structure on the existing right-of-way. That's one of the reasons this alternative was dismissed.

The proposed route takes you from Beseck to East Wallingford Junction, approximately 6 miles, 275-foot right-of-way. This is actually where the East Shore path is common with our proposal. This -- what's there today is the 387 line. It's a 90-foot H-frame structure that sits on the right-of-way. Our proposal would be to add a second H-frame structure to this right-of-way.

It's very wide. There's no widening needed. East Wallingford Junction is actually smack in the middle of Traditions Golf Course. And one of the accommodations we've made with Traditions Golf Course is they own some land between their golf course and the highway and they are willing to essentially let us use that piece of land for our proposal rather than interrupt

their golf course.

Here's an aerial view. The blue circle on top is Beseck. And you go south through Wallingford. You can see that to the right there is certainly -- most of that is open land. Some of it's farmland. Some of it is pastureland. To the left, you do see some development.

And that takes you down to the blue circle, which is East Wallingford Junction. Here, our proposal, the green line takes you to the west. That would be going on to Cook Hill. At this location, if you were to continue south, the existing 387 line with the H-frames does continue south and that would be the splitting point. That goes down south to East Shore.

From East Wallingford to Cook Hill, it's about five miles, the right-of-way, 200 feet wide. There's actually two configurations in this stretch. The first one today is a 115 H-frame. We would have to add a 108-foot monopole on the right-of-way. There's no widening needed. We're just adding a set of structures.

Once you get about halfway, that first jog in Wallingford, structure types change. The existing -- there are two 115 lines and they're on a lattice tower structure. We would be adding the same 108-foot pole to

Cook Hill Junction.

We're going to take a look at this visually. You're going from east to west here. You're on the -- coming out of East Wallingford Junction in Wallingford going west. You cross Route 5. You cross the Wilbur Cross. You can see we keep going west into -- into Cheshire.

Just stay here for a second.

In Cheshire, in our application we have something called a supported change. The portion that comes into Cook Hill Junction, that corner in Cheshire, the right-of-way clearing there is essentially the front lawns of about five or six homeowners. One of the things that we looked at doing -- and it's in the application as a supported change -- is to take the 115, put it underground because it's simpler to put a 115 underground. And that allowed us to make the 345 structure a little taller. And that means we could save about three acres of clearing, which were these folks' front lawns. So that is part of our application. And that's kind of why it's there.

The 115 would be underground for about a mile. As you go through that corner, you actually come up in Hamden, right across the Cheshire/Hamden border.

From Cook Hill Junction, we go down to East Devon. This right-of-way is the same the entire length, the entire 22 miles. We've got about 165 feet of right-of-way. Today, you have two H-frame structures at about 57 feet and you have a lattice tower at about 80 feet. These are all -- these are three 115-kV circuits.

The proposal is to remove all three circuits, replace them with two. The first one would be an 80-foot structure with the two 115's on it. It would be a composite monopole. The second would hold the 345 and it would be -- the application has a delta monopole.

However, one of the pieces of information we filed from homework this past week was certainly what can we do to lower EMF's along the right-of-way. So you will see in that app-- in that filing you see some configuration changings from the structures that I'm talking about today.

There's no widening of the right-of-way needed for this road. And I think we're going to take a look now. Here are some typical before-and-after. These are some photo simulations that we've done. One is in Orange. The top left shows the two H-frame structures and it shows the lattice tower in the background. And if you move to underneath it, the proposed, on the left you

have the monopole with two 115's and you have, on the right, the delta 345 structure.

In Milford, as you can see, the construction is very similar. You'll see that the lattice towers and the H-frames are not in parallel along the right-of-way. They're actually -- the lattice towers are at a different location than the H-frames are.

And below, on the Milford, you see what the right-of-way might look like in the future.

So here we travel on the aerial version from Cheshire through Hamden and through Bethany. This is -- a lot of this property is water company property by Lake Bethany. And you start in Woodbridge. You see very little development along this portion of the right-of-way. It is water company property. It is fairly wide open. The right-of-way throughout this length is -- since it has three structures on it today and we're moving to two structures, there's very small impact to that right-of-way in additional clearing, which is different from other areas.

Keep going south. You're entering -- you're getting lower in Woodbridge. And as you see, as you get lower in Woodbridge and into Milford -- into Orange, you see residential development increase.

This is West Rock tunnel to the right, to kind of orient you where you are. This is the Amity Shopping Center on the right. So that's about where you are in Woodbridge. You see how, as you go lower, Wilbur Cross will cross the right-of-way again.

Now we've moved into Orange. In this portion of Orange, there is considerable residential development along the right-of-way. And you come into Milford. In Milford, you see some of the development has ended. As you cross the Sikorsky Bridge exit, to the left is Lexington Green development and it takes you south into the East Devon Substation.

Keep going.

We did look at a variety of underground streets. And as you might know, there's so many streets go from Beseck to East Devon. There were a million ways to get there. After Burns & McDonnel did a lot of field investigation, we looked at the route that we believe was the best was certainly Route 68 to Hartford Turnpike to Dixwell Avenue and Congress. This does pass right by downtown Hamden, Hamden High School, into New Haven.

Keep going.

Route 1, all the way to East Devon. Out of all the underground solutions, we looked again for the

straightest, the flattest, the roads that we believe were the easiest to construct on.

So this is, I think, a summary slide. We're just about finished here. You see 91, 95 and the Wilbur Cross. You see the two railroads traverse the state. And you see our transmission rights-of-way. And our secondary roads, the red dotted lines, are the underground.

And, again, the proposed application, our proposal we believe is, of course, the system benefit. You have to be able to operate it and run it reliably. Technical feasibility, we believe we can build this. And the property, environmental and the cost, we believe we've given you the best alternative we could.

I think -- is that the last slide?

CHAIRMAN KATZ: Okay. Let's resume. Any objection to the Council taking administrative notice of State agency comments from DOT, dated May 18, 2004, and DOA, dated May 24, 2004? Hearing none, we'll take administrative notice.

At this time, we have Applicants' Exhibits to be identified and put into the record.

Mr. Fitzgerald, are you taking the lead on this?

MR. ANTHONY FITZGERALD: Yes, I will. Thank you, Madam Chairman. On the hearing program, starting at Page 15, there is a notation that the following exhibits need to be sworn and admitted. And they are listed as 83 through 97. I conferred earlier with Mr. Cunliffe and we realized that the exhibit that was denominated 88 was actually filed -- something from a different docket. So it was misfiled here. On the other hand, there is one item that was filed recently that was not included in this list. And that is a letter dated May 28, 2004 from Bruce McDermott to Julie Kohler and Monte Frank with respect to some Woodbridge and Milford Interrogatories. It was a narrative statement to fulfill an agreement resolving a dispute over those Interrogatories.

CHAIRMAN KATZ: Understood. So that's a new 88?

MR. FITZGERALD: Yes. I would suggest that.

CHAIRMAN KATZ: And all your witnesses have been previously sworn. Correct?

MR. FITZGERALD: Yes. So I will now proceed to ask Mr. Zak --

CHAIRMAN KATZ: Just before we do that,

for Identification purposes only, is there any objection to 83 through 97? Hearing none, let's go ahead then with verification.

(Whereupon, various documents were marked as Applicants' Exhibit 83 through 97 for Identification.)

MR. FITZGERALD: Thank you.

Mr. Zak, I'm going to ask you to verify the following exhibits as listed on the program, 83, 84, 85, 86, 87, 89, 90, 92, 93, 94. And do you swear that those exhibits, the information therein, is true and correct to the best of your knowledge and belief?

MR. ZAKLUKIEWICZ: Roger Zaklukiewicz. Yes, I do.

MR. FITZGERALD: All right.

Now, Ms. Bartosewicz and Mr. Prete, I'm going to call your attention to Exhibits 95 and 97 and also -- oh, 88. That's new 88. And also to the presentation that you just delivered. And I want to take -- to get a copy of the slides from that presentation delivered to the Council. And we have that nice blank No. 98 there. So perhaps we could pen in presentation slides.

CHAIRMAN KATZ: And you're going to make this available as --

MR. FITZGERALD: Servant.

CHAIRMAN KATZ: Servant? Okay. So 98 is now the copy of the presentation.

(Whereupon, the slide presentation by Mr. Prete and Ms. Bartosewicz was marked as Applicants' Exhibit 98 for Identification.)

MR. FITZGERALD: Ms. Bartosewicz and Mr. Prete, do you swear that the information in those exhibits is true to the best of your knowledge and belief?

MS. BARTOSEWICZ: Yes. Anne Bartosewicz. Yes, I do.

MR. PRETE: John Prete. Yes, I do.

MR. FITZGERALD: Now we have the pre-filed testimony regarding routing and environmental matters concerning the portion of the project between Scovill Rock switching station and East Devon switching station, dated May 25, 2004. And that -- first of all, I'm going to call on Ms. Bartosewicz to ask if you have any corrections --

MS. BARTOSEWICZ: Yes, I do.

MR. FITZGERALD: -- to that testimony.

MS. BARTOSEWICZ: Yes.

MR. FITZGERALD: Would you please bring

them to the Council's attention? And we will file a written errata sheet inserted on the service list at the end of the day.

MS. BARTOSEWICZ: Yes. Page 5 -- excuse me. Page 3, Line No. 5, insert after "between Chestnut Junction and Black Pond Junction", insert the words "to the proposed Beseck switching station". On Page 8, the first Q-and-A, on the answer strike "Northeast Utilities" and insert "CL&P".

Page 15, second line, strike "62" and insert "47". So it would be 47 acres. Same page, that's Page 15, tenth line down, strike "62" and insert "75". So it would be approximately 75 acres. On the last paragraph of that same page, the third sentence, strike after "Chestnut Junction and" strike the words "Hans Brook Junction; by three feet between Hans Brook Junction and". The words "Black Pond Junction" remain. And then strike to the end of that sentence, "and by 35 feet between Black Pond Junction and East Meriden Substation."

And I have one more change, which would be on Page 17. We are filing a revised table rather than go through the gory details of that table. We're just filing an entirely revised table.

MR. FITZGERALD: All right. This is the

table of rights-of-way increases that are required?

MS. BARTOSEWICZ: Correct. It says -- the table -- the line preceding the table says "The following table helps to compare the differences between the proposed route and the northerly route."

MR. FITZGERALD: Now, this is the Direct testimony of Roger Zaklukiewicz, Anne Bartosewicz, John Prete, Richard Reed, James Hogan, Cyril Welter and Louise Mango. As corrected, do you all swear that this testimony is true and correct to the best of your knowledge and belief?

MR. ZAKLUKIEWICZ: Roger Zaklukiewicz. Yes, I do.

MS. BARTOSEWICZ: Anne Bartosewicz. Yes, I do.

MR. PRETE: John Prete. Yes, I do.

MR. JAMES HOGAN: Jim Hogan. Yes, I do.

MR. RICHARD REED: Richard Reed. Yes, I do.

MS. LOUISE MANGO: Louise Mango. Yes, I do.

MR. CYRIL WELTER: Cyril Welter. Yes, I do.

MS. BARTOSEWICZ: I'd also note that we

have copies of the errata sheets on the table over to my left.

MR. FITZGERALD: That leaves one -- by my count, that leaves one of these exhibits that has not been adopted, which is entitled EMF Mitigation for All Cross-Sections of Overhead Route with a Basis of Comparison Dated May 28. I think it would probably be most appropriate for Dr. Bailey to sponsor that exhibit when he is here.

CHAIRMAN KATZ: And what number was that?

MR. FITZGERALD: 96.

CHAIRMAN KATZ: Okay. So everything but 96. And we'll get 96 on clean-up day.

MR. FITZGERALD: Right. Well, actually -- just a minute. Excuse me.

You know, I could -- in case there may be some questions on it before Dr. Bailey gets here, I think John -- John Prete, you could sponsor. Couldn't you?

MR. PRETE: I believe.

MR. FITZGERALD: Okay. Mr. Prete, is Exhibit 96 -- the information in Exhibit 96 true and correct to the best of your knowledge and belief?

MR. PRETE: Yes, it is.

MR. FITZGERALD: All right. In that event

then, I move the admission of Exhibits 83 through 98 as full exhibits.

CHAIRMAN KATZ: Is there any objection to making them full exhibits? Hearing none, they are full exhibits.

(Whereupon, Applicants' Exhibits 83 through 98, previously marked for Identification, were received into evidence as full exhibits.)

CHAIRMAN KATZ: Is there any procedural matters that we need to take care of before we start Cross Examination?

Hearing none, we will start Cross with Representative Al Adinolfi. Let the record show not present.

Town of Middlefield, Attorney Knapp. Let the record show not present.

The Towns, Attorneys Frank and Kohler.

MR. MONTE FRANK: For the record, Monte Frank for the Town of Woodbridge.

MS. KOHLER: For the record, Julie Donaldson Kohler for the City of Milford.

MR. FRANK: I'd like to start my questioning off this morning with Ken Stevens of Soil Science and Environmental Services. So I would request

that Mr. Stevens join the panel.

CHAIRMAN KATZ: Can we get Mr. Stevens to a microphone?

MR. FRANK: Thank you.

CHAIRMAN KATZ: Mr. Fitzgerald, has Mr. Stevens been sworn?

MR. FITZGERALD: No. No, he --

CHAIRMAN KATZ: Can we take care of that now?

MR. FITZGERALD: No, he hasn't. And he's also in the role of someone who has provided information that our first line witnesses are ready to talk about. I mean he's here in case they need to consult with him. But we haven't put him forward as a --

CHAIRMAN KATZ: So you did not file a --

MR. FITZGERALD: -- witness. He did not --

CHAIRMAN KATZ: -- CV on him or --

MR. FITZGERALD: No.

MR. FRANK: Would you object to him being sworn and be able to be cross examined?

MR. FITZGERALD: Well --

MR. FRANK: Or examined or --

MR. FITZGERALD: I think that I -- I'm somewhat uncomfortable with the process of cherry picking

people who worked on different parts of the project out and putting them up for Cross Examination. If there's a specific question that comes up that only they can answer, that's I think the appropriate time for them to be sworn in. But I mean certainly the way the Council has proceeded in the past -- and it tends to make for expedition -- is to have the Applicant put forward a panel and, if they can answer the questions, they do. If they need to call for help for something that's some specialized information, they will. And maybe for this ques-- I don't know what this question is. But it could well be that this is such a specific question that maybe they will need to do that. But I really would prefer not to simply have the sort of second line witnesses plucked out for no -- if there's no demonstration of the need for them.

CHAIRMAN KATZ: Mr. Frank, any response?

MR. FRANK: Yes. On Page 2 of the pre-filed testimony, the question at Line 15 that was raised was "Do the companies expect to call on any other personnel to respond to routing or environmental issues?" And the answer was or is that "Other UI employees, NU employees and specialized project consultants may be called upon to respond to questions relating to specific

routing, engineering design or environmental topics." And among those topics and people are listed Kenneth Stevens, registered professional soil scientist from Soil Science and Environmental Services, Inc., the firm that performed wetland amphibian studies for the project. And I have specific questions relating to the work that Soil Science performed.

CHAIRMAN KATZ: Well, it sounds like the door's been opened. Let's get him sworn.

MR. FITZGERALD: Could you please state your full name into the microphone first?

MR. KENNETH STEVENS: Kenneth C. Stevens, Jr.

MR. FITZGERALD: Spell that?

MR. STEVENS: S-t-e-v-e-n-s.

(Whereupon, Mr. Kenneth C. Stevens was duly sworn.)

CHAIRMAN KATZ: Mr. Stevens, if you are asked a question on Cross Examination that you did not participate in, please just identify that as part of your answer.

Mr. Frank?

MR. FRANK: Thank you, Madam Chairman.

Good morning, Mr. Stevens. In 2002, your

firm, Soil Science and Environmental Services, performed an inspection on the overhead right-of-way?

MR. STEVENS: Yes, we did.

MR. FRANK: Okay. And that includes the city of Milford and the town of Woodbridge?

MR. STEVENS: Yes.

MR. FRANK: Okay. And the purpose of the inspections, as I understand it, was to provide basic information regarding the existence and extent of regulated wetlands and watercourses on the right-of-way. Is that right?

MR. STEVENS: That's correct.

MR. FRANK: And to provide the companies, the Applicants here, with base line information to use in developing feasible and prudent plans for the proposed construction of the transmission line. Is that right?

MR. STEVENS: That's my understanding as to what they were using the information for.

MR. FRANK: Okay. Now, the initial wetlands inspections that were conducted by your firm were conducted during drought conditions in mid-2002. Is that correct?

MR. STEVENS: Well, it depends what you consider drought. From the standpoint of a soil

scientist, I would say no. Drought to us is when the soils are so dry you can't see color and that makes it very difficult to identify soils. That condition did not exist at that time.

MR. FRANK: Mr. Stevens, if I could please direct you to Volume 4 of the application which contains your August 15, 2003 amphibian breeding survey?

MR. STEVENS: Yes.

MR. FRANK: Just bear with me for one second. And if you turn please to Page 1 of the Introduction -- do you have that in front of you, Mr. Stevens?

MR. STEVENS: Yes.

MR. FRANK: Okay. Now, this is your August 2003 report which is referring back to your initial wetlands inspections that were done in 2002? Is that correct?

MR. STEVENS: That's correct.

MR. FRANK: And in that Introduction, about six lines down, you state "The initial wetland inspections were conducted during drought conditions in mid-2002." Is that right?

MR. STEVENS: I cannot recall the exact conditions. I was out there doing that work myself with

others. And as I previously stated, the soils were not so dry that you couldn't see color and identify wetlands. Now, that may also be more of an opinion of our biologist where many of the wetlands were very dry in the sense of surface waters.

MR. FRANK: Mr. Stevens, you would agree that it's more difficult to identify a vernal pool or an amphibian breeding area in drought condition. Would you not? More difficult?

MR. STEVENS: Yes.

MR. FRANK: And this initial field work was done in Woodbridge after the spring breeding period for amphibians. Is that right?

MR. STEVENS: The initial work was, yes.

MR. FRANK: Okay. The best time to confirm a vernal pool or amphibian breeding area is typically from late March to late May. Is that right?

MR. STEVENS: And extending into early June.

MR. FRANK: Okay. How much of the field work in Woodbridge did you personally do?

MR. STEVENS: I did some of it. I -- others did part of it, also. I remember doing the more northerly part. Others did some of the southerly part of

it.

MR. FRANK: And the forms that you filled out, your firm filled out, those were filled out completely by others. Isn't that right?

MR. STEVENS: Yes.

MR. FRANK: Namely Jennifer Beano and Scott Stevens from your firm?

MR. STEVENS: Yes. And also Thomas Petras.

MR. FRANK: Okay. And then in 2003, I believe you said Soil Sciences went back and conducted an amphibian breeding survey?

MR. STEVENS: That was done by Jennifer Beano.

MR. FRANK: Okay. So you did not do any of that field work?

MR. STEVENS: No, I did not.

MR. FRANK: Now, with respect to the amphibian breeding survey that was done in August -- I'm sorry -- that was done in 2003, your office did not go back and look at the entire overhead right-of-way for vernal pools or amphibian breeding areas. Right?

MR. STEVENS: That is correct.

MR. FRANK: You went back to certain

wetlands that were identified during your 2002 field work as having a potential for amphibian breeding or which might be vernal pools?

MR. STEVENS: That is correct.

MR. FRANK: Okay. And, again, that initial work was done after the spring breeding period and during drought conditions. Right?

MR. STEVENS: I believe that work was done --

MR. FRANK: The initial work, sir.

MR. STEVENS: Oh, the initial work.

MR. FRANK: Yeah.

MR. STEVENS: I would have to check all of our data sheets to see. We did that over a period of several months, actually.

MR. FRANK: The 172 wetlands -- of the 172 wetlands that you located along the overhead right-of-way during your 2002 study, of those 172, you went back and looked at 69 of them to determine if they were vernal pools or amphibian breeding areas. Is that correct?

MR. STEVENS: I believe that is correct.

MR. FRANK: And in 2004, you didn't perform any further update on amphibian breeding. Right?

MR. STEVENS: I was out there this last

Saturday and looked at two specific areas.

MR. FRANK: Okay. What areas were those?

MR. STEVENS: Segment 149, Pole No. 5041 and Segment 151, Pole No. 3836.

MR. FRANK: I don't have the -- can you just tell us what towns those are, just to give us --

MR. STEVENS: Those are both in Milford.

MS. KOHLER: I'm sorry. Julie Kohler. Could you just repeat that again? I'm sorry. I apologize for my voice.

MR. STEVENS: Segment 149, Pole No. 5041 and Segment 151, Pole No. 3836.

MS. KOHLER: Thank you.

MR. FRANK: Mr. Stevens, in your amphibian breeding survey -- and this is the August 2003 report -- you state that the information provided can be utilized when designing new transmission facilities and protecting critical wetland areas during construction. The critical wetland areas for protection, just so I understand it, are the vernal pools and the wetlands with high or moderate potential for productive amphibian breeding?

MR. STEVENS: As far as amphibians are concerned, that is true.

MR. FRANK: So those are the critical

wetland areas for amphibians that you would want to protect.

MR. STEVENS: Correct.

MR. FRANK: Okay. Now, Ms. Mango, on Page ES-6 of the application, it states that "The project will not result in any significant long-term adverse environmental impacts." Do you agree with that statement?

MS. MANGO: Yes, I do.

MR. FRANK: And is it your opinion that there are minimal environmental concerns for the overhead project in Segment 2?

MS. MANGO: My opinion is that the environmental impacts can be mitigated because the project is on an existing right-of-way where the vegetation is maintained and the wetlands that exist there now exist despite the right-of-way and, in fact, have thrived because of the right-of-way.

MR. FRANK: Okay. So it's your opinion then that there are minimal environmental concerns. Right?

MS. MANGO: Yes.

MR. FRANK: Okay. And does your opinion assume a variety of things, like mitigation that you just

mentioned?

MS. MANGO: My opinion assumes that, like any Siting Council project, the applicant will continue to work to mitigate impacts, such as by placing poles outside of wetlands, not just the vernal pool wetlands. You know, I mean I -- I've been following your discussion. I guess I would personally say that vernal pools aren't the only wetlands that one would want to protect. You'd also want to protect stream courses and you'd want to protect the wetlands themselves.

MR. FRANK: Fine. And does that opinion assume that the identification of natural resources that you provided the Council is accurate and complete?

MS. MANGO: It assumes that that represents the information that we knew at the time and that we would continue to do studies that have been recommended by, for example, the DEP when they identified some of their endangered species. There may be studies that the Siting Council would ask for. There are studies that the companies are still doing themselves, for example, to try to -- to re-evaluate pole placements to place them outside of wetlands.

As you'll recall in our application, we basically tried to place the poles where the poles are

now. And to the extent that some of those poles now exist in wetlands, we've been working for the past five or six months to try to modify some of those placements to get them out of wetlands.

MR. FRANK: These are studies that are ongoing now?

MS. MANGO: These are studies that the companies have been looking at in conjunction with their efforts to file permit applications with the DEP and the court. They're not -- they are in progress.

MR. FRANK: So none of these additional studies have been provided to any of the towns or to the Council?

MS. MANGO: No. In fact, they're not in a position to be provided. They're work in progress.

MR. FRANK: Well, if possible, I'd like to ask you questions based on the record as it exists today.

MS. MANGO: True.

MR. FRANK: Rather than what may come down the road.

MS. MANGO: But I think you asked me if, you know, I assumed something was static in terms of mitigation. And I guess my opinion is that, no, from working on previous projects like this, it's not static.

The mitigation continues through the D&M and into construction.

MR. FRANK: So, for example, your opinion that there are minimal environmental concerns for this overhead project -- take vernal pools as an example, that is premised on the representation to this Council that there are only two vernal pools located in the overhead right-of-way for the entire Segment 1 and Segment 2 portion of the transmission project?

MS. MANGO: Well, my opinion would be -- it's premised on the fact that SSES identified two vernal pools. I think what you're getting at is that Land-Tech identified more.

MR. FRANK: Right.

MS. MANGO: And I'd rather just cut to the chase. And I don't dispute that probably Land-Tech did identify more because the amphibians that inhabit vernal pools obviously -- you know, you could go out one day and they would be there. You could go out a week later and they could be not there. And they don't just stay in one pool and wait for you to come and identify them.

So my opinion is that the more wetlands that you have, you know, there's more probability of these critters to move among them. A right-of-way

actually represents sort of a good situation because what we're finding is the things that sort of create a hazard or endanger species like this are things like subdivisions.

And I think that there is -- there's a paper that I believe the Siting Council or somebody noticed called Best Development Practices Concerning Pool-Breeding Amphibians and Residential and Commercial Developments. And it pretty well lays all this out. I mean it's a terrific paper. It explains what you need to do.

But the gist of it is you can't just look at one wetland and say that's the vernal pool, although some are very evident, because these species disperse.

MR. FRANK: Let me ask a more basic question. Without knowing -- without having a complete natural resources inventory in a particular area, how is it possible to design best management practices and mitigation efforts with respect to that resource?

In other words, if the representation is that there are no vernal pools in Woodbridge, for example, how can you design mitigation practices around a vernal pool that you claim doesn't exist?

