ORIGINAL

STATE OF CONNECTICUT

SITING COUNCIL

CONNECTICUT LIGHT & POWER COMPANY AND UNITED ILLUMINATING COMPANY	*	APRIL 21, 2004 (10:00 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

BEFORE: PAMELA B. KATZ, CHAIRMAN

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A PARTY, THE TOWN OF BETHANY

A PARTY, THE TOWN OF HAMDEN

AN INTERVENOR, THE TOWN OF FAIRFIELD

AN INTERVENOR, THE FIRST DISTRICT WATER COMPANY

AN INTERVENOR, NORWALK ASSOCIATION OF SILVERMINE HOMEOWNERS

A PARTY, ROBERT W. MEGNA, STATE REP. 97th DISTRICT

AN INTERVENOR, MARY G. FRITZ, STATE REP. 90th DISTRICT

AN INTERVENOR, AL ADINOLFI, STATE REP. 103rd DISTRICT

AN INTERVENOR, RAYMOND KALINOWSKI, STATE REP. 100th DISTRICT

AN INTERVENOR, THEMIS KLARIDES, STATE REP. 114th DISTRICT

AN INTERVENOR, JOHN E. STRIPP, STATE REP. 135th DISTRICT

AN INTERVENOR, WILLIAM ANISKOVICH, STATE REP. 12th SEN. DISTRICT

AN INTERVENOR, JOSEPH CRISCO, JR., STATE REP. 17th SEN. DISTRICT

AN INTERVENOR, LEONARD FASANO, STATE REP. 34th SEN. DISTRICT

. . .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 & Business, 185 Main Street, New Britain, Connecticut, on April 21, 2004 at 10:00 a.m., at which time the parties were represented as hereinbefore set forth . . .

CHAIRMAN PAMELA B. KATZ: I call this hearing to order. This is a continuation of the hearing for Docket 272.

At this part in the hearing, I'd like to ask Mr. Fitzgerald and Miss Randell to identify your new witnesses, and we will ask that they be sworn by the Assistant Attorney General.

MR. ANTHONY M. FITZGERALD: Thank you. At the far end of the table, that is the end furthest away from me are two new witnesses who will speak to the issues concerning -- if any, concerning the polybutene insulating fluid. At the end of the table is Marie BenKinney from Exponent. And next to her is Wesley Kegerise from Okonite, who has testified once before

here.

CHAIRMAN KATZ: Excuse me. Can everyone in the back of the room hear Mr. Fitzgerald? No? I'm going to ask you to lean in a little bit, Mr. Fitzgerald.

MR. FITZGERALD: Okay. And I would like to offer as exhibits the resumes of each -- of Miss BenKinney and Mr. Kegerise.

CHAIRMAN KATZ: Okay. First, why don't we get them sworn in and then we'll have them adopt their prefiled --

COURT REPORTER: Before they're sworn, can they put their names on the record and spell it.

CHAIRMAN KATZ: Yes. Why don't we do that first. While you're near the microphone, please give your name and spell it please.

MS. MARIE BENKINNEY: Okay. My name is Marie BenKinney. The first name is Marie, M-a-r-i-e. The last name is B as in boy, e-n-K-i-n-n-e-y.

MR. WESLEY KEGERISE: Wesley, W-e-s-l-e-y, Kegerise, K-e-g-e-r-i-s-e.

COURT REPORTER: Madam Chair, do you want their addresses on the record?

CHAIRMAN KATZ: Yeah, it's probably a good idea. If you could give an address.

MS. BENKINNEY: Yeah. My business address is 21 Strathmore Road, S-t-r-a-t-h-m-o-r-e, Road, in Natick, Massachusetts. Natick, N-a-t-i-c-k. Zip 01760.

MR. KEGERISE: My home address is 305 Fieldstone Terrace, Wickoff, W-i-c-k-o-f-f, New Jersey, 07481.

CHAIRMAN KATZ: For completeness we ask for your address, but as the former chairman used to like to remind us we can hunt you down in either case.

Okay, at this time, Mr. Fitzgerald, why don't we have them --

COURT REPORTER: They haven't been sworn, Madam --

CHAIRMAN KATZ: Oh, yes, I'm sorry.

MR. JOHN HAINES: Do you want me to do that? Would you stand and raise your right hand please.

(Whereupon, Marie BenKinney and Wesley Kegerise were duly sworn in.)

MR. HAINES: Thank you.

CHAIRMAN KATZ: At this point why don't we have them verify their prefiled.

MR. FITZGERALD: Thank you. There's no prefiled testimony from them --

CHAIRMAN KATZ: Well their -- their --

they're going to adopt their --

MR. FITZGERALD: -- but we have their resumes, yes. Mr. Cunliffe, could you give me an exhibit number?

MR. FRED O. CUNLIFFE: Sixty-one.

MR. FITZGERALD: Sixty-one. So let's make Miss BenKinney's CV Exhibit 61 and Mr. Kegerise's Exhibit 62.

Miss BenKinney, Exhibit 61 is a curriculum vitae or resume that you have provided to us. Is the information in it true and correct to the best of your knowledge?

MS. BENKINNEY: Yes, it is.