MS. MANGO: Because the mitigation

practices pertain to the wetlands that were identified. I'm not sure that any new wetlands were identified on the right-of-way. There were just wetlands that SSES said were not vernal pools or actually did not say they contained amphibians that were breeding, whereas Land-Tech said that they were. But I don't think anyone disputes that those wetlands exist. I mean 172 wetlands were identified. No one's trying to hide the wetlands.

MR. FRANK: Mr. Stevens, wouldn't you use a different buffer for a vernal pool than you would in ordinary non-productive wetland?

MR. STEVENS: A non-- I don't understand what you mean by non-productive. Are you speaking of only amphibians?

MR. FRANK: Let's say you had a wetland that had --

MR. STEVENS: Because in some cases, there may be other flora and fauna that are more important to protect than, say, common amphibians.

MR. FRANK: Just for my hypothetical, if you had a wetland which had a low probability of amphibian breeding versus a vernal pool, there would be a different buffer area for the vernal pool than the wetland that was -- had a low probability of amphibian

breeding. Right?

MR. STEVENS: I would agree with that.

MR. FRANK: Okay. Thank you.

Now, Ms. Mango, I assume from your opinion that there are minimal environmental concerns that sensitive areas can be avoided or that most environmental concerns can be mitigated by best management practices? Do you agree with that?

MS. MANGO: I think what I said was that there were not significant environmental impacts and that the environmental impacts that we had identified we believe could be mitigated throughout the process.

MR. FRANK: And those mitigation details I assume will be provided in the development and management phase?

MS. MANGO: I think some are included in the actual application. You know, we've already talked about, you know, based on consultations with DEP, we talked about preserving riparian buffers --

MR. FRANK: I'm sorry. That was a bad question. The specific details with respect to mitigation measures would be provided in the development and management phase?

MS. MANGO: As always. That would be

true.

MR. FRANK: Okay. Now, Ms. Mango, does your opinion that there are minimal environmental concerns also assume compliance with permit conditions that may be issued by, let's say, the Army Corps of Engineers, the DEP and this Council?

MS. MANGO: Of course.

MR. FRANK: Now, with respect to the application, you were responsible for the preparation of various environmental sections?

MS. MANGO: I compiled the sections, yes.

MR. FRANK: Okay. And I think I saw from the slide show that we just saw that you were part of the decision-making circle?

MS. MANGO: I provided input to the decision-making circle.

MR. FRANK: Okay.

MS. MANGO: I was not in the inner circle.

MR. FRANK: And you will be assisting the companies in preparing application to the Army Corps of Engineers and DEP?

MS. MANGO: I have been assisting. I could only -- they would have to say whether I will be assisting.

MR. FRANK: And I -- and, obviously, you've submitted pre-filed testimony assessing the potential environmental impacts from the project. Correct?

MS. MANGO: Yes. The pre-filed testimony that was -- exists that I was part of.

MR. FRANK: And I see from your resume that you had a similar role in a number of other linear transmission projects.

MS. MANGO: That would be true.

MR. FRANK: And that was all on behalf of a utility company of one sort or another.

MS. MANGO: Sometimes I represented the landowners.

MR. FRANK: The majority of the projects that are listed in your resume are on behalf of a utility company?

MS. MANGO: That would be true.

MR. FRANK: Okay. Is it fair to say that the bulk of your professional work is as an environmental consultant to utility companies seeking to build a linear project, whether it be a transmission project or a gas line project?

MS. MANGO: Only to the extent that it

relates to those energy projects. I've done a lot of work for State DOT and the New York State Parks and Rec and things of that sort.

MR. FRANK: The majority of the work that's listed on your resume is as an environmental consultant on a linear project?

MS. MANGO: For utility projects, yes.

MR. FRANK: Okay.

MS. MANGO: It has been for the evil utilities.

MR. FRANK: And you acted as the environmental project manager with respect to many linear projects, including the A&R, Erie, Ohio interstate pipeline, San Yoaquim pipeline and the Iroquois gas pipeline?

MS. MANGO: Yes. For my companies. Mm-hmm.

MR. FRANK: And with respect to the Iroquois gas pipeline project, according to your resume, you were the environmental consultant, project manager for ten years, providing services coordination prior to, during and after construction?

MS. MANGO: True.

MR. FRANK: You developed what is called

an environmental and construction plan for a portion of the project in New York?

MS. MANGO: Environmental management and construction plan, similar to the Connecticut Siting Council's development and management plan.

MR. FRANK: Okay. And Iroquois also received an Army Corps of Engineer permit for the project under Section 404 of the Clean Water Act?

MS. MANGO: Section 4 and Section 10, individual permit.

MR. FRANK: And you were hired by Iroquois to perform environmental services required by the certificates and permits?

MS. MANGO: As -- yeah. In essence, yes.

MR. FRANK: Okay. And under the certificates and the Army Corps permit, throughout the construction of the pipeline project Iroquois was required to install and maintain controls of -- to minimize soils erosion into rivers, streams and wetlands?

MS. MANGO: They had many permit conditions.

MR. FRANK: That was part of it?

MS. MANGO: It's a standard condition.

MR. FRANK: And that's similar in concept,

isn't it, to the representations made on Page 28 of your pre-filed testimony that the companies would implement best management practices, including temporary erosion controls, surfacing roughening, temporary seeding and mulching to limit potential wetland impacts. Right?

MS. MANGO: Yes. In accordance with permit conditions.

MR. FRANK: Now, Ms. Mango, you were the Manager of Environmental Affairs in charge of environmental compliance during construction, which involved, among other things, timely cleanup of pipeline right-of-ways, including rivers, streams and wetlands?

MS. MANGO: Are you speaking about for Iroquois?

MR. FRANK: Yes.

MS. MANGO: No, I was not.

MR. FRANK: You are aware that Iroquois pled guilty to four felony counts by the United States District for violations of the Clean Water Act?

MS. MANGO: I am very aware.

MR. FRANK: And that they paid 22 million dollars in criminal and civil Clean Water Act fines --

MR. PRETE: Yes, they did.

MR. FRANK: -- in restitution? And were

required to clean up 30 wetlands and streams damaged during the construction?

MS. MANGO: They did do the cleanup. It was disputable whether they were damaged.

MR. FRANK: Now, in Segments 3 and 4 -- in the Segments 3 and 4 hearings, you testified that the companies employed certain routing objectives for the entire project? Correct?

MS. MANGO: You'd have to refresh my memory. The same general criteria were used, if that's what you're asking.

MR. FRANK: Okay. And among those objectives was to minimize adverse impacts to environmental, cultural and scenic resources?

MS. MANGO: True.

MR. FRANK: Now, you testified with respect to Segments 3 and 4 that an underground route would have minimal environmental impact because it is being proposed with an existing road right-of-way and would not adversely affect vegetation, amphibian breeding areas or wildlife resources.

MS. MANGO: That's correct. That was evaluated within the context of Alternatives A and B.

MR. FRANK: Okay. And, in fact, in

determining an underground route for Segments 3 and 4, you focused on the existing road corridors because they are typically relatively level and avoid most natural resource impacts. Right?

MS. MANGO: Correct.

MR. FRANK: And if an underground route in an existing road corridor were proposed in Segment 2 towns, this same concept would apply. Wouldn't it?

MS. MANGO: It would generally apply.

MR. FRANK: Thank you.

If I could, I'm just going to turn it over to Attorney Kohler.

MS. KOHLER: I apologize for my voice. Please let me know if you can't hear me.

Ms. Mango, in response to the Council's Interrogatory No. 38, you responded that there will be no significant loss or disturbance of existing wetlands or ponds along the right-of-way. Can you tell me what your threshold for significant loss or disturbance is?

MS. MANGO: The only impact that, as I understand it, would occur to wetlands would be from the placement of the pole structures themselves in the wetland, which would constitute fill. The construction of the structures, if they had to occur in wetlands --

that's assuming that structures could not be moved for some reason -- the work platforms would be temporary. The companies are trying to develop procedures that would involve wood mats and things that could be placed in the wetland to allow the construction or the removal of a pole. And then those wood mats would be removed after the completion of construction. And the wetland area around the actual pole footing would be allowed to revert to wetland.

So the area that we're looking at as direct impacts, permanent impacts, would be the structure of the pole itself in the wetland.

MS. KOHLER: I'm sorry. I'm not sure if I understand what your threshold is then now. I understand the process by which you'll facilitate the wetlands impacts and try and mitigate it. But what -- when you say that it has no significant loss or disturbance --

MS. MANGO: We didn't pick a number, for example. We didn't -- we didn't say 10 acres is bad, 100 is worse. We just generally tried to look at Corps of Engineers regulations, look at -- you know, less than ten, less than five, less than three. We're on that order of magnitude for the project. We're looking at something of less than ten acres for the project. But

that's information we're still developing because we're still trying to relocate poles to keep them out of wetlands.

MS. KOHLER: Thank you. Thank you.

Your pre-filed testimony makes the assertion that the project will result in five acres of temporary impact and three acres of permanent impact. Is it your opinion that the permanent fill of three acres is not going to be significant?

MS. MANGO: Yes.

MS. KOHLER: And can you just tell us how you arrived at the impact acreage numbers?

MS. MANGO: Essentially, the area of permanent fill in a wetland is as I described. It accounts for the base of the pole, which would be in a wetland and would constitute fill. And somewhere I have an acreage of that.

We assumed that a foundation of a structure would be about eight feet by eight feet. This is like an average. So we would have a 64-square-foot impact. And the depth of the foundation would be approximately nine feet. So that's the actual -- the footing of an H-frame, the footing of a steel monopole.

And then in a wetland, the companies have

determined that they could limit the impact of temporary disturbance. In our application, we had estimated an area of about 100 feet by 100 feet around a pole. And that would be in an upland area where we -- where the companies have to do work in a wetland, they have determined that an area of about 2,000 square feet in some configuration, 40 by 50, 60 by 35, something like that, would be required. So that was included in that temporary wetland impact calculation.

And then there were also some calculations made to the extent that a new pole must be located in a wetland or an existing access road does not presently -- where there is no existing access road. Then we calculated a 15-foot-wide area for that.

And that's how the acreage impacts in my testimony were derived. And they're still being -- as I said, it's sort of like an ongoing process. But that's the order of magnitude impacts that we're looking at.

MS. KOHLER: So is it fair to say that the 100-by-100 that was included in the application, you've now changed it slightly to be 40 by 50 or 50 by 40 or some --

MS. MANGO: Yeah. For wetlands.

MS. KOHLER: For wetlands.

MS. MANGO: The companies have determined that that can be done. They could use these wooden mats to come in. For the uplands, it's still about 100 by 100.

MS. KOHLER: Okay. Would your opinion change -- would your opinion about the lack of significant environmental impact change if you discovered there was significantly more wetlands that were to be impacted?

MS. MANGO: It's a hypothetical question. I would say -- I have to say that it could change. But the companies would have to comply with their permits from the Corps and the DEP. Those permits -- you know, if those agencies felt or even the Siting Council felt that there were unacceptable level of wetland impacts, then there could be off-site mitigation. There could be on-site mitigation in terms of creation of wetlands. You know, it's a fairly standard thing. The Corps of Engineers could require two-for-one replacement. If you impact three acres, they could require you to create nine acres or six acres. There's a lot of different things that can be done to mitigate.

MS. KOHLER: So -- but more environment-- more wetland impact could create more significant

environmental impacts.

MS. MANGO: It could. It could under some scenarios. But it could also be mitigated.

CHAIRMAN KATZ: So would it -- were there wetlands that were identified by Land-Tech that was not identified by your team where you felt that it could not be mitigated under the mitigation techniques that you've discussed?

MS. MANGO: I'm not sure that there are any wetlands identified by Land-Tech that were not identified by SSES. SSES has gone out onto the right-of-way for three years, in 2002, 2003 and then they've been out this year with the companies' personnel to look at things like access roads and federal wetland delineation.

What we are -- what we're seeing in the Land-Tech testimony, I think, is a difference of opinion as to whether these wetlands are occupied by amphibians. And I guess my opinion is like -- as I said, these amphibians move around. So it's certainly possible that they were not there last year and they're there this year, which I would consider to be a good thing because that shows that the right-of-way is supporting amphibian-breeding habitat because all of these wetlands are now on the right-of-way.

CHAIRMAN KATZ: But when you get ready to do actual construction, do you do that year, that season, a ground-level re-look at natural populations to make sure that you're current before you start bringing in the bulldozers?

MS. MANGO: Well, what I've seen done in other projects is, you know, you assume that they're there and you can time your construction to not affect the breeding season, which is the spring, which the companies have essentially committed to do anyway to avoid impacts to bird nesting. You can silt-fence or put erosion controls around your work areas. Because what you want to do is not have the amphibians get into your work areas. You don't want to fence them in to their vernal pool because then they can't disperse. So --

CHAIRMAN KATZ: So you fence them out?

MS. MANGO: You fence them out. So there's -- you could have -- you know, there's been like situations where we've hired specialists, herpetological specialists, who go in front of the construction equipment. Or we were snake monitors on one project and nobody thought we'd find a snake. But we found the first timber rattlesnake. And everyone was really interested in having that snake monitor there. And we did move

about ten timber rattlers.

So I mean there's lots of things you can do. I mean I'm not sure that keeping -- surveying these wetlands and saying, "Are there amphibians there or not?" is necessary. I think personally I just assume they were there and mitigate for that; you know, keep -- keep as much habitat around the wetland as you can. You know, keep the shrubs that are there now that are obviously, you know, making the habitat effective habitat. You know, don't cut those shrubs down unless it's a hazard to the line.

CHAIRMAN KATZ: But I guess -- did Land-Tech identify any sensitive areas that you feel that, if they were right, make this line unbuildable on an environmental viewpoint?

MS. MANGO: No. No.

MS. KOHLER: I'd like to just ask -- follow up on a couple of things that you just said. Is it correct that the companies will actually be creating new wetlands to replace the ones that are being disturbed or did I hear you incorrectly?

MS. MANGO: Right now, the companies are not proposing that. What I said was that, you know, in accordance with, you know, the Corps of Engineers -- you

know, the companies will require a permit from the Corps of Engineers, the U.S. Army Corps of Engineers. They'll require a Section 404 permit. Probably a Section 10 permit for the river crossings, like the Housatonic. They will require structures dredge-and-fill permit and inland wetlands -- no. Structures dredge-and-fill and 401 water quality certification from DEP.

And as conditions of those permits, it's always possible that those agencies can ask for some kind of compensation, you know, in terms of either the creation of a wetland, the enhancement of an existing wetland that's maybe been degraded by pollution of some sort.

Creation of wetlands doesn't work all that well and you have to find a place where you could take upland and create a wetland. But it's possible.

MR. COLIN TAIT: Ms. Mango --

MS. KOHLER: You --

MR. TAIT: I'm sorry.

MS. KOHLER: Go ahead.

MR. TAIT: Ms. Mango, have you compared Land-Tech's report with the companies' application?

MS. MANGO: I've looked at that very briefly. I can't say I've studied it. You know,

initially, my gut feeling is I --

MR. TAIT: I'd be interested in your comparison. What have they found that you did not find? What did they not find that you did find?

MS. MANGO: They -- you know, essentially, you know, the difference is that they have found areas, more areas where there's amphibian breeding. You know, certainly their wetlands -- they surveyed the same wetlands that SSES surveyed.

MR. TAIT: That's the only significant difference that you've, to date, noticed?

MS. MANGO: I didn't notice that there were huge discrepancies. You know, that -- I mean I'd have to look at it again. This was something I think I received -- well, Mr. Stevens says he can answer this. I guess he has studied this.

MR. TAIT: Well, then I would like somebody who has studied it to highlight for us the differences in the two reports and explain the differences, if they can.

MR. STEVENS: All right. Again, Kenneth Stevens. I received the pre-application testimony of Land-Tech last Friday. So we weren't able to do an extensive study on that. Jeff Bourney has also done some

work on that. I did go out last Saturday and I looked at two specific areas. And I also compared our data sheets, both from the initial 2002 survey and the 2003 survey, with Jennifer Beano and came to this conclusion.

Let's start out by comparing their findings of eight vernal pools in the two towns of Milford and Woodbridge. We did not identify any vernal pools per se in those two towns. But what we did identify was seven areas of potential amphibian-breeding habitat.

Now, I don't want to, you know, get into a long, long discussion on what vernal pools are and what amphibian-breeding habitats are. But basically let me say this. There are several criteria for vernal pools. They have to hold water for over two months. You don't have a fish population. You don't have a stream running through them.

But, also, these vernal pools -- and Land-Tech did not mention this. Vernal pools not only have to have the reproduction of amphibians, but they also have to have the development of those species on into adulthood. I have seen, for instance, rubber tires and I have seen little sumps, cement sumps, with amphibian eggs in them. Case in point was the Avalon case. But, very

obviously, these eggs are not going to mature in time because these areas do dry out. They're just not suitable habitat.

So to be a true vernal pool, it's more of a biological definition than an intermittent water body. So we were fairly careful in our determination as to what was truly a vernal pool and what wasn't. We were somewhat hampered by the fact that we did look at these areas at first in May and June. We did go back and do an amphibian study in April the following year. But you really have to -- and I might say as far as Land-Tech's report is concerned, they looked at these areas in March of this year. You have to really study these vernal pools over a period of time to see exactly what is happening in them.

So we leaned more towards calling areas amphibian-breeding habitat with the idea that hopefully the eggs, the tadpoles, the larvae would mature into adults. So we're -- we're more into semantics than we are a very definite disagreement as to where these amphibians exist.

One area we did not say was a vernal pool and we did not say it was a breeding habitat -- however, we saw a green frog in it. That would kind of make me a

little suspicious that maybe we should have probably looked at that area again to make that distinction.

Land-Tech -- two areas I looked at in Milford Land-Tech had described. One area was near Pole 5071 in Segment 149. This was a knoll of sand and gravel with a pole sitting or proposed to be located in that sand and gravel area. They identified a vernal pool 70 -- that was, I believe, to the east, roughly to the east, of this site, adjacent to the sand and gravel knoll. I saw that. It certainly had sufficient water. I did not take the time nor do I have the expertise to identify species of eggs and so forth that would be found in that area.

But I -- I'll accept their call that they saw amphibian reproduction taking place. Being this late in the season, one can only assume that probably they did mature.

MR. TAIT: One final question. Did you identify any wetlands -- did they identify any wetlands that the applicant or their specialist has not identified?

MR. STEVENS: To the best of my knowledge, they did not.

MR. TAIT: Thank you.

CHAIRMAN KATZ: Would you be willing -- would the companies be willing, when doing a D&M plan, to use -- you said you accept the call of Land-Tech. Would you be willing to use the Land-Tech information in developing a D&M plan?

MS. MANGO: You mean about the amphibians?

CHAIRMAN KATZ: Yes.

MS. MANGO: We could look at it again. I mean I -- I'm not sure that that would be a particular problem. I mean one thing I should point out is that -- we've just been talking about the amphibians and I said I didn't really have a problem with the amphibians -- I mean the Land-Tech report overstates the wetland impacts because they use the information that was in our application, for example, with 100-foot-by-100-foot area for impacts to a pole location. And as I just said, you know, the companies for wetlands will be about half that, maybe less.

CHAIRMAN KATZ: Would the company be willing to use -- to look at the land that Land-Tech looked at in the D&M plan?

MS. MANGO: The companies tell me yes.

A VOICE: Yes, we will.

MR. TAIT: I'm sure all information is

received and you look at it --

CHAIRMAN KATZ: Right.

MR. TAIT: -- and give us the best assessment of all available information, including Land-Tech's and --

CHAIRMAN KATZ: And do whatever mitigation --

MR. TAIT: This is a cooperative effort to get to the best solution.

CHAIRMAN KATZ: Right. Scientists can disagree. But my question is if they've identified areas that perhaps they saw as sensitive areas that you did not see as sensitive areas, would you be willing to address these areas in the D&M plan?

MR. ZAKLUKIEWICZ: The answer is, yes, we will.

CHAIRMAN KATZ: Thank you.

Are we about -- is this a good time to break in your Cross?

MS. KOHLER: Yes.

CHAIRMAN KATZ: Okay. We will resume at 1:00.

(RECESS)

CHAIRMAN KATZ: Okay. We're ready to

resume Cross Examination. And I'm asking, so that we can cover a lot of material, that we have crisp questions and we have crisp answers.

After Attorneys Frank and Kohler, we're going to go to Attorney Curto, Attorney Stone and Attorney Buturla.

So let us resume. Do we have a question pending? I don't -- I think not. Okay. Please proceed.

MS. KOHLER: Ms. Mango, just to pick up where we left off, we were talking about environmental impacts. And I'd like to focus on the area of wetlands, wetland disturbance.

You've identified five acres as being temporarily disturbed. If I understand your testimony, both in your pre-filed testimony and earlier today, most, if not all, of that disturbance will be the result of the need to access through the wetlands and/or the placement of temporary work pads in the wetlands.

MS. MANGO: I believe the five acres is the temporary wetland impact and --

MS. KOHLER: Correct.

MS. MANGO: -- that there would be an additional three -- an additional three permanent --

MS. KOHLER: Correct. But that the

temporary disturbance will be the result of access through the wetlands and the work pads that are going to be placed in the wetlands.

MS. MANGO: Let me just review that. What page of the testimony was that? Do you know?

MS. KOHLER: I can get it for you.

MS. MANGO: Okay. Yeah. The five acres relates to temporary access in wetland. That is to the extent that -- for example, to remove an existing structure where a structure would not be replaced and an access road to that area would not be necessary. The companies would propose, wherever possible to put down these temporary wooden mats or equivalent that would be used only during construction and then taken out after that structure were removed.

MS. KOHLER: Better.

MS. MANGO: Or the temporary work pads around the erection or removal of structures.

MS. KOHLER: Okay. And is it your understanding that these wetlands will be restored once construction is completed?

MS. MANGO: Yes.

MS. KOHLER: Assuming that these wetlands are restored, when one of these areas of temporary

disturbance needs to be accessed again for maintenance or repair, isn't the wetland then disturbed again?

MS. MANGO: If that were necessary, it would be disturbed again. What we've typically seen is that most of these wetlands will come back within a year or two because they have -- we will not be -- you know, except for the placement of the pole in the wetland, there wouldn't be digging. And as long as you retain the seed -- you know, the wetland seed stock in the soil layers, then they regenerate really well.

MS. KOHLER: But it's likely that the wetland impact to the acreage that's defined as temporary, the five acres, could actually be periodic disturbance rather than a one-time-only disturbance.

MS. MANGO: That could be the case. It would depend on what the utility had to get in to do.

MS. KOHLER: Okay.

MR. ZAKLUKIEWICZ: Typically, most typical maintenance can -- does not require motorized vehicles and heavy equipment to access the transmission structure. So when we say maintenance that's required, even the change-out of an insulator, it can be done by our linemen climbing the structure and replacing insulators. So if we're -- unless we're talking the pole itself on an H-

frame, there would be no need under normal maintenance for access into that facility except to do foot patrols and to do vegetation management every four years.

MS. KOHLER: Thank you.

I don't believe Mr. Stevens is back.

CHAIRMAN KATZ: Could we have Mr. Stevens back? Nice try, Mr. Stevens. It doesn't work.

MS. KOHLER: Mr. Stevens, we discussed this a little bit earlier briefly. But that on -- in the application on Page M-15, you stated that when you reviewed Segments 1 and 2, you identified two vernal pools.

MR. STEVENS: I haven't got the application right in front of me. So --

MS. KOHLER: Okay.

MR. STEVENS: What page?

MS. KOHLER: M-15.

MR. STEVENS: Okay.

MS. KOHLER: And the application goes on to discuss that any proposed structures would not be located within 100 feet of these vernal pools and you're assured that the construction near the vernal pool areas would be limited so as not to interfere with amphibian breeding periods.

MR. STEVENS: I did not prepare this part of the report. I would assume that that was information that was given to me by -- or given to our firm by Northeast Utilities. We would not make that statement because we're certainly not the design people.

MS. KOHLER: Maybe Ms. Mango could -- is that an accurate representation of the companies' position as to the protection of the vernal pools?

MS. MANGO: Yes. And it's something that the companies still need to look at. You know, obviously, we've talked about that the amphibians may be found in wetlands other than the vernal pools that were identified by SSES. The pole placement, as I explained, in the vicinity of wetlands and in wetlands is still being looked at to see if those poles can be relocated.

And my understanding from talking to the companies -- and Mr. Zak could explain more, if necessary -- is that they are going to try to move the poles out of the wetlands, although other factors have to be considered as well. And 100 feet would be a good location.

MR. STEVENS: Well, let me -- let me add to that. What this statement talks about is the refueling of equipment not the fact that a pole would

possibly be located within the 100 feet. But we would not refuel equipment, extraction equipment.

MR. ZAKLUKIEWICZ: Are you looking at the bottom --

MR. STEVENS: The bottom.

MR. ZAKLUKIEWICZ: -- of the page as opposed to --

MR. STEVENS: All right. Okay.

MR. ZAKLUKIEWICZ: The second full paragraph towards the top of the page, last sentence --

MR. STEVENS: Okay. You're correct.

MR. ZAKLUKIEWICZ: Let me -- let me help clarify. I think we've already testified to -- and part of the requirements of the -- that came out of the legislative working group and the Governor's assignment was that we would flag all wetland areas and that it is our intent to do so. So, since a vernal pool is actually in a wetlands area, those areas will be flagged and we will do everything in our power to move some of the structures that are presently in designated wetlands areas.

There are some wetlands areas that run longitudinally along the right-of-way for hundreds of feet, making it almost impossible to have a span that

long where we could traverse a wetland. So in this case, we would look for the areas, if the poles are presently not there, where the depth of the water is the shallowest, the least impact would occur if we set a new pole and it had to be within that wetlands area so our disturbance will be temporary and minimal as much as we can.

Recognize also that we made statements at each of the municipal meetings where we indicated that on multiple structure rights-of-way we would try to locate the new structures basically side by side of the existing structures that are there. So when those rights-of-way where there are presently three or four transmission lines and the structures are basically all lined up such that if you look perpendicular to the rights-of-way, they all line up one behind the other. This would change it now when we start moving these structures in between where the existing structures are presently. Now you're going to impact other homeowners in that their view presently may not be of any structure on that transmission right-of-way. They would now end up seeing a structure because of the movement or placing new structures in between, in the middle of the span, for instance, between other structures on that right-of-way.

So it's just another concern that we have to aesthetically please the people alongside the right-of-way in addition to trying to mitigate our impact on any wetlands which includes the vernal pools on the right-of-way.

MS. KOHLER: Thank you.

Ms. Mango, can you tell me why it's important to institute these protocols near and around vernal pools?

MS. MANGO: The protocols of maintaining a setback and things of that sort?

MS. KOHLER: Correct.

MS. MANGO: You want to preserve the habitat around a vernal pool in terms of minimizing the areas of cutting as you would in any -- around any wetland, in fact, because the adjacent vegetation provides shading that's necessary for the amphibians to populate, you know, and breed and things of that sort.

For example, a storm water detention pond I think has been cited as like false habitat. The amphibians are lured into a detention pond. But there's no shading typically and they -- the detention pond dries up and the amphibians die before they can effectively breed. So you want to try to maintain the cover of your

vegetation, the shrub scrub vegetation that exists along -- around the wetland.

MS. KOHLER: Okay. Actually, that was a beautiful transition. If you could look at -- in the application on Table J-1, there's a two-page table. Could you just clear up for me? I'd like to get a sense of how much and what types of clearings will take place along Segments 1 and 2.

Throughout the materials, a clearing is referred to as both vegetative clearing -- in some sections, it talked about woody clearing or forested vegetative clearing. Is woody vegetative clearing and forested vegetative clearing the same thing? Removal of trees?

MS. MANGO: It might be just a matter of semantics. And, you know, this is something that, you know, takes me a while to, you know, describe this myself. And I think others can help me.

But, essentially, between Cook Hill Junction and Beseck, the existing right-of-way is 165 feet. There's three sets of structures. And it is currently in a vegetatively maintained state which includes things like red cedar, shrub scrub species, small trees that are maintained by the companies or

specifically CL&P on about a four-year cycle. Okay? So that doesn't require clearing.

On other parts of the right-of-way, for example, the Scovill Rock to Chestnut Junction section which has been described as the area where I think it's 80 to 85 feet will need to be acquired, 80 feet, the companies own 250, but not all of that is cleared. They are proposing to acquire an additional 80 feet, most of which will be on land owned by CL&P.

And they propose in this area, which is all wooded, adjacent to the right-of-way, woody or forested vegetation clearing would be required for something like 80 to 85 feet to accommodate a new H-frame.

So what this table shows you as you go down, that -- those are the two extremes. The Scovill Rock to Chestnut Junction has the most forested clearing. Okay? As I understand it, when you get down into these other areas, like Oxbow Junction to Beseck, no clearing is required. Clearing in the sense of woody or forested vegetation. The right-of-way is already maintained.

Within the right-of-way that's maintained, in order to install the structures or, in the case of the Cook Hill Junction to Devon that encompasses Milford and

Woodbridge, to remove some of the structures and install the new structures, clearing would be required of the vegetation that's there now.

So what this table essentially shows you is that -- is that -- where clearing would generally be required. Okay?

MS. KOHLER: Okay. And --

MS. MANGO: That's it in a nutshell, without getting into more detail.

CHAIRMAN KATZ: Mr. Lynch, you had a question?

MR. DANIEL LYNCH: Yeah. Before we get -- leave the wetland area, there was something that came up this morning I'd just like to follow up on.

Ms. Mango, this morning, Mr. Frank asked you about the Iroquois pipeline. He said -- and you mentioned -- he mentioned, rather, that there were 33 wetland violations and you answered in the affirmative. Do you know how many of those violations were actually in the state of Connecticut?

MS. MANGO: Oh, none.

MR. LYNCH: That's what I thought. Thank you.

MR. FRANK: If I could just clarify? It

wasn't 30 wetland violations. It was 30 wetlands in New York -- and I think my question was specific as to that -- that needed to be restored.

MR. LYNCH: All right. Then I apologize. I didn't hear New York.

MS. KOHLER: Back the table. Sorry. So in the last column where it says additional clearing is required, Y or N, meaning yes or no, if -- if woody clearing is required, it has a Y for yes.

MS. MANGO: Yes. That's true.

MS. KOHLER: Okay. So if there's an N for no, that means there will be no woody clearing along that particular section?

MS. MANGO: What this table is basically intended to show is where the character of the existing right-of-way would change, sort of from the viewpoint of something that anybody could see. So in the Scovill Rock to Chestnut Junction where there is mature forest now or, you know, a tree that anyone is going to recognize as a 30 to 40-foot tree, that tree would have to be removed if it's within the portion of the right-of-way to be acquired. Okay?

In the portion of the right-of-way between Cook Hill and Beseck, there is vegetation on the right-

of-way now but no mature forested vegetation would have to be removed because what's on the right-of-way now is not that type of vegetation.

MS. KOHLER: So under that last --

MS. MANGO: Is that clear?

MS. KOHLER: All right. Under that last column, additional clearing, if it has a No, it means no woody vegetation clearing is going to be --

MS. MANGO: Woody/forested.

MS. KOHLER: Forested.

MS. MANGO: Yeah.

MS. KOHLER: No trees are going to be removed.

MS. MANGO: Yes.

MS. KOHLER: However, it does not mean that there will be no vegetative clearing.

MS. MANGO: Correct.

MS. KOHLER: Okay.

MS. MANGO: There will be vegetative clearing.

MS. KOHLER: Okay. And there will be vegetative clearing along most of the right-of-way. Oh, let me just -- on the footnote to that table where it says -- "To construct the project, some vegetative

clearing will be required along most of the right-of-way."

MS. MANGO: That's a true statement.

MS. KOHLER: Okay. Now, do you have a --

MR. ZAKLUKIEWICZ: Could I interject here? Since the August 14, 2003 blackout, as you all know, FERC identified a number of concerns. And one of those was the vegetation management process that was -- is employed by utilities across the United States. One of those areas of concern is the identification of any, any, woody species that can result in the tripping of a bulk supply substa-- bulk supply transmission line.

And when this presentation was prepared, this was well before the August 14 event. Clearly, if the FERC comes out and mandates that vegetation be cleared further away from the wires that we presently do, some of those No's may become Yes, based on federal mandates. So I want to turn around and make certain we all understand we're saying no now. Those No's may change as a result of FERC mandating what the new standards will be for vegetation management and the clearing of any tree that could result in the tripping of a transmission line in the country. So I want to put that preface there besides the No, saying we don't know

at this time and it may be that some spot trimming or clearing of trees may have to occur.

MS. KOHLER: So that number could increase?

MR. ZAKLUKIEWICZ: That number could possibly increase as a result of FERC orders.

MS. KOHLER: And, Ms. Mango, do you have an acreage approximate of how much vegetative clearing you expect along Segment 1 and 2? I mean other alternatives, there have been numbers that have been identified as potential clearing requirements.

MS. MANGO: That is a good question. I think in the application in Volume 1, we have a table that identifies something like 97 acres of forested vegetation. We're actually in the process of trying to quantify overall vegetation. And I don't have a number. But it would certainly involve areas along -- the areas where your structures would be constructed or removed, especially constructed. It would involve possibly some vegetation clearing along access roads that need to be improved or that -- well, basically that need to be improved. If vegetation has grown over the existing access roads, that would be trimmed.

So I don't have a number. But those are

the types of vegetation clearing that would occur. And I don't know if somebody else on the panel wants to add some more about that. But I don't have a number.

MS. KOHLER: I guess my question is some of the alternatives that have been discussed -- information has been provided about what the total vegetative clearing might be and using that as sort of a basis to decide whether it's a good alternative or a bad alternative. But I don't think if there's -- we don't know how much the proposed route -- how much you're -- how much total vegetative clearing is proposed in the proposed route. It's hard to compare the alternatives to the proposal.

MS. MANGO: Well, I think -- I know for Alternatives A and B, we looked at forested vegetation.

MS. KOHLER: I mean the various other -- the highway, the Merritt, the Wilbur Cross.

MS. BARTOSEWICZ: Let me interject a little bit. The Merritt -- the numbers we quote for the Merritt and the highway, they're approximate acres of again forested area. To do a detailed look tree by tree, section by section, we have not done on those alternatives. So comparable -- if you were to look at the amount of woody clearing that would be required here

and compare that to the numbers that we were using for the alternatives, you would be getting a similar comparison, not perfect, but similar.

MS. KOHLER: Okay. I guess -- and sort of a preview for tomorrow, that it is difficult to compare not just the woody numbers but the total vegetative clearing numbers rather than -- I mean I like to compare apples and apples. But I understand you don't have that number. Is it possible to get that number of --

MS. MANGO: For tomorrow?

MS. KOHLER: Some point in the next --

MS. MANGO: I mean I think that what I was trying to say on the alternatives when we talk about East Shore and we talk about the highway, they're approximations. The numbers that are in the application are certainly more refined and more detailed numbers. I guess we could --

MR. ZAKLUKIEWICZ: We will try to pull that together for you in the next week or so.

MS. KOHLER: Thank you.

MS. KOHLER: I just want to --

CHAIRMAN KATZ: We can re-address that on clean-up day if you wish.

MS. KOHLER: Okay. Thank you.

On Page 21 of the testimony, you state that additional studies were performed in 2003 and 2004. And can you just tell me where I can find those? The actual reference in your pre-filed testimony says that additional wetland field studies were performed in late 2003 and in 2004.

MS. MANGO: Correct. That refers to SSES performed some tidal wetland delineations of the underground portion of the route, the tidal wetlands near those rivers, including the Housatonic. Also some additional benthic -- well, some benthic sampling was performed by a group called ESS also of the rivers. And, as I think I mentioned, SSES and representatives of the companies are also out on the right-of-way looking at wetlands in the vicinity of access roads and looking to move pole locations out of wetlands. You know, the federal wetland delineations. Yeah. You know, SSES delineated federal wetland boundaries which are slightly different than state or less conservative than state.

And I think some of those reports may have been filed. Maybe someone else can address that. I mean there's no report yet of the access road pole possible relocation. There is a report of the benthic study. There is a report of the tidal wetland study. And I just

don't know if they've been filed with the Council.

MS. BARTOSEWICZ: The information that Ms. Mango was discussing is information that we've been preparing and collecting in preparation for a DEP and Army Corps applications. They have not been filed at the Siting Council.

MS. KOHLER: Okay. The way I read this is that -- in this one paragraph, is that there's two different types of these studies. There's these wetland field studies it says were performed, which I'm assuming means past tense, in 2003 and 2004. And then there appears to be a different, maybe perhaps ongoing, study talking about the displacement or movement of poles out of wetlands. So is -- the first set of studies has not been filed that was completed already?

MS. MANGO: The first set of studies as it pertains to the federal jurisdiction of wetlands --

MS. KOHLER: Correct.

MS. MANGO: -- as described, that is in conjunction -- will be conjunction with the submission of the application to the U.S. Army Corps of Engineers. So that report -- I'm not -- I think it's still being completed. And the application with the Corps of Engineers has not yet been submitted. So when it's

submitted, then these wetland studies would be part of the Corps application.

The second part of the paragraph relates to the fact that SSES works with company personnel and I think with Burns & McDonnel personnel to look at where poles could potentially be moved out of a wetland. And that is an ongoing process --

MS. KOHLER: Okay.

MS. MANGO: -- for which there is no report as of yet.

MS. KOHLER: So the first type of studies, the federal jurisdictional wetland studies, have not been filed with the Council and they're not part of this record.

MS. MANGO: We have not filed DEP applications nor are --

MR. FITZGERALD: No. The statement is correct.

MS. KOHLER: Okay. When can you expect that the second set of studies will be received by the towns and the parties?

MS. MANGO: For the federal wetland delineations?

MS. KOHLER: No. For the second type of

studies, the -- where we identify the proposed structures that could be moved to avoid wetlands.

MS. MANGO: That's a good question. And I don't have a good answer because I'm not -- I truly don't know. I mean it's something that's ongoing. Hopefully in the next month or two. But I really -- you know, I'm not sure because a lot of different people are involved and I'm just not sure.

CHAIRMAN KATZ: Do you need a moment?

MS. BARTOSEWICZ: Yes. Thank you.

CHAIRMAN KATZ: Off the record.

(Off the record)

MR. PRETE: Consistent with the DEP permit and as Ms. Mango had suggested, the companies are doing their best to relocate structures as best we can out of the wetlands. So we fully expect to have that new what we would call plan and profile, where the poles are going to end up, as we submit the application to the DEP. And we expect to do that within a month.

MS. MANGO: And let me just clarify. I mean I think that, you know, you have been referring to a study. It's -- this is not new wetland information. It's information based on our existing wetland delineations. The federal wetland delineations are,

unlike the state wetland criteria which is just based on soil type, federal is based on a three-parameter approach, soils, hydrology and vegetation.

So in every case, the federal wetlands are a smaller sub-set of the state wetlands. You know. Just so you know. So we're not uncovering new wetlands.

And in terms of what we would be looking to provide as part of our applications to the DEP and the Corps, this will probably result in a table which would then be submitted to the Council so that all the agencies are on the same page. And, you know, assuming that this is acceptable, it would be carried forward into the design and the D&M plan phase. But it's not a huge 50-page report. It will be some little table, I would think.

MS. KOHLER: Well --

MR. BRIAN O'NEILL: If I may ask --

MR. EDWARD WILENSKY: Would you move that microphone closer to you please?

CHAIRMAN KATZ: Mr. O'Neill?

MR. O'NEILL: I'd like to ask a question regarding the placement of the poles. According to what I've just heard, am I correct in assuming the placement of the poles on the application is a general placement

guide, not a direct placement guide of where these poles will be located?

MR. PRETE: That is correct.

MS. MANGO: And I think there was a 100-foot envelope. And, for example, what we're seeing is that if you look on the one inch equals 400-foot maps versus the one inch equals 100, there's a number of different locations where, you know, on the one inch equals 400-foot map the pole looks as though it's outside of a wetland. But when you look at the actual wetland boundaries that were surveyed in, which are on the one inch equals 100 scale, the pole may be inside a wetland by 20 feet, 10 feet, whatever. You know. And in those cases, we looked at those maps and said, "Well, why can't we maybe just move it 20 feet outside the wetland or 30 feet?" You know. So those are the cases that are readily apparent.

MR. O'NEILL: Are there also instances in the application where you indicated one footing for a pole where there was, in fact, two footings?

MS. MANGO: That would not be a question for me.

MR. PRETE: In the case where the structure is an H-frame, that would be a correct

statement, Mr. O'Neill.

MR. O'NEILL: Thank you.

MR. PRETE: Okay.

MS. KOHLER: So the report about -- or the information that's going to be provided about potential pole locations will be provided in enough time and before the record closes for our experts to be able to take a look at it and for us to cross examine on it?

MR. PRETE: Typically, I think to Mr. O'Neill's point, these -- final design, I guess, is maybe what we can characterize what you're asking for. Is done consistent with the D&M plan because you go out and you do re-surveying to make sure that the placements are indeed where the aerials perhaps for the last two years -- if anything has changed. So I wouldn't expect final placement until the D&M plan.

But as Ms. Mango has suggested, this is ongoing. We're trying to do our best to minimize environmental impact with continuing information. And if we can get them out of the wetlands, that just seemed an appropriate step. Since the DEP permit is most critical to getting this project done by December '07, we thought that being able to provide them with the most current information was prudent. And that's what we're trying to

do within the next couple of weeks to a month. But it's going to be an ongoing process.

As Mr. Zak has stated, one of the preferred preferences by most of the towns was to -- especially between the Cheshire area and Milford where we have three structures, we were instructed heavily to try to relocate poles at the same location as they are today. And those locations are approximately where the H-frames are side by side. So that's when we -- when we put our application together, that was one of the instructions we took to heart.

Now that the wetlands is becoming increasingly important, which is it, we're trying to juggle both of those. And as Mr. Zak had stated again, if you can picture, especially on the right-of-way between Cheshire and Milford, you're going to have poles side by side. That's a very good thing because that lowers the height of the poles. And if you could picture kind of two poles side by side and, say, 600 feet in between, when there's a wind blowing, the wires blow together. So the clearances that you need there are probably minimized. As opposed -- the same analogy, if you a pole right in the middle of that span, you're now having this swinging arrangement. You have to now either

heighten the poles, which is typically what you have to do, or move them apart. So we're just trying to juggle all those as time goes forward over the detail design.

Sorry to be less than brief.

MS. KOHLER: Mr. --

CHAIRMAN KATZ: The problem with having knowledgeable witnesses for all parties, intervenors, is they want to share some of their information. But I want less sharing and more direct answers.

MS. KOHLER: Mr. Stevens, relating to Milford's specific issues -- and we can cut right to the chase and limit it to about five or six questions. Do you agree that the two vernal pools that were identified by Land-Tech are, in fact, vernal pools?

MR. STEVENS: The answer is yes. But one of those vernal pools is 30 feet off of the right-of-way.

MS. KOHLER: But you agree that they're vernal pools.

MR. STEVENS: Yes, I do.

MS. KOHLER: Okay.

CHAIRMAN KATZ: Can I just -- as a follow-up, in Phase 1 didn't we not do the pole placement as part of the D&M and invite the towns to comment?

MR. ZAKLUKIEWICZ: Yes, we did.

CHAIRMAN KATZ: Thank you.

MS. KOHLER: Can -- maybe, Ms. Mango, this is appropriate for you. Can you just tell me how construction would actually take place, given all the different windows of limitation? For example, just in Milford specifically, we have wood turtles. So it can't be from November to April. The birds, not from April to August 15. The vernal pools, the window from July to February. Amphibian breeding areas, July to February. And then the Wepewaug River Fishery which is September 31 to May 30.

MS. MANGO: Well --

MS. KOHLER: When I look -- when I look at that across a calendar and I cross off all the months, there are no months left to construct. Can you just tell me how that would occur?

MS. MANGO: Well, I have to look at a calendar and cross off all the months. But, in general, the Wepewaug Fishery, for example, I noted, for example, in Land-Tech's testimony they talked about crossing that river. And my understanding is that there may not be a timing restriction on that river if there's no construction planned that would require equipment crossing.

So I think the first thing that one would do is work with the agencies involved and see what windows are really applicable. And I think most of those are. I think the only one that I would question is the fishery.

Then if you were actually left with no months of the year, then what you would typically do is coordinate with the agencies to see if there's some other type of mitigation. Like, for example, can you go in and put up -- you know, do some of your construction near the amphibian area and put out bird monitors in the spring? You know? Verify that there are no species nesting in that particular area and do the work then.

Alternatively, could you put an amphibian monitor in front of your crews or with your crews to go in and do specific areas? So I mean I think that if you were absolutely precluded by an overlapping of windows, you'd have to work with the agencies and see what could be done in terms of mitigation. And all of those things have been done on various projects in the past, at least that I've been involved in.

MS. KOHLER: Okay.

MR. STEVENS: I might just add on the wood turtles, DEP's policy on wood turtles is each day of

construction where wood turtles are expected, the site would be inspected and, if a wood turtle is found, it would literally be picked up and moved to a safe area nearby.

MR. FRANK: If I may here pick up on some Woodbridge-specific questions?

CHAIRMAN KATZ: Sure.

MR. FRANK: Thank you.

Ms. Mango, I believe you stated earlier today that the first step in determining potential impacts is to compile a complete inventory of natural resources? Is that correct?

MS. MANGO: Yes.

MR. FRANK: Okay. And, Mr. Stevens, do you agree with Land-Tech's opinion that there are five vernal pools in Woodbridge?

MR. STEVENS: No.

MR. FRANK: And why not?

MR. STEVENS: Land-Tech made this decision based on an inspection in March and did not look at those areas through the entire season. So I cannot verify the fact that there's five vernal pools in the town. Now, I have not inspected all those areas or I should say my biologist has not inspected all those areas again.

Initially, we thought some of these areas had characteristics that would support reproduction. But whether they would actually qualify for vernal pools, we do not think so.

MR. PHILIP ASHTON: Mr. Frank, I assume your question is not restricted to the -- or not limited to the -- or is not limited by the entire town of Woodbridge but just the right-of-way as it crosses through Woodbridge?

MR. FRANK: Yes.

MR. ASHTON: You asked how many vernal pools there were in Woodbridge. And I'm not sure the answer was appropriate for your question. So I think you were restricting it just to the right-of-way. Aren't you?

MR. FRANK: I restricted it to Land-Tech's findings. And Land-Tech only studied the right-of-way in Woodbridge.

And is the basis for your conclusion that you do not agree or at least not in a position at least at this point to agree with Land-Tech is your assumption that they did their study in March rather than, let's say, in April?

MR. STEVENS: Yes. Based on their report,

they made one site inspection. Maybe they made more. I don't know. But their report talks of one site inspection in March.

MR. FRANK: Can I --

MR. STEVENS: They have no way to know if water was maintained, for instance, in those pools for two months.

MR. FRANK: Can I direct your attention please to Page 5 of Land-Tech's report? Where they say, "Land-Tech Consulting walked the entire right-of-way through the town of Woodbridge on March 11 and 22nd, 2004", which is what you testified to. Then the next sentence, "Potential vernal pools identified during this investigation were inspected on April 14, 2004." Does that change your opinion in any way as to --

MR. STEVENS: No. Because that's not a two-month period.

MR. FRANK: Okay. So the -- the April inspection was an inappropriate time to inspect. Right?

MR. STEVENS: No. It was appropriate. But if they're going to --

MR. FRANK: So, in your opinion, they should inspect again?

MR. STEVENS: -- totally verify this, it

should have been inspected all the way through to the beginning of January -- or June.

MR. TAIT: Sir, you're not denying that these are vernal pools. You're just refusing to confirm it.

MR. STEVENS: Correct.

MR. FRANK: Okay. So --

MR. STEVENS: Correct.

MR. TAIT: Let's move on.

MR. FRANK: Ms. Mango, has the applicant provided a complete listing of species of special concern in Woodbridge?

MS. MANGO: The companies provided the list that was identified to them by the DEP at the time.

MR. FRANK: And Soil Science or a consultant found an eastern box turtle in Woodbridge, which is a species of special concern. Is there any reason that was not -- that information was not included in your pre-filed testimony?

MS. MANGO: No particular reason.

MR. FRANK: And the correspondence from the DEP does not discuss the finding of this eastern box turtle in Woodbridge by Soil Sciences. Did the company report the finding, Soil Science, to the DEP?

MR. STEVENS: No, we didn't. I -- I might say that we find them all over the state of Connecticut quite frequently.

MR. FRANK: So that information was not reported to the National -- Natural Diversity Data Bank?

MR. STEVENS: No, it wasn't. If it was a rare and endangered species, we would have reported it.

MR. FRANK: The construction envelope for Pole No. -- new Pole No. 3947 in Woodbridge lies partially within Wetland 125, which is where Soil Science found the eastern box turtle habitat. Was that habitat considered at all when selecting that pole location or the construction envelope?

MR. FITZGERALD: Wait. Wait just a minute.

Objection on the grounds of ambiguity. Are you talking about the selection of the location of the pole that's there today?

MR. FRANK: No. The question is specifically related to the new pole 3947. I was asking whether that was considered, whether the eastern box turtle was considered when selecting that construction envelope.

MS. MANGO: No, because the pole locations

have structure envelopes of, you know, 100 feet, plus or minus. And they are always subject to detail design. And the turtle certainly could be moving. So it wasn't a specific pole location criteria.

MR. FRANK: Okay. Fair enough. Ms. Mango, are you aware that Land-Tech found a second box turtle habitat in Woodbridge?

MS. MANGO: I was aware from the May 21 report which I just received that they found a turtle.

MR. FRANK: And are you denying that it's an eastern box turtle?

MS. MANGO: No. I'm not sure -- what's the habitat? I mean I guess they found the turtle. We can all agree they found the turtle and that they certainly exist on portions of the right-of-way.

MR. FRANK: Am I correct, Ms. Mango, that in Woodbridge there are 26 existing structures that are located in wetlands?

MS. MANGO: Subject to check, yes, I could say that.

MR. FRANK: Okay. And out of those 26 structures, subject to check, 23 of them are located in wetlands with a, according to Soil Science, moderate potential for productive amphibian breeding?