MR. FITZGERALD: And Mr. Kegerise, Exhibit 62 is your CV. Is that information true and correct to the best of your knowledge?

MR. KEGERISE: Yes.

MR. FITZGERALD: Thank you. I will -- we will file and serve the resumes in the usual way. In the meantime, I have multiple copies here for anyone who --

A VOICE: Tony, give those to the Council and I'll put these over here --

MR. FITZGERALD: Okay, fine. Here are -- here are copies for the Council. We have other copies --

(indiscernible, walked away from mic) -- left on the table for people who --

CHAIRMAN KATZ: Mr. Fitzgerald, I get yelled at if you talk away from the microphone -- (laughter).

MR. FITZGERALD: Okay. We have handed up copies to the Council. Mr. McDermott is leaving copies for other people who are interested on the table over there. We will also file and serve.

CHAIRMAN KATZ: Thank you. Is there any objection to making 61 and 62 full exhibits? Hearing none, we will make them full exhibits.

(Whereupon, Applicant Exhibit No. 61 and No. 62 were received into evidence as full exhibits.)

CHAIRMAN KATZ: At this point is there any procedural matters before we have these witnesses cross-examined, otherwise I will start in on the list? Okay, I'll take that as a yes. First is State Representative Al Adinolfi. Let the record show not present. Next is the Towns, Wallingford, Durham -- Mr. Ball, are you representing this group?

MR. DAVID BALL: Yeah. No questions.

CHAIRMAN KATZ: Mr. Ball said no questions. The City of Norwalk? Let the record show not

present. Mr. Cederbaum, questions for these witnesses?

MR. EUGENE CEDERBAUM: No, thank you.

CHAIRMAN KATZ: Mr. Cederbaum said no questions. The City of Meriden, Attorney Moore? Let the record show not present. Assistant Attorney General Michael Wertheimer, do you have questions for these witnesses?

MR. MICHAEL WERTHEIMER: No, thank you.

CHAIRMAN KATZ: Mr. Wertheimer said no questions. Communities for Responsible Energy? Let the record show not present. OCC, Mr. Johnson? Let the record show not present. Woodlands Coalition? Mr. Golden, do you have questions for these witnesses?

MR. LAWRENCE GOLDEN: No questions.

CHAIRMAN KATZ: Mr. Golden said no questions. ISO New England, Mr. MacLeod? Let the record show not present. I'm going to go back on the list. Mayor Knopp, I was wondering -- I wanted to give you an opportunity if you wanted to cross-examine these witnesses?

MAYOR KNOPP: No, thank you, Mr. Chairman.

CHAIRMAN KATZ: Mayor Knopp said no. DOT, Mr. Walsh, questions -- oh, Miss Meskill -- questions for these witnesses?

MS. EILEEN MESKILL: I have a couple of questions if I may.

CHAIRMAN KATZ: Yes, please. We'll get you a seat and -- (pause) -- if you could just start off identifying yourself for the record.

MS. MESKILL: Assistant Attorney General Eileen Meskill, representing the Department of Transportation.

Actually as a procedural matter, I know yesterday there was a request I think to enter the MSDS sheet into the record. Has that been done?

CHAIRMAN KATZ: We -- we can do that -- right?

MS. MESKILL: Okay.

CHAIRMAN KATZ: Why don't we at this point do that and -- do you want to just have your witnesses verify that that's -- it is what it is.

MR. FITZGERALD: Is this -- is this Exhibit 63, Mr. Cunliffe?

MR. CUNLIFFE: That's correct.

MR. FITZGERALD: Mr. Kegerise, I show you Exhibit 63, can you identify it please?

MR. KEGERISE: Yes. That's -- that's the current MSDS for polybutene fluid -- pipe fluid.

CHAIRMAN KATZ: Please try to keep your voice up.

MR. FITZGERALD: Just say it again please.

MR. KEGERISE: Yes. This is -- this is the current MSDS for the pipe filling fluid.

CHAIRMAN KATZ: Is there any objection to making that a full exhibit? Hearing none, we will make that No. 63.

(Whereupon, Applicants' Exhibit No. 63 was received into evidence as a full exhibit.)

CHAIRMAN KATZ: And Miss Meskill, you have a copy now?

MS. MESKILL: Yes, I do. And actually this does answer some of my questions, but -- so I'll be very brief.

Looking at the MSDS sheet on Section 4, Flammability, I assume this to mean that this fluid or this liquid is flammable?

MR. KEGERISE: That's correct.

CHAIRMAN KATZ: Just for the record could you put the flash point into the record.

MR. KEGERISE: Based on the MSDS, it's 135 degrees centigrade.

CHAIRMAN KATZ: Okay.

MS. MESKILL: Can you tell me whether or not there are any toxic gases that can emit from this gas if it were ignited?

MR. KEGERISE: Based on the -- where you had complete combustion, it basically breaks down to CO2 and water. If you have incomplete combustion, it's like other pure hydrocarbons, they would break down to carbon monoxide, but I would think in a -- you know, in the outdoors it would essentially break down to carbon dioxide and water.

MS. MESKILL: Okay, thank you. I have no further questions.

CHAIRMAN KATZ: Thank you.