MS. MANGO: I have to check that. I mean I will -- I'll say that subject to check. I will certainly say that there are some large wetlands in Woodbridge in which there are poles located now and that there will be fewer poles located in those wetlands in the future under the applicant's proposal. Three poles are replaced with two.

MR. FRANK: Those 23 structures will be removed. Correct?

MS. MANGO: There -- the existing structures would be removed and they would be replaced with structures. And whether those structures are in the wetland or not will be the subject of further study.

MR. FRANK: Can you describe --

MR. TAIT: Can you amplify what you're saying?

MS. MANGO: As I understand -- and Mr. Prete or someone can maybe explain this in more detail. There's three structures on this section of the right-of-way now.

MR. FRANK: Yeah. That's correct.

MS. MANGO: And they'd be replaced with -- those three would be removed and replaced with monopoles --

MR. TAIT: So there would be fewer when you're done with it than there is now.

MS. MANGO: Correct.

MR. STEVENS: Correct.

MR. FRANK: In order to remove the structures, can you briefly describe the construction sequence?

MR. ZAKLUKIEWICZ: The poles, depending on their location, will be accessed --

MR. FRANK: And I don't want to cut you off. I just want to make sure we focus the question. I'm referring specifically to the removal of poles that are located within the 23 wetlands in Woodbridge where there are existing poles in moderate amphibian breeding areas.

MR. ZAKLUKIEWICZ: We will place matting in the area where the existing poles are. We will physically cut the poles up into smaller pieces such as to minimize the amount of heavy truck vehicles. And we will physically pull up the pole butts and construct the new structure, if it needs be, in the location where the existing structure is today.

CHAIRMAN KATZ: What piece of equipment actually comes in and pulls out that last piece?

MR. ZAKLUKIEWICZ: It would be a backhoe of some kind.

MR. ASHTON: Mr. Zak, has the type of procedure you just described been used before for any extensive period of time?

MR. ZAKLUKIEWICZ: Yes, it has.

MR. FRANK: Mr. Zak, wouldn't you also need to use an overhead crane to hold the structure in place while it's being dismantled?

MR. ZAKLUKIEWICZ: That is -- that is correct. And depending on the distance from where the wetlands is, the crane boom can be 15 or 20 foot away from the physical pole is actually set on the foundation.

MR. FRANK: And you might also have to bring in some fill to support the machinery or lay down crushed stone?

MR. ZAKLUKIEWICZ: If -- if the reach -- if the reach is crane is not sufficient to, if you will, cover the area where the wetlands is, if the access road to that pole location is not in wetlands, then I would say in all probability it would not have to be filled. That is going to depend on the location.

MR. TAIT: Mr. Zak, is it necessary to pull out the butt of that pole or is it better to leave

it in?

MR. ZAKLUKIEWICZ: It depends on where the existing -- new structure is going to be. If it's in wetlands and the new structure is going to 100 foot away, we'd probably cut the pole up into small pieces at the base and leave the pole, leave the butt of the pole in place.

MR. TAIT: And you'd make that decision on a pole-by-pole basis.

MR. ZAKLUKIEWICZ: That we would do.

MR. FRANK: I'm -- is it also true that in a radius of approximately 40 feet for each structure and guy wire anchor location clearing and grading would be performed to create a level site for work to be performed?

MR. ZAKLUKIEWICZ: There would be a temporary mat set up of some kind to accommodate that type of equipment. And the mat could be rolled back up and replaced or it could be wood sheeting, which would be physically removed, and it can be fill, which needs to be brought in, which would also be removed after the pole is set.

MR. ASHTON: Mr. Zak, Mr. Frank alluded also to guying in that question. Do you clean an area

every time you set an anchor guy?

MR. ZAKLUKIEWICZ: No, we don't for an anchor guy.

MR. FRANK: I think my question was removal of an anchor.

MR. ZAKLUKIEWICZ: Removal of an anchor, if there's an anchor there, we would just take the guy wire down and, in most likelihood, we would leave the screwed anchor in place as it does no harm to the area.

MR. FRANK: And, Ms. Mango, is it your opinion that there would not be any long-term environmental impacts from this work that has been described in the 23 wetlands in Woodbridge?

MS. MANGO: Based on the discussion of the temporary work room, no.

MR. FRANK: And what if there was fill that needed to be brought in because the crane boom wasn't long enough?

MS. MANGO: Typically, for something like that, a permit requirement is to take the fill out. And if it's not taken out, then you could be into wetland compensation.

MR. FRANK: And when you say take the fill out --

MS. MANGO: You remove the fill when you're finished.

MR. FRANK: And I think you testified earlier that there are some new structures that would be constructed in wetlands in Woodbridge?

MS. MANGO: I believe that there would be some areas that could not be avoided. But I don't have a final table.

MR. FRANK: And in those instances, you will remove the wetland soil and vegetation in the area of the structure's foundation at least. Right?

MS. MANGO: In the area where the structure is installed, the structure would constitute fill, the footings of the structure.

MR. FRANK: And is it your opinion that that would not constitute a long-term environmental impact?

MS. MANGO: Oh, no. That would constitute a long-term permanent impact.

MR. FRANK: Okay. The pole description field notes that Soil Science compiled and submitted identifies 15 pole locations in Woodbridge with access roads to them that traverse wetlands, an additional six access roads within 50 feet of a wetland and 19 pole

locations with no access roads at all that would need to be constructed. Is it your opinion that these activities, in order to construct the project, would not constitute an adverse environmental impact in Woodbridge?

MS. MANGO: Are you speaking of the Land-Tech report?

MR. FRANK: No. I'm speaking of Soil Science and Environmental Studies pole description field notes that were included in the application materials.

MS. MANGO: Oh, the Volume 2?

MR. FRANK: Correct.

MS. MANGO: Okay. That's something that we're also looking at as part of our permit applications. We're looking to see what access roads really need to be improved in the vicinity or through wetlands and whether there are other ways to get to structures without crossing wetland areas. For example, if a public access road could be used and you could come in on one side through an upland area, whereas if you used another public road you'd have to traverse the right-of-way through a wetland, we're suggesting that the upland access area would be used.

The companies have people who are looking at areas where access roads would have to be improved.

And that was -- that was taken into account in our permanent and temporary wetland impact numbers in the testimony.

So we do believe there will be some access roads that need to be upgraded. But what we're hoping to do is try to minimize the number of new access roads in wetlands.

MR. FRANK: So I guess the answer to my question, which was about impacts -- is it fair to say --

MS. MANGO: That would constitute an impact. I said it was part of my impact testimony, you know, the impact analysis of the five acres versus the three acres.

MR. FRANK: And I guess to be fair, is it your testimony then that the extent of those impacts are not known at this point because of these additional studies that you're doing?

MS. MANGO: I can't say with absolute certainty that it's like 3.5 acres or 5-something acres. The initial analyses are that it's in the order of magnitude of five acres temporary and I believe it was three acres permanent. Or I might have had those reversed. And the permanent impacts would be -- to the extent that a new access road is constructed, that's

taken into account.

MR. FRANK: Okay. So --

MS. MANGO: A new access road in a wetland.

MR. FRANK: Okay. So just -- and I'm trying to get -- ask a crisp question and get a crisp answer. Is it fair to say then that the exact extent of wetland disturbance and permanent environmental impacts in Woodbridge cannot be quantified until you conduct these further studies?

MS. MANGO: Yes.

MR. ZAKLUKIEWICZ: I think it's fair to say that the three and the five number are on the high end. And we are going to do everything possible to minimize the three and the five number as we do detailed engineering studies and locations of poles and the locations of access roads to those structures.

MR. FRANK: Soil Science pole description field notes indicate that access to Pole -- existing Pole 3961 is located within 50 feet of a perennial watercourse. In the DEP comments, they state that the Inland Fisheries Division recommends 100-foot buffers for perennial watercourses. Will that 100-foot buffer be maintained?

CHAIRMAN KATZ: You're asking about an existing pole or a pole that's going to be taken down or a pole that's going to be put in?

MR. FRANK: An existing access to a pole that is within 50 feet of the perennial watercourse.

CHAIRMAN KATZ: Okay. So you're asking about the access road, not the pole itself.

MR. FRANK: Correct. I'm asking whether that -- whether -- whether the 100-foot buffer for that access will be maintained as recommended by the DEP.

CHAIRMAN KATZ: Well, first can we ask the preface question? Is -- will they use that access road under this docket? And then secondly --

MR. FRANK: Okay. Pole description field notes indicate that the access road to Pole 3961 is within 50 feet of a perennial watercourse. Will that access road be used?

MS. MANGO: What is the watercourse? Is it the Wepewaug River?

MR. FRANK: No. This is in Woodbridge. And it's according to Soil Science. And the name of the watercourse is not identified, although I believe it's Race Brook.

MS. MANGO: The answer is I don't know

without looking at the maps, to move things along.

MR. FRANK: Okay. Assuming for purposes of my question -- well, let me strike that.

Just a more generic question. In the course of construction, is it the companies' intent to abide by the 100-foot buffer recommendation from DEP?

MS. MANGO: I believe the companies had 50 feet in the application as something they had agreed to already, a 50-foot buffer, riparian buffer. So --

CHAIRMAN KATZ: So the answer is no.

MS. MANGO: Well, we -- they need to look at the 100 feet because they've already committed not to clear 50 feet. And I think that it would be probably something that could be adhered to, subject to safety requirements for the clearances from the wires and the conductors.

MR. FRANK: Okay.

MR. ASHTON: That also depends on the topography of the area, too. Doesn't it?

MS. MANGO: Correct.

MR. ASHTON: So --

MS. MANGO: My only -- you know, I want to be brief. But I don't think that the companies have scrutinized the 100-foot buffer around every stream at

this point in time because the DEP comments came out about a month ago.

MR. ASHTON: Fair enough.

MR. FRANK: On Page K-7 of Volume I of the application, you discuss the criteria for selection of conductor pulling sites.

MS. MANGO: Correct.

MR. FRANK: Is there any reason environmental issues such as the presence of wetlands is not included? Or did I just misread that?

MS. MANGO: It probably was inadvertently omitted. I do not believe that, barring some type of design reason, that a conductor or cable pulling site needs to be in a wetland unless it's a particularly long wetland and there's no other place to go.

MR. FRANK: Okay. And you propose two structures and a pulling station in Wetland 133 in Woodbridge. Right?

MS. MANGO: That is certainly listed on the maps. And it was not something that I saw earlier. So I would think that that could be moved, subject to the companies' review of that.

MR. FRANK: So you would object to then that pulling station in Wetland 133?

MS. MANGO: Environmentally, yes, I would.

MR. ASHTON: What's a pulling station?

MR. JAMES HOGAN: It's the site that --

CHAIRMAN KATZ: Just identify yourself.

MR. HOGAN: Jim Hogan. It's the site that the -- I guess the tensioner would be set up and the cable would pull through and it would pull the tension in the wire during construction.

MR. ASHTON: So this, if I understand it then, this is a location at which equipment would be stationed to pull a new conductor under tension.

MR. HOGAN: Yes.

MR. TAIT: What sort of equipment?

MR. HOGAN: Like the back end of a tractor-trail, they have drums that pull up the tension on the conductor.

CHAIRMAN KATZ: So if the Council had a condition, no pulling stations in wetlands, the company could live with that?

MR. PRETE: We would do our --

CHAIRMAN KATZ: It was a yes or no question.

MR. PRETE: Yes.

CHAIRMAN KATZ: Thank you.

MR. FRANK: With respect to conductor pulling sites, you state that steps will be taken to minimize temporary disturbance to adjacent landowners from noise and activity associated with the pulling operation. Can you describe what the noise would be from a conductor pulling station?

MR. ZAKLUKIEWICZ: Noise would typically be a crane lifting the large cable reels onto the tensioner machines. The tensioner machine itself is a diesel-driven engine. And those are the noise abatements that we would have and any impact on the ground where this equipment is located.

MR. TAIT: How long would this operation take at any particular location?

MR. ZAKLUKIEWICZ: For all three phases, it's very possible it could run, depending on whether we have any conductors hung up on the pulling wheels, typically they can be done in approximately one-and-a-half days per average pole.

MR. TAIT: So if I was a neighbor, I could expect this inconvenience for a day and a half?

MR. ZAKLUKIEWICZ: Daylight hours. It could be for all of a day and a half. Plus the time the day before with the crane there to put the reels onto the

cable -- onto the tensioner machines.

MR. FRANK: Now, the conductor pulling site that you have proposed in Woodbridge is directly adjacent to Ezra Academy and B'Nai Jacob. Right?

CHAIRMAN KATZ: You're asking for confirmation?

MR. FRANK: Yes.

MS. MANGO: We're trying to find it on the map. It's 117 and 118.

MR. HOGAN: General answer, while she's looking for that, they occur at dead-end structures which happen at large-angle structures. So that's where the pulling operation would start. So -- and you have some latitude where you could position, if you will, behind that structure. And you also possibly could pull through that dead end to another spot if you needed to.

MR. ZAKLUKIEWICZ: Yes. It would be fairly close to both of those locations.

MR. FRANK: And would the conductor pulling site pose any safety issues for children?

MR. ZAKLUKIEWICZ: No.

MR. FRANK: And how would you control that? What means would be taken?

MR. ZAKLUKIEWICZ: There will be a number

of personnel at the site. This is not a one-man operation. Typically, there will be a number of people there. And we will, just like any line work is done today, we would keep outside people away from the heavy equipment.

MR. FRANK: And what steps will be taken to minimize noise and other disruptions to the children at Ezra Academy and B'Nai Jacob from this conductor pulling site proposed next door?

MR. ZAKLUKIEWICZ: We would try to work with the Academy and the JCC. If necessary, we'll do the work on the weekend when the children are not there. We'll work with B'Nai Brith and Ezra Academy as to when is the best time to perform this work.

MR. FRANK: Now, Attorney Kohler asked you a number of questions about the construction windows in Milford. And I'd like to ask Ms. Mango about the same set of circumstances in Woodbridge.

Now, in Woodbridge, you have the red shoulder hawk which has a construction window from August 15 to February 1. Is that right?

MS. MANGO: No, I don't think so. Is it? The red shoulder hawk?

MR. FRANK: In Woodbridge, you have the

red shoulder --

MS. MANGO: For nesting?

MR. FRANK: Correct. Up by Glenn Dam, the RWA property.

MS. MANGO: Right. But it would be like February to August.

CHAIRMAN KATZ: Mr. Frank, though, wouldn't the answer be --

MS. MANGO: In the spring nesting season.

CHAIRMAN KATZ: -- similar in that they'll -- if there are no months left, they'll work with the agencies?

MR. FRANK: I hope so.

CHAIRMAN KATZ: Ms. Mango?

MS. MANGO: Yeah. That would be correct.

CHAIRMAN KATZ: Yeah.

MS. KOHLER: I just have a couple more. And, actually, only I think one of them is -- one or two is environmental. Can you hear me?

Based upon the calculations that were in the application of wetland disturbance in Milford, Milford will experience 2.2 acres of temporary wetland disturbance and 1.1 acres of permanent wetland fill. That was what Land-Tech confirmed. Is it your statement

now that those, the numbers that were contained in the application, are greater than the companies' expectation at this point?

MS. MANGO: In wetlands, I believe that Land-Tech used the information on Page J-2 which said that a work site would be about 100 feet by 100 feet. And that is true for uplands. But then the rest of that phrase says "unless wetlands or other sensitive areas restrict the site further." So I believe that Land-Tech used the information available to them at the time. And since then, the companies have refined their identification of an estimate of the impact in a wetland area, temporary impact. And that was the number I gave earlier, which was less.

MS. KOHLER: The five --

MS. MANGO: So I believe that my -- yeah. About the 2,000-square-foot area. So I believe that Land-Tech's report overstates the impacts. But it was based on the information in the application.

MS. KOHLER: Do you have an idea of how much actual of that five and three acreage that you gave is impacted in Milford?

MS. MANGO: I don't have it. But we could get that for you.

MS. KOHLER: Okay. And to the point of moving the poles and you're still working on those studies, the environmental impact to Milford still is yet to be determined?

MS. MANGO: As it would be in -- you know, as the project is designed. You know, something like this -- the minimization of impacts would continue through the D&M plan phase and, as I said, even through construction.

MS. KOHLER: Okay. So -- and then just a couple of non-environmental questions.

Ms. Bartosewicz, when we talked -- when you gave the slide show, the Power Point this morning, about the Merritt Parkway, could you just confirm -- underground along the Wilbur Cross is feasible along the right-of-way? Is that accurate?

MR. FITZGERALD: I'm sorry. I'm just going to object to that as being ambiguous.

MS. KOHLER: I'm sorry. I withdraw.

From Segment B to Segment C on the Wilbur Cross, is it feasible to run underground along the right-of-way?

MS. BARTOSEWICZ: The solution -- the only problem area would be the tunnel, West Rock tunnel. We

don't have a solution for the tunnel. Our homework assignment was to develop an overhead solution for the tunnel, which we provided to the Council. So you still have the problem of getting through -- or through the mountain, which we do not have a solution for.

MS. KOHLER: So it could be run underground from B to C and then overhead across the tunnel?

MS. BARTOSEWICZ: You are assuming -- I have to go back to our original statements. You're assuming that more underground would be operationally and reliable. And I can't make that assumption.

MS. KOHLER: Absolutely. I'm talking from a construction standpoint. Just from what you discussed -- just from your statements this morning when you were discussing that you felt that or the studies had shown that along the median from B to C was not a feasible alternative, but that along the edge of the right-of-way was a feasible alternative. Is that accurate? Just to make sure I have it correctly.

MS. BARTOSEWICZ: What I didn't say this morning about underground from B to C would be sites for a transition station which you would need a site both sides if you were to do an underground portion. That

area has not been identified. But could you construct along the right-of-way but for the issues that I mentioned? Our consultants tell me yes.

MS. KOHLER: Okay. Great. Thanks.

CHAIRMAN KATZ: And how much would you need for trans-- how much would you need for a transition station at B and at C?

MR. HOGAN: Two to four acres.

CHAIRMAN KATZ: Okay.

MR. ASHTON: Ms. Kohler, just for the record, could you identify where B and C are?

MS. KOHLER: Excuse me. It is, I believe, from --

MR. ASHTON: Which is B?

MS. KOHLER: I believe B is from the Milford/Orange area and C is toward the West Rock tunnel area.

MR. ASHTON: Okay.

MS. KOHLER: That's based upon the companies' prior filing about the feasibility of the Wilbur Cross --

MR. TAIT: Could you clarify that?

MS. BARTOSEWICZ: Yes. Let me clarify two statements. The first question was a transition station

two to four acres. What you would need here is a transition station with full switching capabilities. And I believe in our information it could be as much as eight acres, from two to eight acres. It's not just a transition station. So I want to make that clear.

Now, Points B to C, I believe C took you all the way to East Devon. You would have to take the Milford connector. You'd have to go along the Milford connector to get you to East Devon. So that's where your end point would be.

MR. TAIT: Where does B start?

MS. BARTOSEWICZ: B starts right by Sleeping Giant State Park. Correct. It's on the north side of the --

MR. TAIT: It's on the north side of the tunnel. Correct?

MS. BARTOSEWICZ: Correct. It is at the point where the Wilbur Cross intersects our existing transmission right-of-way.

CHAIRMAN KATZ: Instead of a transition station, could you go into Wallingford Junction? Because isn't that where B is, near Wallingford Junction?

MR. FITZGERALD: Okay. Your question again is?

CHAIRMAN KATZ: Well, remind me where C is. And is it near Wallingford Junction?

MR. PRETE: Are you on the same map that we are?

CHAIRMAN KATZ: No. I'm on a different map. I couldn't find that map.

MR. PRETE: Do you want us to give you a copy? And then it might be easier for us to --

CHAIRMAN KATZ: Well, if you could just describe where C is in relationship to Wallingford Junction first.

MR. PRETE: C is far away.

CHAIRMAN KATZ: Okay. Thank you.

MR. PRETE: You're welcome.

CHAIRMAN KATZ: Secondly, if you -- okay. So you would have to have a transition station at C, up to eight acres.

MR. PRETE: That's correct.

CHAIRMAN KATZ: Okay. And B is where in relationship to -- wasn't it near Orange somewhere?

MR. PRETE: No. Actually, it's in Wallingford. It is north of the tunnel, to help --

CHAIRMAN KATZ: Oh. Okay. Understood.

MR. FRANK: Is B where the right-of-way

transects Wilbur Cross Parkway?

MS. BARTOSEWICZ: That's correct.

MR. FRANK: And that would be in Wallingford. Just to clarify what the Chairman was asking.

MS. BARTOSEWICZ: Correct.

MR. FRANK: So I think I have it right.

CHAIRMAN KATZ: Okay.

MR. TAIT: And your sol-- not the solution proposed, but a possible physical solution that would work is to underground it and go over West Rock and down again? That's your over the West Rock tunnel solution? Is overhead?

MS. BARTOSEWICZ: Correct. We filed with you a solution to overhead the West Rock tunnel. If you are now suggesting a porpoise solution, every time you go down or back up again, you need a transition station with full switching.

MR. TAIT: And you need one at B and one at C.

MS. BARTOSEWICZ: And you need one before the tunnel and after the tunnel.

MR. TAIT: That's what I thought you said, one before the tunnel and after, in addition to B and C.

MS. BARTOSEWICZ: Correct.

MR. TAIT: And how would those ones be on either side of the tunnel?

MR. PRETE: Any transition or switching station between Beseck and East Devon, however you go, will have to be -- probably on the high side of the two to eight acres.

MR. TAIT: Two to eight.

MR. PRETE: Because not only does it transit overhead to underground, it needs full switching capability in addition to three cables.

MR. TAIT: Right. And there's no sensible way to go through the tunnel with undergrounding cables?

MR. PRETE: None that we could find.

CHAIRMAN KATZ: You can't hang it on the interior of the tunnel?

MR. PRETE: Not that tunnel.

CHAIRMAN KATZ: Okay.

MS. KOHLER: And on the Wilbur Cross map that you're talking about, it's shown as being feasible to go along the Milford connector?

MR. PRETE: The reconnaissance that we did do, there is a right-of-way on one side of the connector that looked like it was constructable from a

constructable point of view.

MS. KOHLER: Okay. And can you just tell me -- last question. Crisp.

MR. PRETE: Promise?

MS. KOHLER: Hopefully. I swear. I'm running out of voice. So I have no choice.

Why is there such a disparity from two to eight? What component goes into deciding eight acres versus two?

MR. PRETE: Well, certainly the equipment involved. And I'll be very brief here. The two to eight acres really is the technology you would use. The eight acres would be more of an open bus arrangement, similar to that being proposed at East Devon. The two or the lower side would be a technology called GIS. That would be a gas insulated substation. Similar to that technology at Singer.

MS. KOHLER: So could you make -- I lied. Could you make that eight-acre transition station a two-acre transition station or smaller using different technology?

MR. ZAKLUKIEWICZ: Yes.

MS. KOHLER: Thank you.

CHAIRMAN KATZ: Thank you.

Just while they're -- while we're changing out -- you're finished. Correct? While we're changing out the table -- Mr. Curto is next.

Ms. Mango and Mr. Stevens, I have a follow-up question. Looking at the large route map, Sheet 1 of 2, if you look at the area from Cook Hill Junction to East Devon, where were the areas where you had the most wetlands identified in the right-of-way?

MR. STEVENS: Just from memory, I think the longest areas of wetlands that cause the greatest problem to Northeast Utilities in the sense of structures are in Woodbridge and Orange, I believe.

CHAIRMAN KATZ: Okay. Let's look at the map here then. Woodbridge -- using the state highway here as sign posts, we have Route 67 crosses, Route 243 crosses, Route 114 crosses. Are we talking north, central or south Woodbridge being the greatest wetlands impacts?

MR. STEVENS: We're talking west of Route 67, more in the area of the Jewish Center, in that area.

CHAIRMAN KATZ: So those are the areas of the greatest wetlands impacts?

MR. STEVENS: As I recall.

CHAIRMAN KATZ: Okay.

MR. PRETE: Chairman Katz, I'd like to get you a better answer on that. My recollection is it was north of there in that water company property in Woodbridge.

CHAIRMAN KATZ: Which is northern Woodbridge. Correct?

MR. PRETE: Yes.

CHAIRMAN KATZ: Okay.

MR. TAIT: Does that include Bethany?

MR. PRETE: Yes.

MR. FITZGERALD: We can certainly review those maps and come back with a better answer and give you the rough number of feet of wetlands within that right-of-way.

CHAIRMAN KATZ: And my -- I guess my bottom line is this. In our quest to identify the most sensitive areas from the point of view of EMF, from the point of view of flora and fauna, if you can tell us where -- let's say we hypothetically can parcel out some underground and we say, "Listen. In that area, we'd rather go underground through the streets than disturb wetlands because of the amount of wetlands that are in that area. There's a lot of wetlands in that area. We'd rather go underground through the streets instead." If

we have -- get a sensitivity of where those areas are from -- you know, is it northern Woodbridge or some other part, et cetera? That would be helpful.

MR. PRETE: Madam Chair, on a high level, would it be convenient to do it on a map there? Or the 100's really delineate them with precision.

CHAIRMAN KATZ: I guess I'm looking for this first at a high level. For example, this map.

MR. TAIT: It's a wonderful map.

MR. PRETE: What we'll do is try to cloud the areas kind of as a cloud and say, you know, there's a majority in these sections.

CHAIRMAN KATZ: Yeah. A bubble would --

MR. PRETE: Cloud, bubble.

CHAIRMAN KATZ: Yes? Mr. Frank?

MR. FRANK: I know it's inappropriate for me to ask for homework assignments. But through the --

MR. TAIT: Yes, it is.

MR. FRANK: Through the Chairman, I think it would be appropriate not only to look at wetlands but the other environmental issues as well, including species of special concern as part of that analysis. Because, as you heard through the testimony, there are species in Woodbridge that are significant.

CHAIRMAN KATZ: Mr. Fitzgerald, I take it you want to be heard?

MR. FITZGERALD: Yes, Madam Chairman. I mean we -- we are really dying under the burden that has been put on us, particularly by the -- by this legislative Act to play catch-up where the rules have changed in the middle of the proceeding. We have people out there gathering data, trying to complete the record.

What we're talking about now is data that is for the most part in the record in various forms. And what we're being asked for is to make it more digestible by characterizing it at a higher level and putting it on this map. And I -- frankly, I have a different attitude about requests of that nature that are made by the Council and then requests that are made by intervenors. Everybody's going to think of something they'd like to get on that map. I mean we're going to -- everybody would like to have our whole application taken care of by the clever lad who wrote the Our Father on the head of a pin and have every relevant fact displayed in that map.

So I would ask mercy of limiting the homework assignment to what the Council asked for.

MR. FRANK: Madam Chairman, if the Council is not willing to do it on behalf of Woodbridge, I'd be

happy to submit a map showing the sensitive environmental areas.

CHAIRMAN KATZ: You're going to carry the water. I think we'll --

MR. FRANK: And I'm happy to do that on Thursday.

CHAIRMAN KATZ: I'm going to keep my high-level request to wetlands, significant wetlands.

Okay?

MR. PRETE: Can we go off the record for a minute if we're not?

CHAIRMAN KATZ: Off the record.

(Off the record)

CHAIRMAN KATZ: Mr. Prete?

On the record.

MR. PRETE: What we're hoping to do is define that request. What we could do is look at the larger area of wetlands and, in fact, wetlands that perhaps we can't avoid putting new poles in as kind of that first-level criteria to get on that map. Does that make sense?

CHAIRMAN KATZ: Wetlands you cannot avoid?

MR. PRETE: Yes.

CHAIRMAN KATZ: Okay. Yes.

MR. PRETE: They're extensive in nature where we --

CHAIRMAN KATZ: Understood.

MR. PRETE: Okay. Is that good?

CHAIRMAN KATZ: Yes.

MR. PRETE: All right.

CHAIRMAN KATZ: Understood.

Okay. Are we ready to move to Mr. Curto?

If you'd just identify yourself for the record?

MR. ALAN CURTO: Yes. Alan Curto, Halloran & Sage, representing Durham and Wallingford. I just have a couple of questions on the AV presentation this morning.

Ms. Bartosewicz, in your AV presentation this morning, you showed a slide containing visual representations of transmission structures in the towns of Orange and Milford. Is that correct? I'm sorry. I don't -- I didn't get the slide number.

MS. BARTOSEWICZ: I'm just looking through my slide package. That's correct.

MR. CURTO: Okay. So there were no other structures in any other communities represented?

MS. BARTOSEWICZ: It was just a

representative look at a before and after.

MR. CURTO: Okay. And were there any particular criteria which led you to show only the facilities or the structures in Orange and Milford?

MS. BARTOSEWICZ: No. As a matter of fact, in our municipal consultation, the open house where we went out to the communities, we did before and after in all communities for all cross-sections.

MR. CURTO: Okay. So you did not intend that that representation would indicate the appearance of either the structures or the right-of-way in any communities other than Orange or Milford?

MS. BARTOSEWICZ: No, except that those two are representative from Cook Hill Junction in Cheshire south to Milford. The right-of-way in that area happens to look the same.

MR. CURTO: And getting specific here, you would not intend that those represent appearance of the right-of-way in Durham or Wallingford?

MS. BARTOSEWICZ: No, sir.

MR. CURTO: Okay.

That's all I had, Madam Chairman.

CHAIRMAN KATZ: Thank you, Mr. Curto.

Next is Mr. Stone of Orange.

MR. BRIAN STONE: Madam Chairman, I'm going to pass.

CHAIRMAN KATZ: Mr. Stone passes.

Attorney Buturla of Cheshire. Sir, if you can just start off by identifying yourself for the record?

MR. RICHARD BURTURLA: Yes. Richard -- Attorney Richard Buturla of the firm of Berchem, Moses & Devlin on behalf of the Town of Cheshire.

Ms. Bartosewicz, I have a few questions following up on this morning's description regarding the town of Cheshire. Are you familiar with the Old Lane area of Cheshire?

MS. BARTOSEWICZ: Yes, I am.

MR. BURTURLA: And was that the area you were referring to when you gave a narrative regarding the 115-kV line?

MS. BARTOSEWICZ: I just want to look it up on my map. I was referring to Old Farms Road area of Cheshire.

MR. BURTURLA: Old Farms Road. There are a number of homes located on Old Farms Road where the front lawns of those particular homes could potentially be affected by the 345-kV line. Is that right?

MS. BARTOSEWICZ: Yes, sir.

MR. BURTURLA: And the utilities support a change that would result in the undergrounding of the 115-kV line?

MS. BARTOSEWICZ: Yes.

MR. BURTURLA: And what does that do with respect to the concern with regard to the 345-kV line? The concern being the impact on those front lawns, the impact on those homeowners.

MS. BARTOSEWICZ: By placing the 115 underground through this segment means that we would clear -- need to clear less right-of-way, of which there are six or seven homes that that right-of-way, that easement, is their front lawn. So we would be clearing -- we would be preserving those -- the treed area in those front lawns.

MR. BURTURLA: Exactly. If -- couldn't the same thing be achieved by undergrounding the 345-kV line in that area and leaving the 115-kV line? Just vice versa.

MS. BARTOSEWICZ: Yes. If --

MR. BURTURLA: I believe your answer was yes?

MS. BARTOSEWICZ: Yes.

MR. PRETE: The only difference, I might add, is at the termining ends of that 345 you would have two to eight acres. And I won't go through the description of the transition station. Unlike that of a 115.

CHAIRMAN KATZ: So would those transition stations be in that neighborhood?

MS. BARTOSEWICZ: It would have to be wherever you decided to go underground and come back up. With a 115 underground, we can transition on a pole, essentially a fatter pole, but it would be a transition pole.

MR. BURTURLA: Going back to the vice versa situation, you could -- it depends where you go underground and where you come up. It doesn't have to be in that neighborhood. It could be further down the line. It could be in Wallingford, for example. But it is feasible -- it is feasible -- well, depending where you go underground. And it is feasible to go underground along that particular area with regard to Old Farms. Is that correct?

CHAIRMAN KATZ: Careful. You're going to bring Mr. Curto back up here.

MS. BARTOSEWICZ: I cannot tell you that

it's feasible to put 345 underground in a certain location.

MR. BURTURLA: Leaving the 115-kV line, the existing line -- I mean you could reverse the scenarios.

MS. BARTOSEWICZ: From a construction perspective, yes. From an operability and reliability perspective, that discussion is yet to come.

MR. BURTURLA: Right. All right. Now, with respect to the proposed 345-kV line in Old Farms Road, to get to those homes that are affected, people have to pass under that proposed line every day. Isn't that right?

MS. BARTOSEWICZ: Correct.

MR. BURTURLA: That's a cul-de-sac area. And the particular area where it's proposed, the cul-de-sac area, those homes are on the other side of the 345-kV line. Isn't that right?

MS. BARTOSEWICZ: Those homes were built with their driveways underneath the existing right-of-way.

MR. BURTURLA: Thank you very much.

CHAIRMAN KATZ: Thank you, sir.

Next is Town of Westport? Absent.

City of Meriden? Absent.

Assistant Attorney General Michael Wertheimer?

MR. MICHAEL WERTHEIMER: Good afternoon. Michael Wertheimer for the Office of the Attorney General. I've got a couple of questions about what I believe was numbered Exhibit 96. It looks like this. That's 96. Correct?

MR. PRETE: Mr. Wertheimer, we do have 30 or 40 colored copies, if that would be helpful --

CHAIRMAN KATZ: I'll take one.

MR. PRETE: -- while we discuss that. We have 38.

CHAIRMAN KATZ: Is the one, Mr. Prete, where you're playing the role of Dr. Bailey?

MR. PRETE: I'll do my best.

CHAIRMAN KATZ: Okay.

I don't think we got color the first time around. Did we?

MR. WERTHEIMER: Madam Chair, this exhibit was sworn to this morning --

CHAIRMAN KATZ: Okay.

MR. WERTHEIMER: -- and adopted. But if the Council or the panel prefer I hold these for --

CHAIRMAN KATZ: No.

MR. WERTHEIMER: -- when Dr. Bailey comes --

CHAIRMAN KATZ: Let's lay the ground work.

MR. WERTHEIMER: Okay.

CHAIRMAN KATZ: If we need Dr. Bailey back, we know where to find him.

MR. WERTHEIMER: Are you all set?

CHAIRMAN KATZ: Go ahead.

MR. PRETE: Mr. Wertheimer, I also have copies of Volume 10, which are the cross-sections which might be helpful. And as you go forward, we could pass those out as well.

MR. WERTHEIMER: I don't think it will be necessary. But if it does become necessary, you can pass those out.

Just a handful of questions about this exhibit. The EMF readings that are provided in this exhibit, basically the first and the third columns on each of the pages, my question is that there have been a number of EMF readings presented in this docket in other exhibits, AG-14, Volume 6 of your application, a number of Interrogatory exhibits. I want to confirm that these numbers represented here are calculated the exact same

way as the other EMF data that has been presented in this docket.

MR. PRETE: Correct.

MR. WERTHEIMER: Okay. So these are calculations and not estimations or projections.

MR. PRETE: Correct.

MR. WERTHEIMER: Okay. And the calculations were done in exactly the same way such that numbers can be compared one to the other with -- not just within this exhibit but with other exhibits provided by the applicants in this case?

MR. PRETE: That's correct.

MR. ASHTON: Mr. Wertheimer, would you allow me, for one question?

Looking at the first page of this colored document, I notice that the structure types are labeled A, B, C and D. I don't see the corresponding A, B, C and D in the right. Have we got a numbering problem here?

MR. PRETE: Yes. What we were hoping to do is not have a confusion. So maybe we didn't do as good a job as we thought we did. If you look in the column which is the second from the right which says Structure Type in Right-of-Way --

MR. ASHTON: Oh. Okay. I missed it

there. I beg your pardon.

MR. PRETE: And if you just read the footnote, the ES says what is existing in the right-of-way and the A then is that option.

MR. ASHTON: Yes. Thank you. I apologize.

MR. WERTHEIMER: Let me just follow up on that for the ease of reading. The existing structure is noted in the footnote, lengths of the existing structure. Now, if you want to know the height of the existing structure, you go to the top line where it gives the typical height of the existing structure. Is that right?

MR. PRETE: In that example. That's right.

MR. WERTHEIMER: Okay. So looking at the first page for Cross-section 1, under the Options table, the second column from the right, a structure type in ROW, right-of-way, you'll have existing structure and B. The B is denoted below it, what it looks like.

MR. PRETE: Correct.

MR. WERTHEIMER: And a typical height in the far right column is 85 feet. That refers to Structure B.

MR. PRETE: Correct.

MR. WERTHEIMER: The height of the existing structures is found at the top.

MR. PRETE: Correct.

MR. WERTHEIMER: Okay. In this morning's presentation, the visual presentation, you listed certain criteria that you had for -- when you came up with your proposed route. Do you recall those criteria?

MR. PRETE: I do.

MR. WERTHEIMER: The first two were reliability and feasibility. Is that right?

MR. PRETE: They were system benefit and feasibility. Correct.

MR. WERTHEIMER: Okay. Well, it has to be able to work --

MR. PRETE: Right.

MR. WERTHEIMER: -- sufficiently reliably. You have to be able to construct it.

MR. PRETE: Correct.

MR. WERTHEIMER: Okay. For each of the options presented in this exhibit, Exhibit 96, we can presume that each of these options will operate reliably and can be built?

MR. PRETE: That's correct.

MR. WERTHEIMER: Okay. Finally, the EMF

levels provided in Exhibit 96 are the 15-gigawatt case. Right?

MR. PRETE: That is correct.

MR. WERTHEIMER: Now, in other exhibits that have been provided by the applicants in this docket, you've provided both a 15-gigawatt case and a 27-gigawatt case. Is there any reason why the 27-gigawatt case was not provided in this proceeding -- in this exhibit?

MR. PRETE: This exhibit was meant to delineate the loading on a line that would happen a majority of the time. So that's the 27 -- we testified a number of times is rare in hours a year.

CHAIRMAN KATZ: Majority of time for how many years?

MR. PRETE: We testified that for the long-term.

MR. WERTHEIMER: Right. I'm familiar with that testimony. But, despite that testimony, you have provided EMF information on a 15-gigawatt case and a 27-gigawatt case throughout this proceeding. Is that something you're willing to do here or not? I'm just trying to flesh this out.

MR. PRETE: I think when we self-imposed this pain, we told the Council that we would do this on

the 15-gig because it does, indeed, reflect what we believe and we've testified is the loading a majority of the time, more than half.

MR. WERTHEIMER: To go from a 15-gigawatt case to a 27-gigawatt case, is that a matter of calculations that can be done in the office or do you have to actually go out and do physical readings on the sites?

MR. PRETE: It would take a great deal of time. We wouldn't have to go in the field. But it would take a great deal of time to do.

MR. ASHTON: The fact that you'd not get a conductor to unload, end up going up to a higher level above 15 megawatts. So the EMF might decrease on the right-of-way.

MR. PRETE: That's correct.

MR. ASHTON: I've got one more question for you. It's on Cross-Section 2, Structure Type C. I come up with five positions on each side of the structure. And I'm wondering how we make a three-phase system out of that.

MR. PRETE: Sure.

MR. ASHTON: Am I missing something?

MR. ZAKLUKIEWICZ: Middle phase is middle

phase for both circuits.

MR. ASHTON: So you have two A's, one B and two C's. Is that right?

MR. ZAKLUKIEWICZ: Yeah. A on the bottom, A on top.

MR. ASHTON: B on --

MR. ZAKLUKIEWICZ: Second row, B, B. And C is the common conductor to both phases.

MR. ASHTON: Okay.

CHAIRMAN KATZ: I think there are limited people in the room who understood both the question and the answer.

MR. PRETE: Suffice it to say it's thinking out of the box as we were directed to do, Chairman.

CHAIRMAN KATZ: So noted.

MR. TAIT: On Cross-Section 1, I was just looking down at the relationship to height to EMF's. And in Type 3, Vertical, I notice there's a significant decrease. But under 4, it doesn't do much. Matter of fact, it's sometimes worse the higher you go. Can you explain that? 3 is 105 foot. And the 135 foot I thought would be -- the higher you went, the less the EMF's would be.

MR. PRETE: If this was the only line on the right-of-way, that may be, as a general rule, Mr. Tait, very close to exact. As you get different structures on the right-of-way, you have a tremendous amount of cancellation. That's --

MR. TAIT: Okay.

CHAIRMAN KATZ: Would it be possible -- not -- perhaps not today. But if your mission is to reduce EMF's, tell us what box in each page works -- you think works the best?

MR. PRETE: Sure. If you go to the -- let's go to the bottom of Page 1 or Option 1. And I'll try to explain that table or at least our intent of that table.

CHAIRMAN KATZ: Yes.

MR. PRETE: That table compares the option -- and if we read across where it says Option 1 there --

CHAIRMAN KATZ: Right.

MR. PRETE: -- it compares Option 1 and you look to the next two columns, magnetic fields southeast of the right-of-way. That's Option 1 compared to what is existing today.

MR. TAIT: Decrease.

MR. PRETE: Decrease. Green. Down is

good. And then to the proposed line for what we had in our proposal on that side of the right-of-way. Again, if you go to the next two where you see magnetic fields northwest -- and, again, Option 1, you see two greens. That means that the magnetic field on Option 1 is lower than the existing and also lower than proposed.

And if you then go to the Height column, you could see in this case here that Option 1 was, indeed, higher -- or red is up -- than both the existing and proposed. And you could see then the cost. Green would have indicated a cheaper proposal. Or a more expensive would be red. And then what our belief of construction and maintenance is.

So, Madam Chair, in answer to your question, when you have green to both the proposed and the existing in the magnetic field, as indeed that's the metric you would looking at, that would be very good.

CHAIRMAN KATZ: So the bottom line -- and I'm a bottom line person here.

MR. PRETE: I know you are.

CHAIRMAN KATZ: On Page 1, you are saying that Option 1 and 2 would be your recommendation?

MR. PRETE: If you're looking at magnetic fields --

CHAIRMAN KATZ: Right.

MR. PRETE: -- construction and maintenance --

CHAIRMAN KATZ: Right.

MR. PRETE: -- that's indeed what you would read from there.

CHAIRMAN KATZ: Okay.

Yes?

MR. BRIAN EMERICK: Mr. Prete, as you work down those options, though, is 2 less than 1 in terms of magnetic fields and then 3 better than 2?

MR. PRETE: Not necessarily. Although, we tried to prioritize that, Mr. Emerick. But if you look -- I think, again, if you go back to the table above that, it should give you a pretty good sense.

MR. EMERICK: Gives you the figures.

MR. PRETE: For instance, if we were to read down in your comparison, let's -- Option 1, if you go to the 6.2, you could see the 6.2. Below that is a 12.3, the 7.5 and the 8. So you get the relative EMF levels at that side of the right-of-way. And if you go two columns to the right of that, you'd get the same thing.

What we tried to do was orchestrate them

so that they were. But it was not that easy.

MR. EMERICK: Thank you.

CHAIRMAN KATZ: Back to -- oh. Mr. Cunliffe?

MR. FRED CUNLIFFE: I like what you've done here. And I'm looking for some data that could be very helpful to the Council. And that would be taking the magnetic field columns for the southeast and northwest row edges and if you were to insert three milliGauss somewhere and then the rest of the table would appropriately change showing the maximum heights of the towers. Is that -- I'm not sure if these tables are in a spreadsheet format or you'd have to calculate it and then fill in the table. But --

MR. PRETE: Could you tell me again your request? Because it --

MR. CUNLIFFE: We want to be able to identify what the structure -- what's the maximum height of a structure if you were to say "We want three milliGauss at the edge of the right-of-way."

MR. PRETE: And if we were to use Option 1, that's an impossibility. I mean as you could see in the existing lines, the existing lines at the edge of the right-of-way are 33. You can't go high enough there.

MR. CUNLIFFE: Well, the wood structures may not go high enough. But what if you were to build a steel structure? How high would you be able to build?

MR. PRETE: Well, we went to 135 feet and you're still at 29-6, if you look at Option 4.

MR. TAIT: You're talking about 200 feet? 300 feet?

MR. PRETE: I don't think you can get that low that -- Option 1. But all the other options I think you'll find out that you're indeed very close to some of the levels that you're suggesting.

CHAIRMAN KATZ: Okay. So you're saying sort of -- you've already built in sort of the maximum realistic height to reduce EMF's into this table.

MR. PRETE: Yeah. I think the question Mr. Wilensky, I believe, asked last time is that in Phase 1, Docket 217, what was the highest structure. And I think 135 was testified. We even broke through that level in some of -- if you go to the -- let's go to the next page, Option -- Cross-Section 2. If you go all the way to the right, that combination pole that Mr. Ashton had, that's 150 foot.

CHAIRMAN KATZ: But if you go to 135 foot and you put the 115 underground in the street, then you

knock it down considerably, 6.2. Am I reading that correctly?

MR. PRETE: Right. Or if you go to Option 4 --

CHAIRMAN KATZ: Yes.

MR. PRETE: -- on that same page, Madam Chair.

CHAIRMAN KATZ: Yeah.

MR. PRETE: You go underground and you go 45 feet higher.

CHAIRMAN KATZ: You go even lower. Yeah.

MR. PRETE: And those are the types of things I thought we had asked -- you had asked us to do.

MR. TAIT: Yes.

CHAIRMAN KATZ: Yes.

MR. TAIT: That's been helpful.

MR. PRETE: I think it gives that information.

MR. TAIT: That's what's helpful.

CHAIRMAN KATZ: This is helpful.

MR. PRETE: That's very good then.

CHAIRMAN KATZ: It has everything but the three-hole punch.

MR. PRETE: On break, you'll get that

taken care of.

CHAIRMAN KATZ: Back to you, Mr. Wertheimer.

MR. WERTHEIMER: Just one final question on the difference between a 15-gigawatt case and a 27-gigawatt case. Following up on Mr. Ashton's question, there's no direct mathematical relationship between the two. Is that right?

MR. PRETE: No, Mr. Wertheimer, not in the case on a high level because most of the cases that were run both for 15-gig and 27-gig not only have a load level that is one of your variables but has where generation is on and off at the time that those levels snapshot was taken. And as we testified, we have aggressively turned off generation in such a way as to force as much power down this line that is reasonable. And even at the 15-gigawatt case, that's indeed what was done.

MR. WERTHEIMER: Well, I appreciate this. I think for consistency it would have been nice to have the 27 as well. But, give the admonition given to previous parties about adding to your homework assignments, I'll leave it at that.

MR. PRETE: I appreciate that. We shrunk 6'1" to 6-foot now and I'm going down from there.

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

CHAIRMAN KATZ: Thank you, Mr. Wertheimer.

Next, City of Bridgeport? Absent.

Communities for Responsible Energy? Questions for these witnesses?

Hearing none, Mr. Johnson, questions for these witnesses? Not here.

Mr. Golden? Mr. Golden, while you're settling in, let me just take a poll on who is here.

Is ISO here?

Is DOT cross examining these witnesses?

MR. CHARLES WALSH: Briefly.

CHAIRMAN KATZ: Mr. Walsh. Okay. We'll do you after that.

Town of Fairfield?

RWA?

Town of North Haven?

Ezra Academy, et al? No.

Okay. And then Council questions.

MR. LAWRENCE GOLDEN: Madam Chair, I do not have any environmental questions. However, I would like Mr. Williams to join the table. So perhaps some of the panelists might not need to be here.

A VOICE: I volunteer.

CHAIRMAN KATZ: Has Mr. Williams been sworn?

MR. GOLDEN: Yes, he has.

CHAIRMAN KATZ: Okay. Just because it's been a long time, can you remind again, Mr. Williams, who you are?

MR. JAY WILLIAMS: My name is Jay Williams. I'm a principal engineer with Power Delivery Consultants. We specialize in underground transmission systems. And I'm helping --

CHAIRMAN KATZ: Thank you.

MR. WILLIAMS: -- on that subject.

MR. GOLDEN: Yes. My name is Larry Golden. I represent the Woodlands Coalition. Now, I had initially had some questions -- my questions, by the way, are going to deal with the underground technology and reliability of cable. And I had thought that Mr. Gregory might be here today. But he is not.

CHAIRMAN KATZ: Do you have questions specifically for him?

MR. GOLDEN: What I am going to try to do is to see if I can get answers to my questions through either Mr. Zak or Mr. Williams or other panel members who

feel qualified to testify. And hopefully, we can do it that way. If we cannot, we'll try to find another solution.

CHAIRMAN KATZ: Do we expect Mr. Gregory back?

MR. FITZGERALD: Well, no. We're not -- we have not been planning on having him back. We had him here when -- at a time when the proposed underground segments of the project were under consideration and, it was our understanding, also general issues on underground cable technology, which is his expertise. He is not a GE systems type guy, harmonic, transient -- harmonics and transient network analyses. So he -- so it was our understanding that, to the extent people wanted to ask more general questions about cable technologies, they were going to be asked --

CHAIRMAN KATZ: I just asked if he was coming back.

MS. LINDA RANDELL: Madam Chairman, we had actually thought that the middle of June, the second set of June hearings, is when we would have these types of questions as appears that Mr. Golden has.

CHAIRMAN KATZ: I'd like to let him ask some of it and laying some type of ground work. And then

if we need to ask more -- let's just do that, since he said it was brief.

MR. FITZGERALD: Now that I said he should have asked these questions in the last time and my colleague says he should ask them the next time --

MR. GOLDEN: I'm going to ask them now. But I did cross examine during the phases -- Segments 3 and 4. And my understanding was that the questions were specifically limited by the Chair to those segments. So I may have misunderstood what the directions were. But, in any event, I think we can solve the problem.

CHAIRMAN KATZ: Okay. But I take it that this is going to be brief and that we'll do more undergrounding -- you'll be asking more undergrounding questions the next session?

MR. GOLDEN: Well, I had developed questions -- I'll characterize them as brief. But, you know, I thought today was the day for us to ask questions on the underground technology for Segments 1 and 2.

CHAIRMAN KATZ: Could we just go off the record for a minute?

(Off the record)

CHAIRMAN KATZ: We did advertise today cable technology, which is your subject of your

questions. So that we will allow this.

MR. GOLDEN: All right. Thank you very much.