MR. PHILIP T. ASHTON: Mr. Kegerise, it does mention on this MTST -- M --

CHAIRMAN KATZ: MSDS --

MR. ASHTON: Say which?

CHAIRMAN KATZ: MSDS.

MR. ASHTON: Thank you. MSDS --

MR. COLIN C. TAIT: Exhibit 63 for you.

MR. ASHTON: Yeah, I know. Under hazardous -- right at the bottom of page -- the first page, it says hazardous combustion products, CO, CO2 and smoke. What's the hazardous product in smoke?

Obviously, it has a broad interpretation.

MR. KEGERISE: It would be incomplete combustion of the fluid would make the smoke, and it would be particulate --

MR. ASHTON: Okay --

MR. KEGERISE: -- you know, sort of like cigarette smoke, you --

MR. ASHTON: Okay.

CHAIRMAN KATZ: In -- it looks like this was developed in the U.K. this MSDS. But in terms commonly understood in the United States, this is really combustible and not flammable, correct?

MR. KEGERISE: Well, you start with combustion and you end up with flammability, but I think the ratings on the -- the ratings on the fluid -- on the MSDS are such that -- you know, in common practice it's not -- you have to have basically a vapor to ignite it with an open flame, which is you've got to get to the 135c flash point.

CHAIRMAN KATZ: Thank you. Okay, thank you. Next on the list is -- Mr. Reif, any questions for these witnesses?

MR. DAVID REIF: No, Madam Chairman.

CHAIRMAN KATZ: Mr. Reif said no

questions. Mr. Lord, questions for these witnesses? Before you start, I just want to clarify. I understand the following parties are not represented here today, the Town of Cheshire, the City of Middletown, the Town of North Haven. Am I correct? If you're here, please indicate, otherwise I'm not going to call on you. Thank you. They indicated they're not present. Go ahead, Mr. Lord.

MR. ANDREW LORD: Good morning. For the record my name is Andrew Lord. I'm here today on behalf of the South Central Connecticut Regional Water Authority.

I haven't had the opportunity to review your qualifications. I was wondering if you could each prepare a brief summary of your experience in evaluating the effects of polybutene in the environment?

MR. KEGERISE: I'm --

MR. LORD: Or your familiarity with the compound polybutene?

MR. KEGERISE: I'm familiar with polybutene, the base is the manufacturer of high pressure fluid filled cables. I really don't have any experience or expertise to comment on the toxicological effects.

MS. BENKINNEY: I'm an ecotoxicologist by

training and have about 22 years of experience working on ecotoxicology. I came out of Mobile Oil Corporation with 15 years of experience working on petroleum type materials, hydrocarbons. And everything from aquatic toxicity to biodegradation to its behavior on a chemical perspective.

MR. LORD: Thank you. Would either of you, as appropriate, describe the physical characteristics of polybutene?

MR. KEGERISE: It's -- it's basically a fluid. It's a polymer, it's a synthetic polymer. The characteristics are very similar to olive oil or mineral oil, baby oil, in terms of the pipe filling fluid, that sort of viscosity. It's, you know, odorless, colorless, and tasteless.

MR. LORD: And how about its solubility in water?

MR. KEGERISE: Virtually -- virtually insoluble.

MR. LORD: And in the environment does it break down by oxidation or by photo-degradation?

MR. KEGERISE: Photo-degradation I would say. Marie, you might --

MS. BENKINNEY: It will degrade -- it will

degrade slowly, but it will degrade by bacteria by biological degradation. Slowly -- the bacteria when they get to the double bonds, it takes a little longer. So they -- they rapidly degrade the single bonds. And when they get to the double bonds, it takes a little longer, so the fluid lasts on the order of weeks to months in the environment depending on conditions.

MR. LORD: Does it matter if it's an aerobic or an anti-aerobic environment?

MS. BENKINNEY: It's going to go faster in aerobic conditions than it would under anti-aerobic conditions.

MR. LORD: Thank you.

CHAIRMAN KATZ: If it's built into a waterway, you said it was insoluble in water, so would you clean it up like an oil spill?

MS. BENKINNEY: It will -- it will be -- it's very insoluble in water. An oil spill you actually have soluble components that go into the water. So it's going to be much less soluble, much more of a floating layer than you would see in oil where you would see that mixed layer between oil and the water. So it would be a floating material. You could corral it and clean it up with solvent booms and stuff like that very readily.

CHAIRMAN KATZ: So it might be easier to clean up than an oil spill?

MS. BENKINNEY: Yes, it should be much easier to clean up than an oil spill.

MR. BRIAN O'NEILL: Perhaps we could get to -- perhaps we could get to a specific instance where there has been a spill and how it has been remediated. Have there been any major spills, let's say in excess of a thousand gallons of this fluid? And how was that addressed?

MS. BENKINNEY: I don't know of any spills per say that have been cleaned up. But from looking at the applications of where this material will be used, it's likely to be spilled in the soil. And because it has very high soil absorption coefficient and very slow movement with water because it's not readily admissible with water, the material is going to stay in the vicinity of where the release would have occurred, so you would see it in the vicinity of the underground area where the pipes were, very very slow movement anywhere beyond that.

CHAIRMAN KATZ: But just -- if it's under a street and there are also storm drains under a street, the preferential pathway may be to go through the soil to the storm drain, through the storm drain and out,

correct?

MS. BENKINNEY: That would be correct once it gets through the soil. It would be the migrating through the soil that would take the very long time.

CHAIRMAN KATZ: Thank you.

MR. LORD: Were you involved in the preparation of the responses to the Regional Water Authority's interrogatories regarding polybutene?

MR. KEGERISE: I was not.

MR. LORD: Are you familiar with those responses?

MR. KEGERISE: Yes, I am.

MR. LORD: Okay.

MS. BENKINNEY: And I am as well.

CHAIRMAN KATZ: Do we have another witness that we'd like to have answer your questions on this?

MR. LORD: Yeah, as appropriate any --

MR. FITZGERALD: I -- I think --

MS. BENKINNEY: Were those the ones that I just looked at --

MR. FITZGERALD: -- maybe they need to see the document --

MS. BENKINNEY: I was involved in preparing those interrogatories.

CHAIRMAN KATZ: Do you need -- do you need a moment to review?

MS. BENKINNEY: No, I'm good.

CHAIRMAN KATZ: Okay.

MR. LORD: In response to the first interrogatory, the response indicates that you relied on a material safety datasheet. Who prepared the material safety datasheet?

MR. KEGERISE: It was prepared by the manufacturer of the fluid, B.P. Global.

MR. LORD: And are -- is the information contained on the material safety datasheet based on any particular studies or where does the information on the MSDS sheet originate?

MR. KEGERISE: From the manufacturer.

MR. LORD: And do they perform studies on the toxicity or the characteristics of the material in the environment?

MR. KEGERISE: Only to the extent of the requirements of the MSD sheet -- MSDS sheet.

MR. LORD: And can you elaborate on what those requirements for the material safety datasheets might be?

MS. BENKINNEY: There are specific

categories that are required to be addressed on a material safety datasheet that talk about its physical, chemical properties, its toxicity properties, and its environmental properties. Not knowing specifically this manufacturer, but in general companies either generate that information themselves or they pull that information out of the literature of studies that have been conducted by others, either in an academic institution or in other cases by other industry folks.

MR. LORD: But no particular studies are performed by that manufacturer in preparing the material safety datasheet?

MS. BENKINNEY: It depends on the company. Some companies, their material safety datasheets are their own data and it's information they've generated in-house. Other companies don't have those capabilities or have those resources available and they may use information that was done by trade associations or were done by other institutions.

MR. LORD: So material safety datasheets that are prepared for a compound that's manufactured by different manufacturers could contain different information?

MS. BENKINNEY: That's correct.

MR. LORD: And is there any way to explain why there might be those differences if the compound is the same?

MS. BENKINNEY: In some cases it may be due to subtle differences in the material from one manufacturer to another. In other ones the differences may be the highest dose that they used in a study. If the material is non-toxic, you may see a greater than number. And the greater the number would determine whatever exposure they used as their highest dose. From a scientific point of view there's not a lot of differences between those, but you will see it if you look at an absolute number that there would be a difference. So there are real differences from a scientific perspective between manufacturers and then there's differences that really don't relate to anything different on a scientific perspective.

MR. KEGERISE: I might just add something to that. This -- you know, polybutene is quite a common personal -- I want to say a personal hygiene product, it has many uses in dealing with human contact. It's used in lipsticks, it's used in mascara, it's --

MR. ASHTON: That covers only half the population. (Laughter).

MR. KEGERISE: It's used --

A VOICE: You don't know that --

A VOICE: More than half --

(Multiple voices overlapping and laughter, indiscernible)

MS. BENKINNEY: It's also used as an inner-ingredient in pesticides, in food preparation. It's used in chewing gums, it's used in confectionery. It's used in a broad range of applications as an inner-carry ingredient for other materials.

MR. KEGERISE: Yeah. So my point being that -- that there are many studies -- even you can go to the internet for instance and you'll find the FDA has extensive studies because polybutene is utilized for instance in the environment let's say as squirrel and bird repellant and -- you know, it's that sticky stuff you put around your oak tree when the Gypsy Moths are, you know, hatching, to catch the Gypsy Moths on the oak tree, it's that same product, of course it's -- at that point it's much thicker than what we're using as a pipe filling fluid. But basically this material in its various molecular waste has been studied to wherewithal by the FDA and so forth.

Excuse me, the other half of the

population is covered by the tacky golf club grips. (Laughter).

CHAIRMAN KATZ: Now that is a sexist remark. (Laughter).

MR. ASHTON: That's a tacky remark.

MR. LORD: You mentioned the internet and that there sources of information. Are material safety datasheets readily available on the internet?

MS. BENKINNEY: There are some services that provide those. Cornell has a service where they provide them free of charge. There are other sources where you can buy them. There are manufacturers that put their MSDS's on the internet. So you can get access to MSDS's fairly readily.

MR. LORD: So if one were to go onto the internet and do a search for polybutene, you could discover several MSD sheets for polybutene that are produced by different manufacturers?

MS. BENKINNEY: That's correct.