CHAIRMAN KATZ: But, just to -- some further thought. Most of our undergrounding will probably be on June 15. And we also have designated EMF day clean-up as June 16.

MR. GOLDEN: Well, Madam Chair, I'm willing to accommodate the Council's wishes. I am prepared to move ahead today. But if the Council would prefer it be delayed until -- did you say the 16th?

CHAIRMAN KATZ: The 16th is EMF continuation.

MR. GOLDEN: The 15th?

CHAIRMAN KATZ: The 15th is underground technologies.

MR. GOLDEN: I'm willing to accommodate the Council's request here.

CHAIRMAN KATZ: Ask what you can today, briefly, and if it appears that it's going to be more protracted, then we'll put it off. How does that sound?

MR. FITZGERALD: I -- yeah. I think it would be useful to go ahead today. It seems like we've got some time. And it will, at a minimum, serve the

purpose of identifying questions that these people can ask, if there are any. And if worse comes to worst, if we have to bring him over from England again, of course we'll do it. But let's --

CHAIRMAN KATZ: Or we'll go there.

MR. FITZGERALD: Yeah. So but that opportunity won't be here later. So let's find out where we are.

CHAIRMAN KATZ: Sounds good.

MR. GOLDEN: All right. Let me direct the question initially to Mr. Zak. And it relates to Mr. Gregory's exhibit in Phase 1. Would you agree that in the Phase 1 hearings Mr. Gregory developed an exhibit to determine the frequency of fault and leakage of various cable technologies, such as HPFF and XLPE?

MR. ZAKLUKIEWICZ: Yes, he did.

MR. GOLDEN: And have the applicants relied on that exhibit in this proceeding to determine the frequency of faults for underground portions of Phase 2?

MR. ZAKLUKIEWICZ: Yes, we have.

MR. GOLDEN: Now, am I correct that Mr. Gregory's calculation was based on historic experience of performance of cables?

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: And am I also correct that Mr. Gregory did not look at any cable installations for HPFF after 1987?

MR. ZAKLUKIEWICZ: I believe that is correct.

MR. GOLDEN: And Mr. Gregory looked at installations not just in the United States but throughout the world. Is that correct?

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: Now, I'll direct this question -- perhaps Mr. Williams is the appropriate witness. Or Mr. Zak.

MR. TAIT: Just a second.

Mr. Zak, I guess you're saying to the best of your knowledge that's what he did, because you can't verify what --

MR. ZAKLUKIEWICZ: That is correct. To the best of my knowledge.

MR. TAIT: So Mr. Zak's not testifying that that's accurate, but that's what Mr. Gregory said.

MR. GOLDEN: Well, Mr. Zak, you have adopted Mr. Gregory's exhibit in certain -- in your testimony of April 8 and in Interrogatory Responses CSC-

28. Is that correct?

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: And you have determined that based on Mr. Gregory's exhibit, there would be certain frequency of faults in an all-underground Phase 2. Is that correct?

MR. ZAKLUKIEWICZ: That's correct. And I also believe that question was asked of Mr. Gregory when he was here and his response was "Nothing has changed to make me change the failure rates in the testimony provided in Docket 217."

MR. GOLDEN: And that testimony was based on historic experience. Is that correct?

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: Now, have there been improvements in the manufacturing of HPFF and XLPE cable and the installation and construction methodology for those cable technologies since 1987?

MR. ZAKLUKIEWICZ: Yes, there have been. And I'll let Mr. Jay Williams expand further.

MR. WILLIAMS: There have been improvements in all of those areas, for both pipe type and especially for extruded electric cable.

MR. GOLDEN: And to your knowledge, did

Mr. Gregory's exhibit take into account those post-1987 improvements?

MR. WILLIAMS: I believe Mr. Zak said that his information was based on historical data, which at least for HPFF stopped in 1987.

MR. GOLDEN: Are you saying that there have been no improvements in manufacturing, construction or installation of HPFF since 1987?

MR. WILLIAMS: No. I was responding that I don't think, based on my understanding of what Mr. Zak said, that Mr. Gregory took those into account in his projections. He took his pre-'87 data, which are the only data that are available.

MR. GOLDEN: Mr. Williams, based on your experience in the industry, do you believe that HPFF cable manufactured in 2005 and installed in Connecticut is likely to have the same fault rates as the historic analysis provided by Mr. Gregory?

MR. WILLIAMS: No. As we discussed, I believe the industry has improved since 1987.

MR. GOLDEN: And what would be your feeling as to the extent of the change in the fault rates?

MR. WILLIAMS: I don't have any data to

quantify that. Each of the components of the system, the cable itself, the pipe, the corrosion protection on the pipe, the monitoring and so forth, have all improved. But we don't have enough data to say what the percentage improvement and the failure rate might be.

MR. GOLDEN: All right. But your testimony is that the fault rates would be less frequent than those used by Mr. Gregory. Is that correct?

MR. WILLIAMS: I would expect them to be, yes.

MR. O'NEILL: Mr. Williams?

MR. WILLIAMS: Yes.

MR. O'NEILL: To your knowledge, the MF studies were done using pre-1987 cable designs. Is that correct?

MR. FITZGERALD: Did you say EMF studies?

MR. O'NEILL: Yes.

MR. WILLIAMS: The magnetic field, there's no change in the technology, if you will, outside of the cable pipe that would affect the magnetic fields themselves. So I don't see that there would be any change between the 1987 cables and the current cables for that.

MR. O'NEILL: Regarding the overhead

cables, is it not true that some studies have been done on new types of cables which produce lower EMF's?

MR. WILLIAMS: The only thing I know of are some novel cable designs that are not commonly used that have -- would tend to have such as super-conducting cables and compressed gas insulated cables, neither of which are really used commercially for applications like this. Would tend to have lower magnetic fields, but the high-pressure fluid-filled cables and the cross-linked polyethylene cables we're discussing, I don't see any changes in the technology that would affect the magnetic fields from those.

MR. O'NEILL: I was asking regarding overhead cables.

MR. WILLIAMS: I'm sorry. You'll have to define what you mean by overhead cables, sir.

CHAIRMAN KATZ: Change in the conductor design so that there's less EMF's.

MR. WILLIAMS: I'm sorry. You'll have to -- I'm strictly an underground person.

CHAIRMAN KATZ: I guess he's not the witness.

MR. WILLIAMS: Yes.

CHAIRMAN KATZ: Has there been any changes

in conductor design?

MR. ZAKLUKIEWICZ: That would change the magnetic fields? Not to my knowledge.

MR. O'NEILL: Thank you.

MR. GOLDEN: Mr. Williams, while you cannot quantify the failure rate for HPFF, is it your opinion that faults are infrequent on transmission cable systems?

MR. WILLIAMS: Yes.

MR. GOLDEN: Do you know what the span length would be if cable were used in Segments 1 and 2? And that may be a question more directed to the applicants.

MR. PRETE: I believe in our testimony we defined a typical length of around 2,000 feet. And that would assume, you know, real straight, not many bends in it, not many elevation changes.

CHAIRMAN KATZ: This is HPFF?

MR. PRETE: That would be both the HPFF as well as XLPE. For a rule of thumb, I think it's a very good length to use.

MR. GOLDEN: You are using the same span rate for both cable technologies?

MR. ZAKLUKIEWICZ: The cable spans for an

HPFF cable are longer than they are for cross-linked polyethylene because the cable itself is smaller in diameter, thereby you can put more cable on a reel. Typically, for HPFF I -- correct me if I'm wrong, Mr. Williams. We would say somewhere between 2500 and 3,000 and it might be slightly higher in certain areas, as long as we do not exceed the pulling requirements of the cable.

MR. WILLIAMS: Yes. We typically budget two per miles, which is 2500 feet. But if it is a long, straight run, you can go longer, perhaps 3,000 feet as Mr. Zak says. Yes.

MR. ZAKLUKIEWICZ: I think we had that discussion, Mr. Golden, when we were talking the directional drill. And if I recall, Chairman Katz asked that question; "How can you go that distance?" And we indicated it would be a straight pull, no wiggles in the pipe and no bends. And, therefore, we could -- in particular, it was in the Westport area. How could we go that far with those poles? And I hope we described that because I think we indicated the directional drill would be somewheres around 3500 feet.

MR. GOLDEN: And, Mr. Williams, is it true that most failures occur at the splicing points of

cables?

MR. WILLIAMS: Yes. As we determined, failures are infrequent. But the failures that have occurred, the majority have been at either splices or terminations.

MR. GOLDEN: So the longer the span distance, the fewer the splicing points.

MR. WILLIAMS: Yes.

MR. GOLDEN: Do you know --

MR. ZAKLUKIEWICZ: But it could be more stress on the cable. So we -- I have to qualify that. If we're going down a long, steep hill and we're putting a splice on the bottom and we've got a run of 3,000 or 3200 feet, that puts a lot of pressure on the splice. So it may be you want to shorten up that span length. So I think you need to take into account topology along with the length of the splice as what is the most appropriate engineering solution.

MR. GOLDEN: Thank you. Do you know the span length or the distance between splices that Mr. Gregory assumed in his calculations?

MR. WILLIAMS: I don't know. I can speculate, which would be, if it was based on historical data, typically --

MR. GOLDEN: Mr. Williams, actually, the table that was put in Phase 1 actually assumes 2600-foot length. So if the actual span length were to be longer than 2600, you would have -- you would expect perhaps fewer faults because of fewer splicing points than Mr. Gregory had calculated. Is that correct?

MR. WILLIAMS: That would be correct, except, as Mr. Zak said, if there were some unusual topography.

MR. GOLDEN: Okay.

MR. TAIT: Or if there were more, you'd have more. That's the other side of the coin, Mr. Golden.

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: Thank you, Mr. Tait. That was very helpful.

We have had some discussion, I guess a couple of months ago, about the NSTAR experience with cable technology. And you filed some Discovery Responses regarding that. Do you know how many failures NSTAR has had in the years they've had cable due to splicing, at splicing points? Mr. Williams, do you know that information?

MR. WILLIAMS: I do not know precisely.

Anecdotally, I have heard it has been between perhaps four and seven.

MR. GOLDEN: And what's the basis for your response?

MR. WILLIAMS: General discussions with engineers in the industry.

MR. GOLDEN: You have not read any reports that NSTAR has prepared about their experience with cable failures and splicing points?

MR. WILLIAMS: NSTAR prepared a report and presented it six or seven years ago, which I did read. But I don't remember the exact numbers.

MR. GOLDEN: You have not read any more recent reports from NSTAR?

MR. WILLIAMS: I have read no more recent reports from NSTAR.

MR. GOLDEN: All right.

CHAIRMAN KATZ: Is there something, Mr. Golden, that you want to introduce?

MR. GOLDEN: We'll get it in.

CHAIRMAN KATZ: Okay.

MR. GOLDEN: Let's talk a little bit about locating faults and locating leaks. Have there been improvements in recent years in locating -- in how a

company locates faults and leaks in a cable system?

MR. WILLIAMS: Just for clarification, that would be on the high-pressure, fluid-filled system?

MR. GOLDEN: Let's start with HPFF, yes.

MR. WILLIAMS: Thank you. Yes, there have been specifically in leaks and to some extent in electrical faults.

MR. GOLDEN: And could you describe those please?

MR. WILLIAMS: For electrical faults, there are new electronic equipment that can get you to pinpoint the location of a leak more -- I'm sorry -- of the electrical failure more rapidly by radar pulses and so forth. For leaks, there have been several techniques developed that get you to the general location of the leak and to pinpoint a leak more rapidly. Principally, the most accurate one is by injecting a very specific tracer gas into the dielectric liquid.

MR. TAIT: What period of time are we talking about of being able to locate a leak with these different techniques? An hour? A day?

MR. WILLIAMS: It depends upon the size of the leak. A larger leak, there's more fluid that is lost and, therefore, the quantity of this tracer gas, for

example, is larger. A smaller leak, of course, is smaller. But, generally, if you can use another method to get within a manhole section which is 2500 to 3,000 feet, probably within a period of eight or ten hours you can have pinpointed where the leak is.

MR. TAIT: This is for a small leak or this is for a big leak?

MR. WILLIAMS: This would be for a relatively small leak. A large leak often is the result of a hoe ram or something and it's located immediately. Yeah.

MR. ASHTON: You mentioned eight or ten hours. Eight or ten hours from what to what?

MR. WILLIAMS: The total time for locating a leak can vary substantially because the procedure is generally to use a fairly gross method to get between a set of vaults. And that could take you -- from the time that you have determined that there is a leak, that could take you a couple of days. Once you're between those locations and have injected this special tracer gas, then that is the period, within six to eight hours, you could pinpoint.

MR. ASHTON: And the initiation of a trip, a line tripping, would be the Time T-0? Is that fair to

say?

MR. WILLIAMS: Not necessarily. For a very small leak, the line generally would not trip electrically. The utility would have to evaluate the rate of the leak and determine to take the line out of service manually.

MR. ASHTON: Okay. So the line is still in service. And now you've got to call out the troops because you've detected some abnormal behavior in the loss of fluid or loss of pressure, what have you.

MR. WILLIAMS: Yes. That's correct.

MR. ASHTON: Okay. Thank you.

MR. WILENSKY: Are there many fractures as a result of digging?

MR. WILLIAMS: Yes. Leaks -- leaks, just as electrical failures, are uncommon. But those leaks do occur. A reasonable number of them are because of dig-in. That is correct.

MR. WILENSKY: And I suppose those are much more -- much easier to determine.

MR. WILLIAMS: Yes. You have the location of the leak almost immediately, unless the fellow leaves the site. Yes.

CHAIRMAN KATZ: Mr. Emerick?

MR. EMERICK: Mr. Williams, could you put some bounds on the response or identification of an electrical fault?

MR. WILLIAMS: In terms of time?

MR. EMERICK: Yes.

MR. WILLIAMS: An electrical fault, of course, does trip immediately. That's the indication that you have a fault. The time to locate the approximate location of a fault through a radar technique or whatever, once you've mustered with the equipment, is typically within a day and a half or two days. And then --

MR. EMERICK: You said something about equipment and I missed the word.

MR. WILLIAMS: Once you have determined that there -- the procedure would be that the line trips. You do a check of the relay operations, convince yourself that the trip was due to failure of the cable as opposed to mis-operation. That takes a few hours. During that time, you call out your forces with the special equipment that is attached to the terminals at the end of the feeder. And, typically, one of the first steps is to do a high-potential test again to assure, verify that you have a failure. Then a radar set is put on. The radar

set gives a reflected signal telling you approximately where the failure is. And it takes typically a day or so to get all of that equipment available and connected to the ends of the cable.

CHAIRMAN KATZ: Mr. Golden, we're getting --

MR. EMERICK: So is it a day or so to isolate the location or is --

MR. WILLIAMS: The -- I'm sorry. I missed the first part of your question.

MR. EMERICK: Is it a day or so before we actually identify the location?

MR. WILLIAMS: Yes. Yes. A day or a bit more. Yes. That's correct.

MR. EMERICK: Okay. Thank you.

CHAIRMAN KATZ: Mr. Golden, we're getting close to our afternoon break. Can you give us a rough idea of how much longer you have?

MR. GOLDEN: I believe probably 15 minutes. This would be --

CHAIRMAN KATZ: Okay.

MR. GOLDEN: -- a good time for a break.

CHAIRMAN KATZ: This is a good time then. We're adjourned for ten minutes.

MR. GOLDEN: Thank you.

(RECESS)

CHAIRMAN KATZ: Let's resume. We'll have Mr. Golden, followed by Mr. Walsh, followed by Council questions. Then at the end of the afternoon, we'll outline what our expectation is for what we're going to cover tomorrow.

MR. GOLDEN: Thank you very much.

We recently concluded some questions and answers about the duration of an outage and detection and so on. I have a question concerning the frequency of outages for cable compared with overhead technology.

Mr. Williams, are you aware of any studies in the industry that have compared -- looked at the frequency of outages between overhead and cable technologies?

MR. WILLIAMS: I am not -- I'm not aware of any that have specific numbers. There are general comparisons which I'm familiar with. But I don't know of any that have specific numbers presented in general for underground versus overhead.

MR. ZAKLUKIEWICZ: I think it's fair to concede underground failures are far less infrequent. However, the time to detect, the time to make the repairs

and place the cable system back in service end up being significantly greater than for an overhead transmission line. I know of very few transmission line failures that cannot be placed back in service in less than 24 hours. And in most cases, most transmission line faults result in a lightning strike for which we have automatic operation of the protection and control system such that the overhead line is out of service for less than one second.

MR. GOLDEN: Mr. Zak, I think in your statement you said "less infrequent". Could you just restate your position as to which types of outages are more frequent?

MR. ZAKLUKIEWICZ: Overhead -- overhead transmission lines have many more interruptions than underground cable systems.

CHAIRMAN KATZ: So your testimony is that the overhead have more interruptions, but the -- they're faster to fix.

MR. ZAKLUKIEWICZ: In a great number of the cases, the protection and control systems that are in place on any high-voltage transmission line places that overhead transmission line back in service in less than a second.

MR. GOLDEN: Mr. Zak, is it still your testimony -- and I'm now referring to your April 8 testimony on Page 28.

MR. ZAKLUKIEWICZ: Yes. I have it in front of me.

MR. GOLDEN: All right. Is it still your testimony that a fault for a cable typically takes at least a month to locate and repair and often takes much longer?

MR. ZAKLUKIEWICZ: That is my testimony. And I still believe that.

MR. GOLDEN: Mr. Williams, do you believe that?

MR. WILLIAMS: Yes. During the same hearings, I stated a month was the typical time to repair a 345 failure.

MR. GOLDEN: That's what you -- that's what you testified to earlier today?

MR. WILLIAMS: No. In the previous set of hearings in April.

MR. GOLDEN: What is your testimony regarding the typical time to locate and repair a cable fault?

MR. WILLIAMS: A 345-kV high-pressure,

fluid-filled cable fault typically takes a month to locate and repair a failure.

CHAIRMAN KATZ: You're thinking Phase 1, Mr. Golden?

MR. GOLDEN: Yes, I am. I'll come back to further questions on that later at our next hearing or in June when we follow up on that.

Regarding XLPE cable, in Alternative A how long a segment of XLPE are the applicants proposing?

MR. PRETE: I believe it's approximately 5.56 miles, subject to check. That would be the connection between Singer and Hall's Mark Upstate switching station.

MR. GOLDEN: Is that circuit miles?

MR. PRETE: That's correct. Mr. Golden, maybe I should clarify. That particular -- I guess a definition of circuit miles. That particular run would have two cables, two three-phase cables. So if you consider that one circuit, that would be my answer. Or a route mile.

MR. GOLDEN: And do you know how that compares with the length of XLPE used in Phase I, to be used in Phase I?

MR. ZAKLUKIEWICZ: Significantly greater.

The length of cable in Phase 1, I believe, was 2.1 miles.

CHAIRMAN KATZ: That's the Bethel portion?

MR. ZAKLUKIEWICZ: That's the Bethel -- that's the northern end from Bethel down to White's Hill.

MR. GOLDEN: So is it the applicant's position that up to 5.5 miles of XLPE can be reliably constructed and installed and operated?

MR. ZAKLUKIEWICZ: I think it's consistent with what we testified to in Docket 217 where we said approximately five miles.

MR. GOLDEN: Mr. Zak, is CL&P proposing to use XLPE cable in the Glenbrook cable project?

MR. ZAKLUKIEWICZ: Yes, we are.

MR. GOLDEN: And what is the length of the XLPE cable that's proposed in that project?

MR. ZAKLUKIEWICZ: That cable, depending on which route is selected, I believe it will be between 8.8 and 9.3 miles. It is being -- what is being installed is two 115-kV cross-linked polyethylene cables, with the manholes pre-built for 345-kV in the future.

CHAIRMAN KATZ: So no 345.

MR. ZAKLUKIEWICZ: No 345. 115-kV.

MR. GOLDEN: But there will be room to install XLPE cable in the future in that line. Is that

correct?

MR. ZAKLUKIEWICZ: It is being designed such that the 115-kV cable could be removed and 345-kV cables in the future put in at each of the cable positions.

CHAIRMAN KATZ: But if you did that, then you'd have nine miles of 345. Correct?

MR. ZAKLUKIEWICZ: That is correct. We assume that would not be for the next ten-plus years after the cable is installed. And by that time, the technology should be improved such that 345-kV cable would be a reliable alternative to the HPFF cable.

MR. ASHTON: Mr. Golden, forgive me.

But his question explicitly stated that it be 345 cross-linked or HPFF. Do you have a choice at this stage?

MR. ZAKLUKIEWICZ: For which?

MR. ASHTON: The 345 cable. Would it be designed for solid dielectric or HPFF or both?

MR. ZAKLUKIEWICZ: In Glenbrook, it would be designed for cross-linked polyethylene.

MR. ASHTON: Okay. Thank you.

MR. GOLDEN: So is it your testimony that you would be able to accommodate the charging currents

associated with eight or nine miles of XLPE?

MR. ZAKLUKIEWICZ: At this time, with the 115-kV system, the answer is, we believe, yes.

MR. GOLDEN: How do the charging currents required for XLPE compare to HPFF?

MR. ZAKLUKIEWICZ: At 345, they're approximately one-half or fifty percent of the requirements for HPFF cable.

MR. GOLDEN: Mr. Zak and panel members, could you please turn to your Response to Towns 62? Let me know when you have it.

MR. ZAKLUKIEWICZ: I have it.

MR. GOLDEN: Now, in this exhibit, I believe in the table, you list the shunt transmission capacitors that are located in Connecticut both in '94 and today. Is that correct?

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: After construction of Phase 1 and Phase 2 and after construction of Glenbrook, do you believe that you will need all of these shunt transmission capacitors?

MR. ZAKLUKIEWICZ: There may be a few installations that will be able to be removed and relocated at other locations within Connecticut. But, on

the whole, this number of shunt capacitors will probably remain the same with or without the 345-kV cables.

MR. GOLDEN: Were some of these installations designed to be temporary installations?

MR. ZAKLUKIEWICZ: The installations to begin with, primarily in southwest Connecticut, are to deal with the southwest Connecticut issues and the sub-area of the Norwalk/Stamford area. The answer is yes, along with the D-VARS that was placed in service the summer of -- prior to the summer of 2003.

MR. GOLDEN: After the various infrastructure phases are constructed, the import capability of the transmission system will be increased. Is that correct?

MR. ZAKLUKIEWICZ: That is correct.

MR. GOLDEN: Is it also correct that more generation will be able to be sited in southwest Connecticut?

MR. ZAKLUKIEWICZ: The generation will be able to connect once we -- if we are allowed to build and construct and place in service the 345 as proposed. This will allow for generation to -- large generation to be connected anywhere in southwest Connecticut fairly close to the 345 corridor and connect in at appropriate sub-

stations onto the 345-kV system.

MR. GOLDEN: And the Phase 2 will also eliminate the circuit duty problem at Pequonnock. Is that correct?

MR. ZAKLUKIEWICZ: By connecting the generation at Pequonnock onto the 345-kV system. That is correct.

MR. GOLDEN: And conditional dependencies will be eliminated for the generators at Devon and Bridgeport. Is that correct?

MR. ZAKLUKIEWICZ: To the best of my knowledge, the studies indicate that conditional dependencies of the generation -- that issue will also be resolved by placing the Milford generator also onto the 345-kV system.

MR. GOLDEN: Now, am I correct that the reason that many of these shunt transmission capacitors were installed was because you did not have enough generation in Connecticut and you needed to increase import limits?

MR. ZAKLUKIEWICZ: That is the primary reason.

MR. GOLDEN: My question is if those objectives are going to be fulfilled with the various

transmission infrastructure projects, why will you need so many capacitors?

MR. ZAKLUKIEWICZ: Well, what you have now is you try to wield all that power on the 115-kV system and, as a result, you have much higher voltage drops on all of the 115-kV lines. Thereby, the capacitors were required. In a number of other cases, as the load increases in different areas in the state in addition where we presently do not have voltage problems in a localized area, we would then move some of the shunt capacitors installed in substations to other substations across the state.

So when I said we would be moving some of those, we will continue to perform studies and also determine how we're going to operate the system once we place it in service and then make those engineering decisions to move the shunt capacitors to other locations. Some of it may be localized problems. So even though we install a 345-kV system in the Phase 1 and Phase 2, there may be areas, immediately to the east, for instance, of Torrington or other areas where, as the load continues to increase, we need to install capacitors in that area to accommodate voltage drops as you serve those areas and have the voltage drops on the 115-kV system

basically serving local load.

MR. GOLDEN: Well, are you certain today that you will need this level of shunt capacitors after the transmission loop is built?

MR. ZAKLUKIEWICZ: I think I responded, I says on the whole I think we will be able to maybe remove a few of these, but, on the whole, they will be required. There also will be the need that local generation today which is providing VARS will not be in operation. So you need to get the VARS from some place.

MR. GOLDEN: Is it likely that if you -- that you may have to move some of these capacitors from southwest Connecticut to another region in the state?

MR. ZAKLUKIEWICZ: That is very possible.

MR. GOLDEN: So the amount of capacitors in the southwest Connecticut area may decrease. Is that correct?

MR. ZAKLUKIEWICZ: That is very possible. And the studies are not fully completed because we don't know exactly the configuration. And recognize that to get the system to operate, we have to compensate for the capacitance of the cable systems to 70-plus percent with shunt reactors. So I am turning around and having the capacitance of the cable being absorbed, if you will,

with the shunt reactors. So it's not that I've got all of that capacitance out there which is available to the system to hold the voltage up.

MR. GOLDEN: And, Mr. Zak, you had just talked about the need for reactive power in the system from generators. Do you expect there will be more reactive power as a result of the completion of Phase 1, Phase 2 and Glenbrook?

MR. ZAKLUKIEWICZ: Do I believe there will be additional capacitance from the underground cable systems that -- as a result of?

MR. GOLDEN: No. Do you believe there will be more reactive power injected into the system from additional generation?

MR. ZAKLUKIEWICZ: The answer is yes. The problem is it's going to be static, meaning the cable is either on or it's off, as opposed to having generators with exciters being able to adjust for the voltage at the terminals of the generating plants. And so their output changes from minute to minute to compensate for system conditions. With the cable system and with a shunt capacitor bank, it's either on or it's off.

MR. GOLDEN: In regard to the section from Devon to Beseck, how many cables are you proposing in

that section?

MR. ZAKLUKIEWICZ: We are not proposing any.

CHAIRMAN KATZ: It was a trick question.

MR. GOLDEN: If it were to -- right. I'm sorry. If the Council were to order that cable be installed in that segment, how many cables in the line are you proposing?

MR. ZAKLUKIEWICZ: We would have three parallel cables between Beseck and East Devon.

MR. GOLDEN: And could you describe for us why you feel you need three?

MR. ZAKLUKIEWICZ: Our studies indicate that you're going to need more than 1200 megawatts of continuous. By placing -- megawatts of continuous capability of flow-through between Beseck and Devon. To accomplish that, if one of the cables should fail, and recognizing that it's going to take a month or more to make the repairs, we cannot jeopardize the system by having only a 600-megawatt transfer between Beseck and Devon if we only installed two cables. Therefore, we want to ensure that under the contingency of the loss of one of the three cables, we still have at least a 1200-megawatt transfer between Beseck and East Devon.

CHAIRMAN KATZ: If the undergrounding didn't go as Beseck, let's say it went as far as from East Devon to like Chestnut, would that change your answer?

MR. ZAKLUKIEWICZ: No, it would not.

MR. GOLDEN: Do you --

CHAIRMAN KATZ: Hold it just a second.

Mr. Wilensky?

MR. WILENSKY: Mr. Zak, when you're talking about the underground, say, from Beseck to Devon, are you also talking about in your though process putting the 115 underground? Does that constitute that as well?

MR. ZAKLUKIEWICZ: Not at this time.

MR. WILENSKY: So it would just be, what, the 345?

MR. ZAKLUKIEWICZ: The 345. We're saying if the 345, if it were mandated to be placed underground in the transmission system between Beseck and East Devon, the question was how many cables would we require to place underground. And I'm saying three in parallel, three individual circuits making up one line segment. And if we had to place some 115-kV underground, that would be in addition to the three 345-kV --

MR. WILENSKY: So you're talking about

three 345 -- if that worked or if you -- if it was proposed, you would need then three 345 segments. Is that what you're saying?

MR. ZAKLUKIEWICZ: Correct.

MR. WILENSKY: Thank you.

CHAIRMAN KATZ: Mr. Zak, I got mixed up. I didn't mean -- I got my C's mixed up. I didn't mean Chestnut. I meant Cook Hill Junction. If you went from East Devon to Cook Hill Junction, would that change your answer?

MR. ZAKLUKIEWICZ: No, it would not.

CHAIRMAN KATZ: Okay.

MR. GOLDEN: Do you believe, Mr. Zak, that the additional generation that will be available in southwest Connecticut as a result of this project and its ability to be dispatched can remedy the problem of a fault or an outage in one of the cables if only two were installed?

MR. ZAKLUKIEWICZ: No.

MR. GOLDEN: And why is that? Have you modeled that?

MR. ZAKLUKIEWICZ: Number one, I'm not a fortune teller. So I can't tell who is going to install generation in the area. I'm also well aware that Devon

No. 8 is already in deactivation reserve. I'm also aware that Devon 7, when they're 90-day period is up shortly, will be placing that unit in deactivated reserve. I'm also aware that four of the five Wallingford units requested to be basically be deactivated. I'm not certain what's going to happen with the Bridgeport Harbors of the world or the Norwalk units. The generators are not in business to serve loads. The generators have no requirement to serve customers the way the transmission entity does. And it's strictly economics. Is that plant making money for me or is it not? And I will then seek from Connecticut rate payers some mechanism to pay me. And if it's not advantageous for me to operate, I am not going to operate. We saw that in December with the cold snap. And that's the way it is. And I think we have to be realistic about it.

So am I relying on another generator to be installed at some time? I can't predict what's going to be there.

MR. GOLDEN: But one of the primary purposes of Phase 1 and Phase 2 is to enhance the ability of generators to site and be dispatched in southwest Connecticut. Isn't that true?

MR. ZAKLUKIEWICZ: That's true. It's also

there to increase the transfer limit into southwest Connecticut such that the whole southwest Connecticut area can increase the amount of generation it can bring in from outside the southwest Connecticut area, including other areas of New England and New York.

MR. GOLDEN: Now, Devon 7 and 8 will only be decommissioned because Milford Power, both units, are on line. Isn't that correct?

MR. ZAKLUKIEWICZ: That is their argument. Correct.

MR. GOLDEN: And do you know whether PPL Wallingford has asked that its four units be permanently decommissioned or just for a period of time until the transmission lines are built?

MR. ZAKLUKIEWICZ: I do not know the specifics of that.

MR. GOLDEN: Okay.

MR. O'NEILL: Mr. Zak?

MR. ZAKLUKIEWICZ: Yes?

MR. O'NEILL: Do you feel comfortable answering the questions regarding the generators in the state of Connecticut?

MR. ZAKLUKIEWICZ: All I can do is answer to the best of my ability what my knowledge is. And I'm

--

MR. O'NEILL: I understand.

MR. ZAKLUKIEWICZ: All I can do is say what I know at this time. And I can't speak, as I indicated, for the generators and the generator owners as to what their plans are and, more specifically, what they intend to do in the next six months, twelve months or four years.

MR. O'NEILL: I realize this is a fluid area and I'm concerned that you're giving direct testimony in an area where you may not have a direct response.

CHAIRMAN KATZ: We have the forecast hearing next week. And we'll be asking generators. Let's ask the questions. And we can take administrative notice of that.

MR. ZAKLUKIEWICZ: I appreciate the comment, Mr. O'Neill.

MR. O'NEILL: Thank you.

MR. GOLDEN: Do you know whether the harmonics studies that have been performed for the applicants assumed any new generation in southwest Connecticut?

MR. ZAKLUKIEWICZ: I believe they have. I

believe they've taken into account --

CHAIRMAN KATZ: Off the record.

(Off the record)

CHAIRMAN KATZ: Yes. Start again please.

MR. ZAKLUKIEWICZ: Just the Milfords were included in southwest Connecticut. Pequonnock was not. Pequonnock filed its letter with ISO New England of no intent to build at this immediate time.

CHAIRMAN KATZ: So you're saying Milford 1 and 2 were --

MR. ZAKLUKIEWICZ: Milford 1 and 2 are in the studies.

MR. GOLDEN: No additional generation that might be built in the future, of course, is factored into the analysis. Is that correct?

MR. ZAKLUKIEWICZ: That is correct. But, at the same time, we did not remove the Devon 7 and the Devon 8 nor the others that are questionable.

CHAIRMAN KATZ: How about Norwalk Harbor? Did you make any assumptions?

MR. ZAKLUKIEWICZ: Norwalk Harbor is in place.

MR. GOLDEN: I just have one final question really regarding socialization issues. Have you

-- are you familiar with the testimony of OCC's witness, the recent testimony regarding the deadline of December '07 for socialization of transmission costs?

MR. ZAKLUKIEWICZ: I have read that testimony.

MR. GOLDEN: Okay. Do the applicants have a position regarding whether December 2007 is a deadline under recent FERC rulings for socialization?

MR. ZAKLUKIEWICZ: I think it was stated correctly in that testimony. I think also in that testimony, according to Mr. Aabo, I think he's got some statements in there where you were asking previously about HPFF cable failures.

MR. GOLDEN: Well, I wasn't referring to that gentleman's testimony. The other witness --

CHAIRMAN KATZ: Monte--

MR. ZAKLUKIEWICZ: Montevano?

CHAIRMAN KATZ: Yes.

MR. GOLDEN: Montalvo.

MR. ZAKLUKIEWICZ: Montalvo?

MR. GOLDEN: Correct. He's the gentleman, I believe. And that's all my question involved.

MR. ZAKLUKIEWICZ: Yes.

MR. GOLDEN: You believe that testimony is

correct?

MR. ZAKLUKIEWICZ: I believe it conveys, to the best of my understanding, what the problems are for socialized recovery of transmission projects.

MR. GOLDEN: All right. Thank you very much.

CHAIRMAN KATZ: Thank you, Mr. Golden.

Next, Mr. Walsh?

MR. WALSH: Good afternoon, Madam Chairperson, members of the Council. My name is Charles Walsh, Assistant Attorney General, representing the Connecticut Department of Transportation.

I'd like to direct the witnesses' attention to the testimony submitted -- dated May 25 regarding the Segments 1 and 2, Page 34, Lines 720 through 722. A question was asked what effect of construction and the operation of the overhead project have on transportation and traffic patterns. And the answer was the construction of Segment 1 and 2 would result in limited and localized effect on transportation patterns, whereas the operation of the project would have no effect.

My question is would that answer be correct if, in fact, an underground alternative were

utilized rather than an overhead alternative. And an underground alternative meaning in roads or state highways.

MR. PRETE: No.

MR. WALSH: Would it be fair to say that an underground alternative in a state highway would result in a negative impact on transportation patterns?

MR. PRETE: Can you define negative?

MR. WALSH: Resulting in greater congestion during the construction process.

MR. PRETE: Since it is in the streets for an underground and not in the streets for an overhead, I would believe that statement would be true.

MR. WALSH: And with greater traffic congestion, would it be fair to say that there would be an increase in exhaust emissions from vehicles as a result of that increased congestion? Maybe Ms. Mango could answer that.

MS. MANGO: That would be true.

MR. WALSH: With regard to the underground alternatives for Segments 1 and 2, had the applicants conducted any air emission studies with regard to the application?

MR. PRETE: We are not proposing any

underground for Segments 1 and 2 and no -- if we had, we didn't proceed with any air emissions.

MR. WALSH: Okay. Thank you. Earlier there was some discussion of wetlands analysis for different areas for Segments 1 and 2. With regard to the alternative proposal for using the Wilbur Cross Parkway, have any wetlands studies been done for the Wilbur Cross alternative?

MS. MANGO: No. No wetland delineations, no.

MR. WALSH: Would it be possible to have a wetlands delineation of the Wilbur Cross if the Council is seriously considering using the Wilbur Cross, allowing the use of the Wilbur Cross as an alternative, such that we would be able to compare the wetlands along the Wilbur Cross versus Segments 1 and 2 as currently proposed?

MR. FITZGERALD: Perhaps I could -- the reason that a wetlands delineation was not done was because the Wilbur Cross was not presented as an alternative in the application, it having been dismissed from consideration during the routing process before it rose to the level of being something that the companies could put forth as an environmentally, economically and technically practical alternative.

We would certainly agree that if it were to ever rise to that status, which is our submission that it has not, it's true that the Council couldn't certificate it without wetlands information. We agree with that. But we're not asking to be given a homework assignment to do a wetlands delineation on the Wilbur Cross Parkway because the companies still maintain that it's not a viable route. But we are the servants of the Council.

CHAIRMAN KATZ: Well, wouldn't it be fair to say the people who did the Route 15 -- was it Burns? They must have had an idea when they laid out that slide show roughly how many wetlands they crossed.

MR. WELTER: Cyril Welter. What we did do is look at the National Wetland Inventory maps along there. And I think it's a fair statement that there are a large number of wetlands along that we identified and mentioned in the report.

MR. O'NEILL: Mr. Welter, doesn't the State DOT maintain a map of wetlands along its corridors, especially Route 15?

MR. WELTER: I'm not sure if they do. We do not have that. We got a strip map of the highway. It did not have wetlands delineated on it.

MR. O'NEILL: Isn't it also possible that if it was undergrounded along Wilbur Cross, that the right-of-way could be used adjacent to the Parkway rather than underneath the Parkway itself?

MR. WELTER: Well, our premise was that it would be adjacent to the pavement, not in the pavement. So that was our first premise. And I think if I kind of go back to that, one of the criteria was that if we were on a slope, for instance, where we're talking about the highway following or being built in the Quinnipiac River flood plain, it would need to be down at the toe of the slope. That does bring us into wetlands in a large number of places, which is one of the concerns that we expressed when we did that report.

CHAIRMAN KATZ: Let's do this so that we don't create a lot of additional work. Why don't we have the company check to see what DOT already has on the Route 15 wetlands?

MR. WALSH: I would simply request that if the Wilbur Cross is being considered as a viable alternative, that a full wetlands analysis be done along that route as has been done for the proposed route.

CHAIRMAN KATZ: Right. At this point, let's just see what's already on file. Can we do that,

Mr. Fitzgerald?

MR. FITZGERALD: Of course. That's a very reasonable request.

CHAIRMAN KATZ: And if, as you said, we get further along on it, then we can do more.

MR. PRETE: Madam Chair, might I recommend that the map that we were going to update with those clouds or bubbles -- maybe what we can do is the same thing along the Merritt?

CHAIRMAN KATZ: Yes. A high-level identification?

MR. PRETE: Yes.

CHAIRMAN KATZ: I think that would work.

MR. WALSH: Fine. I have no further questions.

CHAIRMAN KATZ: Thank you.

Mr. Cunliffe?

MR. CUNLIFFE: Does the U.S. Army Corps of Engineers have a threshold for when a permit would need to be acquired for inland wetland work?

MS. MANGO: Yes.

MR. CUNLIFFE: Do you know that threshold?

MS. MANGO: Well, it's recently changed. They have a Programmatic General Permit Category 2 and a

Programmatic General Permit Category 1. I'm hesitating to give you an exact number because on this particular project we have a marine component and there's been some dispute over what the threshold is for the marine component. It's kind of nebulous. But we have consulted with the Corps and we definitely need to file a permit.

MR. CUNLIFFE: Thank you.

If I could direct the panel to the pre-filed testimony of Mr. Zak, et al, including Louise Mango, Page 28 and Page 29? There seems to be a discrepancy. If I was to take you down to Line 563 of Page 28, it says "Access to all of these structures exists as a result of construction from prior activity." And on Page 29, Line 578, it goes on to say, "Establishment of new access roads through certain wetlands to reach structure sites". Could you explain the discrepancy between the two statements?

MS. MANGO: I think what this is referring to is we have existing structures and along the existing -- along the existing right-of-way, for the most part, there is access to those existing structures or there was at one time. In some cases, the access roads to those existing structures have been partially overtaken by the vegetation. So we have -- we have an existing access

that is available to virtually all the areas, but it's not clear -- well, it is clear. It's becoming clearer. Let me say this. It's one of the studies that we're working on as to what do those roads require. Which of those roads require upgrading in order to facilitate construction access?

What we're saying on the next page, on Page 29, is that first off we try to avoid wetlands. If we can't avoid wetlands and getting structures out of them where we need to remove them or putting new structures in where we need to do that, then what we would need to do is upgrade our access roads through those wetlands.

Now, that being said, there are some areas where we have identified a new structure location where there is no existing access road. And then we would have to build a permanent access road spur. And if it sounds confusing, it is confusing.

MR. CUNLIFFE: I was going to ask you -- you stated you know the number of structures that would need to be located in a wetland where there isn't an existing access. Is that correct?

MS. MANGO: I'm not sure that we know it with certainty. We have partial information that we are

still discussing.

MR. CUNLIFFE: Do you have a range of structure numbers that you're looking at?

MS. MANGO: I really don't. We have the existing structures in the application. I think we had identified something like 116 structures. And that's in one of the tables in Section L. And, as I said, we're working on trying to avoid placing new structures in wetlands to the extent that we can. And because that process is still ongoing, I just don't have the number.

MR. CUNLIFFE: And further on in the testimony, you've been able to identify approximately 28 structures that could be constructed outside the wetlands. Is that right?

MS. MANGO: Right. Those are the ones that we have identified to date.

MR. CUNLIFFE: Do you know where the locations are?

MS. MANGO: I -- yes, we do. And we could give you a table later on.

MR. CUNLIFFE: Thank you. Further on, Page 31, it has a discussion about shrubland habitat. Could you describe the function of shrubland habitat or its use as habitat?

MS. MANGO: Yes. Shrubland habitat in Connecticut is becoming increasingly valued because there's not a lot of it, principally because many of our former farmlands and open fields have reverted to forested areas and forested areas, in turn -- well, in fact, the farms and open fields as well are reverting -- are becoming developed for residential areas.

So shrubland habitat provides habitat for those species that inhabit that kind of shrubby environment. There's a number of birds, song birds that are declining in the Northeast because this habitat is diminishing. I think we certainly talked about some of the amphibians today that live in this kind of habitat. And it also provides a transition between adjacent forested habitat and in that respect it provides edge. So it overlaps. In the case of our right-of-way, it provides both shrub and forested habitat.

MR. CUNLIFFE: Thank you. Are you familiar with integrated vegetative management?

MS. MANGO: Just in general.

MR. CUNLIFFE: Could techniques be employed in the development and management plan for management of shrublike plantings in the right-of-way?

MS. MANGO: Perhaps you could define for

me your vision of integrated vegetative management. And then Mr. Zak or someone from the companies could reply to this question.

MR. CUNLIFFE: It's the management of shrub vegetation and specifically within corridor right-of-ways like highways, pipelines, transmission lines. And you would maintain shrub vegetation within the right-of-way.

MR. ZAKLUKIEWICZ: That is a program that we've had in place for years and we will continue to have it in place on this right-of-way as well, primarily to focus on native species that can provide the ground cover to keep out the woody vegetation, meaning we would be pursuing to make it available to the smaller shrubs and the natural vegetation, such as ferns and so forth, on the right-of-way.

MR. CUNLIFFE: Thank you. The Route 15 proposal would be crossing West Rock Ridge. Is that a State park?

MR. WELTER: Cyril Welter. Yes, part of it is.

MR. CUNLIFFE: And, also, the Quinnipiac River State Park would be potentially impacted if that route were to be constructed?

MR. WELTER: Potentially. It is parallel to it. So it would depend on the exact location of the line.

MR. CUNLIFFE: All right. Thank you.

Those are my questions for now, Ms. Chairman.

MR. EMERICK: Yes. I want to follow up on a question that I asked Mr. Zak a while back. And I believe that that's attempted to be responded to and it's in the corrected pages that we got today. I'm not sure the number of the exhibit. But it's No. 4 and it's titled "Discussion of Black Pond Junction as an Alternative Site for the Proposed Beseck Switching Station".

And let me just ask a few questions. Currently, between Chestnut and Black Pond there are three existing 345-kV lines. And I believe they're numbered 387, 348 and I believe the third is 362. Is that correct?

MR. ZAKLUKIEWICZ: I believe that is correct.

MR. EMERICK: And the Beseck Switching Station involves all three of those lines, although configured differently as proposed, but they still

involve those three lines. Is that correct?

MR. HOGAN: Line Segment 387 does not go into Beseck. It just goes around the perimeter.

MR. EMERICK: So the Beseck Switching Station only involves 348 and 362?

MR. HOGAN: Right.

MR. EMERICK: The 387 goes around it. Okay.

MR. HOGAN: 362 goes in and comes back out.

MR. EMERICK: I guess just from a math perspective, again I'm looking at the map and saying why do we have to rebuild 348 through Durham when it already exists between Chestnut Junction and Black Pond? And I know you said -- you keep talking about a strong source. I'm just still puzzled by the math. What happens to -- 348 as reconstructed, what happens to that circuit that currently exists between Chestnut Junction and Black Pond? And the response to this Interrogatory seems to really focus on 387.

And I thought when I asked this question back some time ago, I think it was agreed that this would be delayed and we would somehow get a white paper, I think is the way it was described at the time. And I

guess I'm still trying to understand the need or the benefits gained by replacing 348 on a new alignment.

CHAIRMAN KATZ: Would you like to go off the record for a minute?

MR. ZAKLUKIEWICZ: Yes, please.

CHAIRMAN KATZ: Okay. Off the record.

(Off the record)

MR. ZAKLUKIEWICZ: I think we tried to explain a little bit in my March 9 testimony -- there were two diagrams in that testimony on Page 15 which help to give you a picture of that. Let me try to describe it.

The 348 line today which goes between Millstone and Southington basically becomes the new Scovill to Southington line which doesn't exist at this time. It is an additional line. So we pick it up basically at Chestnut Junction and that continues on to Southington as a 345 line between Scovill and Southington Substation.

The 348 line at -- basically at Oxbow Junction would go through the Durham area into Beseck. That would also be a new line section. So at Black Pond today, there are three 345-kV lines presently going through Black Pond today. There will be three 345-kV

lines going through -- from east to west, through Black Pond as we -- as we -- with the proposed route. Except now you've got additional lines west and south of Black Pond with the proposed route.

MR. EMERICK: Okay. So the 348 line becomes Scovill to Southington.

MR. ZAKLUKIEWICZ: That is correct.

MR. EMERICK: If you were not to do that but, yet, have 348 continue as it is today and relocate the switching station closer to the Black Pond, what happens to the system?

MR. ZAKLUKIEWICZ: You, in theory, could have a switching station at Black Pond. There's no reason you could not have a Black Pond switching station rather than a Beseck switching station. Our proposal would be to turn around and then have a fourth line on that right-of-way, a northern route, which would now have four 345-kV lines from -- from Chestnut Junction to Black Pond.

CHAIRMAN KATZ: If you did that, could you do it on the 130-foot monopole?

MR. ZAKLUKIEWICZ: I think we've stated there are three options of doing that. And that would be a requirement to obtain or procure eight homes, if it was

done with an H-frame. I believe Ann Bartosewicz or --

CHAIRMAN KATZ: Yes.

MR. ZAKLUKIEWICZ: -- John Prete testified to that. If we did a monopole, we could turn around and only require the taking of four homes. If we rebuilt the entire right-of-way, we could do it with four monopoles, requiring the taking of no homes. That would be an enormous task to rebuild all of the structures between Chestnut Junction and Black Pond. The cost to the state of Connecticut in terms of uplift charges for removing one of two of the lines as you try to rebuild each of those sections would be enormous.

CHAIRMAN KATZ: Going back to the four-home scenario, 130-foot monopole, taking of four homes, have you gotten -- have you identified specifically where this -- how this would work and gotten any comments from Middlefield and Middletown on this?

MS. BARTOSEWICZ: Yes. We looked at this right-of-way and we actually have some maps, if you would care to look at them. There's quite a few maps. We have not spoken directly to the municipalities recently on this proposal. We had been in touch with Middlefield prior. Certainly, First Selectman Auger opposed -- to us at least, has opposed using this right-of-way because it

goes through more of Middlefield. We have not spoken to Middletown nor Meriden.

CHAIRMAN KATZ: So does it go through -- the scenario, what I'm calling Scenario B, the four-home -- taking of four homes, does it go through any subdivisions?

MS. BARTOSEWICZ: It does not go through any subdivisions.

CHAIRMAN KATZ: Okay.

MS. BARTOSEWICZ: It also requires the expansion of the right-of-way.

CHAIRMAN KATZ: Yeah. By 20 feet in one area and 40 feet in another?

MS. BARTOSEWICZ: Correct.

CHAIRMAN KATZ: Okay. So do we have any -- can you point me somewhere where there's some more details on what this would look like? Is there an aerial photo where I can see --

MR. PRETE: The presentation has the aerials.

CHAIRMAN KATZ: Right. But if I look at the -- if I look at the map book of all the aerial photos, will it -- will I be able to see what the four homes are that you're taking and the increase -- where

the increase in the right-of-way would be?

MR. PRETE: No.

CHAIRMAN KATZ: Okay.

MS. BARTOSEWICZ: I do have six large maps that we could set up and walk you through.

CHAIRMAN KATZ: Is the Council interested in looking at this tomorrow?

MR. EMERICK: Certainly interested in looking at it. I think before at least I get there, I'd like to better understand why -- well, what would happen if you didn't build the fourth line? How inadequate is that? Again, if the switching station is moved to Black Pond --

MS. BARTOSEWICZ: I think the simple answer is if you didn't build the fourth line, you do not bring a new line across that southwest Connecticut interface. The point of the new line -- it is a fourth line on this route we're talking about or the line going through Durham/Wallingford is bringing the new -- is bringing the new 345 line across the southwest Connecticut interface. If you do not build this line, you don't bring that -- you don't bring that new feed into southwest Connecticut.

MR. ASHTON: Suppose you tapped into the

Millstone to Southington line at Black Pond. Would that constitute a supply for the interface, across the interface?

MR. ZAKLUKIEWICZ: No. It would be anywhere near as efficient of putting a fourth line coming in to the east/west corridor.