MR. LORD: And if one were to do that and discover that there's a warning on a MSDS sheet for polybutene that warns against discharging to public water supplies, how would you explain that?

MS. BENKINNEY: Probably what I'd want to

do is look at their scientific basis, what information they have, what the statement is, and what the information is that was generated to support that statement.

MR. LORD: And --

CHAIRMAN KATZ: Mr. Lord, is this something you're going to put in evidence or -- you're sort of just dangling it out there.

MR. LORD: I'm not sure exactly how to get it into evidence at this point. It may be something that we can get in when we do our direct testimony.

CHAIRMAN KATZ: I think we'd appreciate a follow-up on that.

MR. TAIT: Well, can't these witnesses verify it?

MR. FITZGERALD: I don't know.

A VOICE: I don't know if they've seen it.

MR. FITZGERALD: We can't say unless we see it. I -- I would not --

A VOICE: A microphone.

MR. FITZGERALD: Just for efficiency sake, I would not object to these witnesses being asked about this document since they're here and -- I'd like to get some copies made so that we could all have --

CHAIRMAN KATZ: Let's -- let's take a five-minute break and let's accomplish that.

(Whereupon, a short recess was taken.)

CHAIRMAN KATZ: Okay, we are back in session. Mr. Lord, what we're going to do is -- we understand we're getting copies of this new MSDS, we're going to come back to that. And if you have other questions, we will take them at this point, or we will revisit with you later in the morning. How would you like to do this?

MR. LORD: I can continue with questions if --

CHAIRMAN KATZ: Okay.

MR. LORD: With regard to the response to RWA's first interrogatory, it states that the compound is non-toxic and poses no harm to the groundwater, surface water, or human health. Can you explain the basis for that conclusion?

MS. BENKINNEY: Yes. In terms of -- all of that information is based on information in terms of its general characteristics, physical chemical characteristics in terms of binding coefficients, in terms of movement. And the mammalian tox is based on actually mammalian tox studies that have been done with

rats and rabbits to simulate exposures to humans. And so those are actually based on actual study data that has been generated using polybutene.

MR. LORD: So you reviewed studies that had been performed in preparing that response?

MS. BENKINNEY: I reviewed summaries of those studies that have been prepared by the EPA, that the EPA summarized those effects, and looked at actual study information, study summaries of the mammalian tox data that were used to generate the numbers, yes.

MR. LORD: It states that it's a non-toxic compound. Are there other non-toxic compounds though that could affect the characteristics of drinking water? For example nutrient --

MS. BENKINNEY: Yes, salt.

MR. LORD: -- nutrient salt, chloride --

MS. BENKINNEY: Yeah, sure.

MR. LORD: So the fact that it's non-toxic doesn't necessarily mean that it won't have any effect on drinking water, is that correct?

MS. BENKINNEY: That would be correct. Usually the materials that would affect drinking water will impart some kind of organoleptic properties, some kind of taste properties that you could taste or you

could smell or will change the general nature of the water itself so that the water has a different behavior. Polybutene would not do those things. It would not change the smell of the water, it wouldn't change the taste of the water, unlike something -- a number of other minerals or something that you could put in there that you could pick up.

CHAIRMAN KATZ: Mr. Tait.

MR. TAIT: What are we -- what are we really talking about? If I drank a cup of this, what would happen to me?

A VOICE: You'd grow hair --

MS. BENKINNEY: Well instantaneously not much, but I'd suggest within the next hour you get yourself to the bathroom -- (laughter) -- and you stay there for the rest of the day. It --

MR. TAIT: But is that --

MS. BENKINNEY: -- it would be similar to -- you could use it for medicinal properties similar to like mineral oil or caster oil --

MR. TAIT: Okay --

MS. BENKINNEY: -- it's very good at cleansing your system, so -- you wouldn't want to drink lots of it --

MR. TAIT: Alright --

MS. BENKINNEY: -- and in fact, we brought a sample of it here and thought it might be something that -- I wouldn't suggest you drink it, but you may want to open it up and smell it, and you can stick your finger in it and taste it -- I've done that, and certainly I haven't run off anywhere. As you start drinking -- I wouldn't suggest you drink this whole glass unless you're not going anywhere for awhile.

MR. TAIT: But it's not toxic, it's --

MS. BENKINNEY: No, no, no. Not based on studies that have been done. And in fact, the EPA has actually -- FIRA, which is very stringent on regulations for pesticides has actually considered it safe --

MR. TAIT: But in the --

MS. BENKINNEY: -- for applications.

MR. TAIT: In the quantities we're talking about of leaking into a public water supply, would it be detectable?

MS. BENKINNEY: You would see it possibly as a layer on the -- if you had an open body of water. But you're not going to see it beyond that.

MR. TAIT: And how many gallons would it take to do that in an open body of water?

MS. BENKINNEY: You'd have to have enough to get a fairly thick layer, yeah.

MR. TAIT: Yes, like -- I mean --

CHAIRMAN KATZ: Has --

MR. TAIT: And it's viscous and it travels very slowly through soil?

MS. BENKINNEY: Yes.

CHAIRMAN KATZ: Has EPA or any state health departments determined how many parts per million you're allowed to have this in drinking water?

MS. BENKINNEY: EPA actually -- in the document that they wrote up from FIRA decided not to establish a level --

CHAIRMAN KATZ: Backup on the acronym --

MS. BENKINNEY: Yeah. EPA, Environmental Protection Agency --

CHAIRMAN KATZ: No, the next one?

MS. BENKINNEY: FIRA is the Federal Insecticide and --

MR. TAIT: Rodent --

MS. BENKINNEY: -- Rodenticide Act --

COURT REPORTER: One more time --

CHAIRMAN KATZ: Thank you --

MS. BENKINNEY: -- and it's the one that's

there for --

COURT REPORTER: One more time please.

MS. BENKINNEY: Oh. FIRA, Federal Insecticide and Rodenticide Act. It's the act that covers things for agricultural, pesticides, food grade applications, and it's a federal regulation. And they've --

CHAIRMAN KATZ: We have -- we have an acronym rule here, so --

MS. BENKINNEY: Sorry. They've actually not set a maximum level because from their perspective it's safe -- it's considered safe in those applications, and they've said they couldn't determine a level of a residue that would create a problem even to sensitive populations like infants and children. So they could not determine any threshold where you would see a problem, including drinking water, including residential exposure. They did not include occupational exposure, but all other exposures.

MR. BRIAN EMERICK: Madam Chair.

CHAIRMAN KATZ: Mr. Emerick, followed by Mr. O'Neill.

MR. EMERICK: I guess I would offer this question to the panel. Of the proposed under-grounding,

how much of that is in a public water supply watershed of South Central or another company?

MS. ANNE BARTOSEWICZ: In the proposed application the proposed route does not have any underground in public water supply.

CHAIRMAN KATZ: In the towns where --

MS. BARTOSEWICZ: We have --

CHAIRMAN KATZ: In the towns where it's currently proposed to be overhead, which of those towns have public water supplies?

MS. BARTOSEWICZ: In the overhead towns, it would be Cheshire, Bethany, Hamden -- do you go into Woodbridge -- Woodbridge. And in Cheshire, we have a small piece of 115 cable, it is proposed to be solid dielectric cable for the approximate mile that we're in Cheshire and Hamden, so it would not be HPFF.

CHAIRMAN KATZ: Mr. Emerick, does that conclude your question?

MR. EMERICK: In terms of the area along the proposed underground route, are -- is water supply provided through a public utility as opposed to individual wells?

MS. BARTOSEWICZ: Yes.

MR. EMERICK: Okay, thank you.

CHAIRMAN KATZ: Mr. O'Neill, did you have a question?

MR. O'NEILL: Yes. If this is completely harmless, why does the DEP require any remediation to be classified as a hazardous waste cleanup?

MS. BENKINNEY: The DEP wrote it for all of the fluids of all different types, they didn't specify polybutene specifically. They just wrote it as a general category. In the past mineral oil has been used as a fluid, alkyl benzene has been used. So they wrote a general statute rather than something specific for this application.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Mr. Lynch.

MR. DANIEL P. LYNCH, JR.: Correct me if I'm wrong, but did I hear you testify earlier that it was odorless and tasteless?

MS. BENKINNEY: Yes.

MR. LYNCH: Well, we have a sample going around here and it does have an odor to it. Has that been added for some reason?

MS. BENKINNEY: No. But because it's in a sealed container, you're going to pick up more of an odor than you would if you had it released because -- you'll

pick up a slight odor in it because of the container, because of the lid. I think if you had it in something that would be more inert materials, you probably wouldn't be picking that up.

MR. LYNCH: Thank you.

CHAIRMAN KATZ: What we call head space, correct?

MS. BENKINNEY: Yes.

MR. TAIT: Have you tasted it, Dan?

MR. LYNCH: Pardon?

MR. TAIT: Have you tasted it?

MR. LYNCH: Not yet -- (laughter) -- I'm waiting for you.

MR. ASHTON: If it grows hair, I'm tasting it. (Laughter).

CHAIRMAN KATZ: Back to you, Mr. Lord.

MR. LORD: This may be a question for the panel, it relates to the response to our second interrogatory, and it states that you will be able to detect releases as low as 200 gallons. Is that the minimum amount of a release that can be detected?

CHAIRMAN KATZ: Why don't you start off by identifying yourself today.

MR. JAY WILLIAMS: I'm Jay Williams. I

was sworn in yesterday --

COURT REPORTER: Mr. Williams, one more time please.

MR. WILLIAMS: I'm sorry. My name is Jay Williams. I was before the Council yesterday.

Yes, it's possible that smaller leaks could be detected, but 200 gallons is the minimum amount for a leak that's not readily obvious.

MR. LORD: Okay. And in the response to Interrogatory No. 3, it stated that 10,000 gallons is the maximum release. Why is that the maximum?