MR. EMERICK: Mr. Zak, you say nearly as efficient. I guess I'm down to, you know, what does that mean in terms of the system being able to operate in a reliable manner?

MR. ZAKLUKIEWICZ: I think all of the studies have indicated we need another east/west line going across the state of Connecticut in this area based on the generation that's available today, based on where the load is, based on what our input capability is into the state of Connecticut and based on the studies that are there. And it's basically saying that if we -- if we do not have an additional line from east to west across that interface area, then from a planning perspective the solutions are far inferior to what's being proposed.

CHAIRMAN KATZ: Why don't we do this? Why don't we tomorrow, after the East Shore slide show, we'll ask for a map presentation on Chestnut to Black Pond?

And attorneys for the towns, could you

please notify Middlefield and Middletown that we'll be doing this tomorrow morning?

Mr. Emerick, back to you.

MR. EMERICK: Yeah. I guess I'm just -- perhaps if we could identify what specific studies that said we need this segment? And I guess a companion question would be -- another question, this morning in the presentation, strong source was described as an interconnection to three sources. Yet, the Beseck Switching Station we've just been told is only connected to two. So how is that --

MR. ZAKLUKIEWICZ: Beseck is connected to three. Connected to the Millstone line, connected to Haddam Neck and it's connected to Southington. And the fourth line, which is serving the load area in southwest Connecticut, is the proposed Beseck to East Devon line. So there are three strong sources feeding Beseck Substation. And for the loss of any one of those lines, we still have two other strong sources. So for the loss of the Millstone to Beseck line, I still am tied in to Haddam Neck and I am tied in to Southington. Southington South is the second.

Now, what we do with the proposed route is that we significantly increase and make independent

Southington of one of those line's failures by having a new Scovill to Southington line such that if we were to have out for maintenance the Millstone to Beseck line, we lost, for whatever reason, the Haddam Neck to Beseck line, we would still have Southington connected to the Connecticut system via Manchester Sub down to Scovill, which is also tied in then to Millstone to Manchester, tied in to the Rhode Island interface and the Middletown interface, and it goes directly to Southington. So Southington then would not -- would also be providing an east/west interface connection, plus the connection at Southington to the west to New York State. So it ends up being a significant strong source even upon the loss of two of the three lines going in to Beseck.

MR. EMERICK: Yeah. Maybe it's my math. But I know more of the lines by the numbers that are on there. And it's served by 348 and 362. But it's served by three by virtue of 362 coming in and going out so that it could be fed from both directions? 362 goes back out of Beseck, back to Southington. So, in fact, you could feed it from Southington or you could feed it on the import side on the 362 line.

MR. ZAKLUKIEWICZ: I believe that's correct.

MR. EMERICK: Okay. That's how I was -- my math was wrong. So 362 gets counted twice, in and out. Thank you.

CHAIRMAN KATZ: Does that conclude your questions?

Mr. Murphy?

MR. MURPHY: No questions.

CHAIRMAN KATZ: Mr. O'Neill.

MR. O'NEILL: I'm looking at this exhibit dated May 24, 2004, Response to Towns O-6 Interrogatories, feasibility study of reconducting the Middletown/East Shore 387 line to Southington to Cross Bridge 329 line. Under the section marked Structural Analysis, it becomes quite evident that many of these structures were built to a different safety code than is presently required. How many of these structures are earmarked for replacement even without this 272 project?

MR. HOGAN: The way the National Electric Safety Code works is you design it for the code that's in effect at that point in time. And so, essentially, these structures were designed for that level of code. I guess what we're looking at is now to go back and could we put larger conductors on it? Essentially, we were still using that same code to see what the largest conductor --

essentially do a reconductor job on it.

If the structures, any of the ones that did fail, when you would back and install new structures, they would be designed to the latest code. But I guess you'd have a hybrid of some old code structure design, some existing ones by the old code, and any new ones with the newest version.

MR. O'NEILL: But the 1961 code would not apply unless there was a major upgrade. Is that correct?

MR. HOGAN: Essentially if we change structures out, then we use the new code. So, yes.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Just a couple of miscellaneous questions. I saw the correspondence concerning the Black-- Blackite property? Am I pronouncing that correctly?

MS. BARTOSEWICZ: Blacktite.

CHAIRMAN KATZ: Blacktite property. Am I correct in assuming there are no more active discussions then on relocating East Devon?

MS. BARTOSEWICZ: That is correct.

CHAIRMAN KATZ: Okay. Also -- let me pass for a moment and I'll come back to it.

Mr. Ashton?

MR. ASHTON: I have several. Thank you.

With regard to undergrounding in limited amounts, undefinable -- limited as undefined -- what sort of problems of a system nature do you expect as a result of undergrounding that you have to look for in such a thing as a transit network analyzer, that type of thing? What sort of problems are you looking at?

MR. WILLIAMS: You're looking at me. But, actually, the system questions should be addressed to --

MR. ASHTON: Over there? Okay.

MR. WILLIAMS: -- to the other side of the table. Thank you.

MR. ASHTON: Mr. Zak?

MR. ZAKLUKIEWICZ: I think the issues are with the underground, especially if we're talking porpoising where you talk -- where you set small sections of cable -- I'm assuming we're talking about going from overhead to underground, potentially have a span of overhead and then going back underground again. The switching transients associated with the operation of the system in that mode would be of concern to anyone operating the system.

Clearly, what we're talking about, as far as between Beseck and East Devon, we're saying that the

transition stations would have to be full transition stations with switching capability, meaning that each one of the segments would have individual breakers and/or shunt reactors at each terminal, depending on the length of the underground cable within that small section.

And that would be -- one of the biggest concerns is operating the system and being able to switch the system and to know exactly where the problems are should we have an overhead line failure or an underground line failure.

MR. ASHTON: Does the positioning of -- let's use East Devon as one terminal and Beseck as another. Would varying the placement of a fixed amount of underground in that span give differing solutions as far as transient network -- TNA studies give different harmonics, different over-voltages and the like. Is each one a special case?

MR. ZAKLUKIEWICZ: The answer to that is yes, it is. You also have to recognize the fact that we could have temporary line outages on the overhead system and where we're proposing a single overhead 345-kV line between Beseck and East Devon, any time you turn around and you open up the 345-kV to that transition station, you basically have no source at that location and

switching without a source basically could result in high voltages on the system because you have nothing to hold it down as opposed to having underground cables at a substation, such as East Devon, where you would never expect to lose all of East Devon, so you would never lose the source behind where the cable sections are.

CHAIRMAN KATZ: Just to follow up on Mr. Ashton's question, where are the -- sort of the dividing points? Where are the junctions where when you're looking at reliability of an underground system where you divide it up and where you look at the undergrounding from East Devon to one point might be one case and then there's a different set of problems from that junction to another junction? Where are the points in those system that are critical?

MR. ZAKLUKIEWICZ: Well, I think you look at locations where we have multiple -- multiple lines going into a source.

CHAIRMAN KATZ: Like Cook Hill Junction has multiple lines going in and out? Is that a --

MR. ZAKLUKIEWICZ: If you were to establish a new substation at Cook Hill Junction, right at this time there are -- there are only the 115-kV lines at that location. They do not constitute a strong

source.

CHAIRMAN KATZ: Okay. So would it be fair to say in looking at the reliability of more undergrounding that Beseck, being your strong source, Beseck to East Devon is one case and north of Beseck is something else?

MR. ZAKLUKIEWICZ: That would be -- that would be a way to look at it. That is correct.

CHAIRMAN KATZ: That would be a right way to look at it.

MR. ZAKLUKIEWICZ: Well, I think what we're saying is if you come out of -- if you come out of Beseck and head south out of Beseck, that gives you the three 345-kV lines that we just spoke of with Mr. Emerick behind Beseck at all times and, even with one of those lines out, the source behind Beseck remains extremely strong. So you'd have to find another location beyond that to turn around and/or establish another whole station behind that to give you that same capability such that you do not have a single line that feeds that location of being a place where we say would form a transition station at this location.

CHAIRMAN KATZ: Thank you.

MR. ASHTON: Black Pond Junction, are you

familiar with the geography there?

MR. ZAKLUKIEWICZ: Yes, I am.

MR. ASHTON: Do you believe there's sufficient land there to adequately provide for a substation?

MR. ZAKLUKIEWICZ: I think we looked at that location. And if you go in to the -- I guess you'd call it the west, northwest area and you excavate out a section of that, basically where the dead-end structures are today, a little west of that, you could put a substation there if required to do so.

Recognize to the east of the Black Pond Junction area, there are wetlands down in that gulley area. So you'd have to stay to the west, basically going into the hill section, kind of -- I guess I would call it west of -- into that hill area in place of substation there. And our original look-and-see indicates that we could put either a GIS substation there or gas insulated substation or an open-air substation into that hill area.

MR. ASHTON: The State Police Academy, of course, is just to the north of that and they operate a -- quite an extensive shooting range. Has there been any damage, by any chance, from errant slugs to any of the transmission lines?

MR. ZAKLUKIEWICZ: Not -- not to my knowledge.

MR. ASHTON: Okay. They're pretty active out there. I'll say that.

MR. ZAKLUKIEWICZ: Yes, they are.

MR. FITZGERALD: We were out looking at it one day and nobody told me about the State Police using the --

MR. ASHTON: Oh, yeah.

MR. FITZGERALD: All of a sudden, it started up. It was very arresting.

MR. ASHTON: Come on out on Saturday some time.

This is a question that I guess the -- I've got to look a little bit at Louise Mango. And you, too, Mr. Zak. The -- has there been any comparison made as to the resource commitment of an underground versus an overhead solution and the environmental effect therefrom? For example, let me postulate it. A wood pole line is a pretty renewable resource. You have wood pole farms all throughout the southeast. A steel line, a copper line requires finite consumption -- or requires -- you have finite consumption of resources not altogether replaceable. Is there any analysis done at all on the

part of the applicants as to make that kind of comparison?

CHAIRMAN KATZ: Don't give the legislature any ideas.

MR. ZAKLUKIEWICZ: I -- just from a 30,000-foot level, clearly the construction time for an underground cable is going to be significant relative to installing monopoles or wood H-frames relative to when you think of the underground circuit -- we're speaking now of either three circuits or two circuits. When you think of the miles of pipe, when you think of the process and resources to -- just for the insulating fluid, never mind the construction of the cables, relative to what an ACSR -- that's aluminum steel-cored overhead conductor -- would be, the comparison of resources to construct is clearly in the cost of each of the projects relative per mile for each. And it's an indication of here is the construction cost, which means vehicles, which means gasoline, which means movement of the soil that's removed from the streets, depositing that soil at other locations, the repaving of the streets, those resources are enormous compared to going on existing rights-of-way in a good portion of the route, especially between Beseck and East Devon where we do not need to increase the

right-of-way width and we would be installing new structures on that right-of-way. Clearly, a significantly greater amount of resources required to install the underground alternative.

Louise, do you have any other thoughts?

MS. MANGO: I mean I think that, you know, that's -- what has been said is absolutely true. And I think one thing that also needs to be considered about undergrounding is that any underground that must go west to east to east to west in Connecticut will have to cross the streams that generally traverse north to south to reach Long Island Sound. And although I think it's simplistic to say that they could just be hung on a bridge or beneath a stream, I think what you need to be careful -- I mean that certainly can be done. But you're looking at things like doing a directional drill of a ten-foot stream or jack-and-bore of a ten-foot stream and then it's not just a simple open cut and you're in and out in a day. You're there for maybe a month.

So I mean I think when you look at the resources like that, it's something that, you know, needs to be considered.

MR. ASHTON: One of the -- in any of these hearings we hear with dazzling variance, depending on the

point that either side is trying to prove, minute details. One of the -- it might be said that electric power is a product of the population that we serve in the sense that as population grows, the demands for power respond.

How much, in your opinion, Ms. Mango -- how significant is the impact of an overhead electric line on an existing right-of-way compared to the development of residential development in a community? Is there any yardstick that you have that would say one house developed, one house of 2500 or 3,000-square-foot on an acre parcel of land is roughly the equivalent of "X" feet of right-of-way being used? Is there some handy-dandy rule of thumb?

MS. MANGO: I don't think there's any handy-dandy-rule of thumb. I think that what you can see ecologically is certainly -- the encroaching of suburbia on environments in general has caused a greater impact than utility rights-of-way which are maintained as rights-of-way. And we see that in -- throughout the literature. I think, you know, today since we've been talking about the vernal pools and the amphibian breeding areas, you know, I return to that study of the best development practices which has been noticed already in

this proceeding. And they do not say that utility rights-of-way cause an impact to the environment. They, in fact, say the thing that causes the most damage to vernal pools and to amphibians is residential development and specifically cats, apparently, like reptiles. So their suggestion was -- one of their suggestions is "Don't let your cat out."

But I mean I think that's just an extreme example of the things that, you know -- I mean it's easy to look at a utility right-of-way and say it's a major impact. And I think people perceive it that way. But on a global scale, it's certainly the development in general, residential development, mall development, road development.

MR. ASHTON: To your knowledge, do towns impose upon developers construction windows because of breeding habits of flora and fauna and so forth? Can they go any time or what?

MS. MANGO: Absolutely any time. And they do not have to comply with the State Historic Preservation Act or the National Preservation Act. And my experience is that developers, while they might avoid a wetland, they definitely don't control erosion. So they just -- you know, if there's off-site erosion,

that's too bad. So I don't think there's the same level of standard applied to utility projects. I mean all projects are not apparently equal.

MR. TAIT: Residential development can go over a vernal pool without anybody saying No. Right?

MS. MANGO: Well, there are Wetland Conservation Commissions. Yes, they would -- they would frown on that.

MR. TAIT: They're zoned for wetlands, not for vernal pools? I don't know.

MS. MANGO: No. They would -- a vernal pool would be a wetland.

MR. TAIT: Okay.

MS. MANGO: But I think what you would see is the developer -- you know, and in my town, this is -- my town is Newtown. It's probably one of the most developed in recent memory. It's developed substantially. And so what the developers do is they will cleverly avoid the wetlands. But then they'll clear everything. So the vernal pool would be right on the side of somebody's cleared house lot where they're happily applying Chem Lawn. So the vernal pool or wetland is not going to exist much longer.

MR. TAIT: And no share of --

MS. MANGO: But had they avoided it? Yes, they did.

MR. TAIT: Okay.

CHAIRMAN KATZ: We need to conclude here at 5:00.

MR. ASHTON: I understand.

And the same would be generally true about commercial and industrial development. Wouldn't it?

MS. MANGO: For the most part, yes.

MR. ASHTON: In terms of gross impact?

MS. MANGO: True.

MR. ASHTON: And the mechanism of constructing C&I projects, there's very little -- by comparison, very little regulation. Is that fair?

MS. MANGO: Unless there's state or federal funding.

MR. ASHTON: Yeah. And one last question. And whether Mr. Zak has heard of any update, or Mr. Prete, an update on the socialization of the costs for Phase 1. Is there anything happening with that since we last met?

MR. ZAKLUKIEWICZ: No. We have not submitted our 15-5 or 12-C approval to ISO. We're continuing on with the project and we hope to complete

the work on that project well before the December 2007 deadline. As a matter of fact, we hope to complete it by November of 2005. And then we hope to submit to ISO the cost of the project and hope for it to be socialized throughout all of New England.

CHAIRMAN KATZ: Thank you.

Mr. Wilensky?

MR. WILENSKY: Just one brief question. Does this, the proposed line, follow the existing right-of-way from Beseck to Devon for the most part?

MR. ZAKLUKIEWICZ: Yes, it does.

MR. PRETE: Entirely.

MR. WILENSKY: Why -- being that the answer -- early on there was a lot of talk about wetlands or vernal pools going through certain areas. Is it because of -- why is that? Is it because of the widening of the line or are we in a wetlands area right now?

MR. PRETE: It could be a combination of both. Some of those poles --

MR. WILENSKY: What is the -- what is the answer? In other words, there was a lot of talk about wetlands and -- through Woodbridge, I think, primarily I think is where the conversation took place. And is the existing right-of-way in Woodbridge in a wetland area?

MR. PRETE: Some of them are, yes. Some of the right-of-ways in Woodbridge.

MR. WILENSKY: In other words, it's --

MR. ZAKLUKIEWICZ: Portions of the right-of-way, Mr. Wilensky, are in wetlands, well defined. When the structures were placed there many, many, many years ago, they are in wetlands areas and the access roads that were installed many years ago today clearly go through wetlands areas. And what the issues are is if you improve those roadways to access the poles to replace them, you will be doing harm to the wetlands. Recognize that the wetlands came to be I think in the early 70's.

MR. WILENSKY: 70's, yes.

MR. ZAKLUKIEWICZ: So when a lot of the -- when these lines were placed in service, there was no such word as a wetlands.

MS. MANGO: Well, perhaps there was a word. But it wasn't regulated.

MR. ZAKLUKIEWICZ: It was not regulated.

MR. WILENSKY: As a former Planning and Zoning Chair, I think wetlands came into being in the late 60's or early 70's as far as regulated by the state and by the towns.

MR. ZAKLUKIEWICZ: That's correct.

MS. MANGO: Correct.

CHAIRMAN KATZ: Yeah. '72? Yeah.

MR. WILENSKY: And my last question is the -- if it went underground from Beseck to Devon, I think there would be -- have to be three 345 lines. Am I right? Is that what you said, Mr. Zak?

MR. ZAKLUKIEWICZ: That's what I testified to.

MR. WILENSKY: What happens from Devon to Norwalk? Does the same apply? What is proposed?

MR. ZAKLUKIEWICZ: What is required there are two 345-kV lines in each one of the lengths.

MR. WILENSKY: Why not 345 as talked about early on?

MR. ZAKLUKIEWICZ: Because -- because a lot of the -- a lot of the loads out of the Devon area gets spread out at East Devon and to the 115-kV system such that our studies indicate that we could live with a single 345-kV line between Singer and East Devon or between Singer and Norwalk for that 30 or 30-plus-day period should there be a cable failure. We could survive and do not require a 1200-megawatt transfer between East Devon and Singer and between Singer and Norwalk Substation.

MR. WILENSKY: In other words, you would have a backup system -- you have a backup system in place now or you would have a backup system in place then?

MR. ZAKLUKIEWICZ: Well, the transfer would go from 1200 megawatts down to some number around 650 to 700 with the second circuit not in place. We could operate the system with a 700-megawatt transfer for that short period of time.

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

Thank you, Madam Chairman.

CHAIRMAN KATZ: One final question. Are there any active discussions going on now with any towns in Segment 1 and 2 concerning changes that might result in supported changes to overhead routes?

MS. BARTOSEWICZ: No.

CHAIRMAN KATZ: Thank you.

Any final questions before I discuss tomorrow?

Mr. Cunliffe.

MR. CUNLIFFE: I believe the applicant would like to enter an exhibit, Mr. Stevens' resume. Is that --

CHAIRMAN KATZ: Should we have him verify that?

MR. FITZGERALD: Sure.

CHAIRMAN KATZ: Okay. Come on up. Oh, there he is.

MR. FITZGERALD: Mr. Stevens, I've just handed you a copy of what appears to be a statement of your qualifications. Is it true and correct to the best of your knowledge and belief?

MR. STEVENS: Yes, it is.

MR. FITZGERALD: I believe that that would be -- I'll offer it as Exhibit 99, Companies' Exhibit 99.

CHAIRMAN KATZ: Yes. We'll give it 99.

Is there any objection to making his qualification statement a full exhibit? Hearing none, we will make it a full exhibit.

(Whereupon, the qualification statement of Mr. Kenneth Stevens was received and marked into evidence as Applicants' Exhibit 99.)

CHAIRMAN KATZ: Okay. Let's talk about tomorrow. Unless I hear objections otherwise, what I had envisioned is tomorrow that we would start off with the slide show on East Shore, followed by the map presentation of Chestnut to Black Pond, then the -- after we resume our seats, we'll have a brief thing on OCC to verify the supplemental exhibit of their witness and

Cross Examination, if necessary. Then we will have -- yes, did you want to do Redirect of today's witnesses, by the way, tomorrow?

MR. FITZGERALD: I --

CHAIRMAN KATZ: Do you want to wait?

MR. FITZGERALD: No. I think we'll just reserve it.

CHAIRMAN KATZ: Okay. Then we will do -- we have more exhibits to verify for East Shore or is everything in?

MR. FITZGERALD: There's the -- I realized I didn't have them adopt the East Shore testimony.

CHAIRMAN KATZ: So we'll do that tomorrow?

MR. FITZGERALD: There actually was -- it actually was one of the exhibits that had a number assigned.

CHAIRMAN KATZ: Okay. So we'll do that tomorrow.

MR. FITZGERALD: Yes.

CHAIRMAN KATZ: And we'll have Cross on East Shore. Any other alternatives, tomorrow is the day. If you have other questions on railroad, Route 15, in Segments 1 and 2, tomorrow is the day to do that. Then we will have -- so we'll have Cross on that. Then we'll

have Synapse and Land-Tech. We will do their Direct testimony. Land-Tech should anticipate similar questions that we put to the -- Ms. Mango on the sensitive areas that -- if the poles cannot be moved, sensitive areas, where are they questions. If they could anticipate that, I'd appreciate it. Then we'll have Cross Examination of them.

Am I forgetting anything else for tomorrow?

Ms. Kohler?

MS. KOHLER: Land-Tech will actually be here Thursday, not tomorrow.

CHAIRMAN KATZ: Okay.

MS. KOHLER: I mean that was --

CHAIRMAN KATZ: Yes.

MS. KOHLER: We had spoken --

CHAIRMAN KATZ: If Mr. Cunliffe said that, then that's good enough for us.

MR. FITZGERALD: There's probably a full day there without them.

CHAIRMAN KATZ: Yes.

MS. KOHLER: And secondly --

CHAIRMAN KATZ: Good. Then could you then tell them to anticipate questions similar to what we put

on the companies' witnesses?

MS. KOHLER: Yes.

CHAIRMAN KATZ: Thank you.

MS. KOHLER: Secondly, about the alternatives we're discussing tomorrow, I'm assuming that we're not talking about for a vetting of the towns -- any of the towns' alternatives.

CHAIRMAN KATZ: No. Just what the company has put down as --

MS. KOHLER: Okay.

CHAIRMAN KATZ: I'm not allowed to call it the East Shore alternative. The East Shore route.

MS. KOHLER: And thirdly --

CHAIRMAN KATZ: I want vigorous Cross Examination on that.

MS. KOHLER: Okay. I think we can do that.

CHAIRMAN KATZ: Good.

MS. KOHLER: Thirdly, I did just call Attorney Knapp for Middlefield and --

CHAIRMAN KATZ: Yes.

MS. KOHLER: -- I left a message and let him know about tomorrow. And I also left a message for the Middletown City Attorney. So --

CHAIRMAN KATZ: Right. Now, on these issues, the reason I'm saying vigorous Cross Examination is because I'm sort of hoping that we're not going to leave things to the end and then, you know, open, you know, surprise boxes at the end. That's why I say that.

Okay. So Land-Tech is on Thursday. And RWA is on Thursday. Correct? And -- is there anything else I should -- any procedural questions? The City of Bridgeport has asked to come in on Thursday and we will accommodate the mayor on that.

Procedural questions? Questions about tomorrow?

Yes, Mr. Fitzgerald.

MR. FITZGERALD: A number of the people who were identified in the Segments 1 and 2 testimony as being on the second row, particularly Mr. Rayber, Mr. Biondi, Mr. Bourne, Mr. Stevens, have not been involved in the work that's been done --

CHAIRMAN KATZ: On East Shore.

MR. FITZGERALD: -- on East Shore. So it would be our intention not to have them here tomorrow. I just wanted to let everybody know that in case that poses a problem.

CHAIRMAN KATZ: Well, we're also going to

wrap up other alternatives. Are they involved in other alternatives?

MR. FITZGERALD: Other alternatives, meaning?

MS. MANGO: I-91, Wilbur Cross --

MR. FITZGERALD: We will have -- I -- we will have any of them who were involved in those --

CHAIRMAN KATZ: Okay.

MR. FITZGERALD: -- available.

CHAIRMAN KATZ: We appreciate that.

Any other procedural questions about how tomorrow is going to unfold? I know. Best laid plans --

Okay. We are adjourned then. We are adjourned until 10:00 A.M. tomorrow morning.

(Whereupon, the hearing was adjourned at 5:00 P.M.)

HEARING RE: DOCKET 272
JUNE 1, 2004 - 10:20 A.M.

INDEX OF APPLICANTS' EXHIBITS

CERTIFICATE

I, Paul Landman, a Notary Public in and for the State of Connecticut, and President of Post Reporting Service, Inc., do hereby certify that, to the best of my knowledge, the foregoing record is a correct and verbatim transcription of the audio recording made of the proceeding hereinbefore set forth.

I further certify that neither the audio operator nor I are attorney or counsel for, nor directly related to or employed by any of the parties to the action and/or proceeding in which this action is taken; and further, that neither the audio operator nor I are a relative or employee of any attorney or counsel employed by the parties, thereto, or financially interested in any way in the outcome of this action or proceeding.

In witness whereof I have hereunto set my hand and do so attest to the above, this 9th day of June, 2004.

Paul Landman
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