MR. ROGER ZAKLUKIEWICZ: One of -- one of the releases is basically a corrosion leak, a very small pinhole leak. The second where we identified what would be the release within the length of cable that we're talking about in the proposal is for, if you will, a catastrophic dig-in where a backhoe has ripped open the pipe and you have a rather large opening. By the time the breach of the pipe is communicated to the company, the company dispatches electricians to the substations to drop the pressure on the pipe, that would be our estimate of the amount of fluid that could possibly be released. And we base that response on the fact that we had a severe breach of a pipe a few years ago in the Stamford

area and we lost in that case approximately thirty-five hundred gallons of insulating fluid. So that would be our estimate. And again, it would depend upon whether the pipe is totally severed or whether there is a large fracture of the pipe. But that would be our estimate of the time it would take for company personnel to go to the transition station or substation to drop the pressure on the release. And the release will continue until we get a clamp placed over the pipe.

MR. LORD: I guess just to follow up on that from an environmental perspective, what would be the effect of 10,000 gallons of polybutene being spilled approximate to a watercourse leading into, for example, a public drinking supply reservoir?

MS. BENKINNEY: If the spill is on the ground, you're going to see it pooling on the ground and pooling below ground as a pool with sticking to the soils. If it comes across some kind of conduit where they can migrate to the water, you're going to see it floating on the water or floating in the vicinity of the water. It is lighter than water, it will float. There will be, essentially, no mixing between the water and the material itself. In terms of the reservoir, you may see then a portion of it spreading out on top of the reservoir.

CHAIRMAN KATZ: Just -- could we just do a little housekeeping thing for a minute. We've given this -- we're going to call this RWA Exhibit No. --

A VOICE: One --

CHAIRMAN KATZ: -- 1 for identification purposes --

MR. LORD: No, I think we have prefiled testimony already on the record. I could check the program for your quickly -- I don't --

CHAIRMAN KATZ: While you're checking, I have a request of the Applicant. In the United States we do our MSDS's a little differently and I was wondering if there was a U.S. supplier of this material that we could get a U.S. MSDS? In the United States we usually have a whole regulatory section that references U.S. regs and laws. Is there a U.S. supplier of this that we can get an MSDS?

MR. BRUCE McDERMOTT: Chairman Katz --

A VOICE: Excuse me --

CHAIRMAN KATZ: Mr. McDermott.

MR. McDERMOTT: During the break Miss BenKinney and I were talking, there are 500 MSDS's for this particular chemical. We can obviously supply you with one of those MSDS's, but that's not going to be

reflective of the manufacturer from whom we are getting that chemical. So, I don't know what value it would have to the Council. And again, I mentioned that there are approximately 500 of them. And Miss BenKinney can correct me if I'm wrong on that number.

CHAIRMAN KATZ: Okay.

MS. BENKINNEY: I didn't count them, but if you do a search and you start looking for MSDS's, there's hundreds and hundreds and hundreds of them. And pretty well anybody that's using it in a pesticide formulation or anything else is going to carry an MSDS on the material --

CHAIRMAN KATZ: Okay --

MS. BENKINNEY: -- so they're going to be from all over the world.

CHAIRMAN KATZ: Let's -- let's handle it this way, why don't you ask Champion Servo (phonetic) if they do a different version of their MSDS for U.S. distribution that cites U.S. regulatory --

A VOICE: Global Special Products --

MR. FITZGERALD: Champion Servo, that's Mr. Lord's.

CHAIRMAN KATZ: Oh, that's what I'm looking at.

MR. O'NEILL: Madam Chairman --

CHAIRMAN KATZ: Yes.

MR. O'NEILL: -- if I may interject. I'm sure it's possible to get an MSDS right off the top of one of the barrels of this product, is it --

CHAIRMAN KATZ: Well, it's not that --

MR. O'NEILL: It's distributed --

CHAIRMAN KATZ: No -- unfortunately as a person who does MSDS's for a living, it's not that easy. Okay, for your product, which is Global Special Products from Buckinghamshire, U.K., would it be possible to ask them if they have a MSDS -- oh, they do -- okay, never mind, they do have U.S. --

MR. KEGERISE: Yeah, that's what's been provided.

CHAIRMAN KATZ: Yes. They do have U.S. -- okay. They do cite U.S. law in theirs --

MS. BENKINNEY: Most companies --

CHAIRMAN KATZ: -- it's just Champion that doesn't cite U.S. law.

MS. BENKINNEY: Yeah, most companies usually try to -- are trying to standardize their MSDS's and use one worldwide rather than having different ones for different countries.

CHAIRMAN KATZ: Okay. I will withdraw that request. Okay, let's go back to the --

MR. EDWARD S. WILENSKY: (Indiscernible) --

CHAIRMAN KATZ: Yes, Mr. Wilensky.

MR. WILENSKY: In one of the answers, I think the -- if it did seep into a reservoir, you could scoop it off the surface of the reservoir or I think something similar to that was said. What happens when it seeps into an aquifer and there's no -- you know, there's no way of getting at it in this aquifer, how does it affect that? I know in our municipality we had that problem quite serious -- not with this product but with a product seeping into an aquifer.

MS. BENKINNEY: Now you're talking about an underground aquifer?

MR. WILENSKY: Yes, yes.

MS. BENKINNEY: It's going to -- because of the nature of this material and the fact that it sticks to soil, it's going to take a very long time for it to migrate down to an underground aquifer. Depending on the volume of material and the depth to that aquifer, it may never reach the aquifer. You're also going to have degradation occurring of this material through

normal bacteria, so you'd have to look at it in terms of would it actually contact the aquifer. And it may or may not depending on all of those variables. If it did contact the aquifer, it would float as a floating layer or -- a non-aqueous phase liquid floating on top of the aquifer rather than mixing in with the water of the aquifer. So if you pulled that water to the surface and you had any kind of filtration on the water coming in to remove solids, to remove other materials, you're going to be removing this material because it's going to be sticking to the particles rather than being mixed in with the water itself.

MR. WILENSKY: Many of the communities use -- have wells that feed the homes and are fed from -- and the wells are fed from aquifers. And so, therefore, there's no filtration that takes place on that. So therefore, it would be right into the -- right into the aquifer, so there's nothing filtering that. So would that have any adverse effect upon that resident that's getting their water from a well?

MS. BENKINNEY: For the individual resident, even if the material did get into the aquifer, which right now would depend on all those variables I talked about in terms of volume and depth, the amount

that would get into the individual well would be very small. Now, when the EPA looked at the effect of applications of these materials and looked at their residue in a lot of things, they said even if it were in drinking water, they don't anticipate a problem even on sensitive populations.

MR. WILENSKY: Okay, thank you very much. Thank you, Madam Chairman.

CHAIRMAN KATZ: Okay. Going back to Mr. Lord. For identification purposes, this is -- the Champion Servo MSDS for Polybutene is RWA exhibit number --

MR. LORD: Three.

CHAIRMAN KATZ: Three. Thank you.

(Whereupon, South Central Regional Water Authority Exhibit No. 3 was marked for identification purposes only.)

CHAIRMAN KATZ: And then at some point in this proceeding you'll have your witness verify that, thank you.

MR. LORD: Thanks.

CHAIRMAN KATZ: Okay. Back to you.

MR. LORD: Just to follow up on --

MR. ZAKLUKIEWICZ: May I just expand upon

that previous response? If we have a catastrophic breach of the pipe, we're going to have an excavation, and it's going to probably be a sizable excavation for the type of backhoe or greater that is going to severe a pipe similar to what we're proposing to install here, so -- so I don't want to leave the thought process that we're going to have five or ten thousand gallons of fluid floating on the surface down to a reservoir of some kind. Where the excavation has already taken place, I'm assuming most of this fluid is going to pool. And that's an assumption on my part, but it's a logical assumption that I'm not just going to have a very very small opening there, I'm probably going to have a sizable opening for which the majority of this fluid would tend to collect if you will. So, I just want to make that comment.

MR. LORD: Is it a fair comparison to say that polybutene moves in the environment in a similar fashion to for example heating oil?

MS. BENKINNEY: No, it would actually move much slower than heating oil. It has a much stronger binding coefficient to particles than heating oil does, so what you're going to see is that it's going to stick, is the best way I can describe -- (tape stopped) --

COURT REPORTER: Could you pick that up

after it's going to stick.

MS. BENKINNEY: Yeah. Heating oil will stick to some extent, certainly more than a gasoline will, but this material will stick even -- in order of magnitude even more than a heating oil would as it moves through the soil. And when I say stick, it binds to -- because of the chemical nature of this material, it's going to bind to particles. And we -- we look at that in terms of binding coefficients and how -- when we talk about stickiness, it's not stickiness as in the physical property, more than how it's going to adhere to particles in the soil.

MR. LORD: So it wouldn't matter then if I changed that and said No. 6 oil as opposed to regular No. 2 heating oil?

MS. BENKINNEY: Well, No. 6 is only fluid when it's hot. So the minute No. 6 cools down, it becomes more like asphalt and so it's not very fluid.

MR. LORD: Okay. Just going back to -- I'm sorry, did you --

CHAIRMAN KATZ: No.

MR. LORD: To the volume of releases from the pipe, are there any data that you're aware of from leaks at other installations worldwide that could provide

a basis, for example, an average scenario for a spill? This is probably a panel question.

MR. WILLIAMS: I don't know of enough data that could be used to develop an average. Some spills are detected and cleaned up and stopped within just a few gallons, others are larger amounts. I -- I don't think we could develop an average.

MR. O'NEILL: Mr. Williams, are you familiar with any studies that have been done regarding the reaction of this material to the thermal backfill? It seems the thermal backfill is created to retain moisture and keep the line cool. If there was a leak, what would the reaction be? Do you have any idea?

MR. WILLIAMS: I have never heard of a cable fluid leak in thermal backfill, so I -- I don't have any experience.

MR. O'NEILL: Thank you.

MR. WILLIAMS: Let me point out fluidized thermal backfill is -- there are different thermal -- I'd like to expand a bit on my response. I was responding to the fluidized thermal backfill, which is material that we would propose using, the material that I described yesterday.

MR. O'NEILL: (Indiscernible) --

MR. WILLIAMS: Well, again I know of no experience where there have been leaks in fluidized thermal backfill, so I have no experience on what would happen.

COURT REPORTER: I didn't hear that question.

CHAIRMAN KATZ: One more time.

MR. O'NEILL: I asked if it would be absorbed into the thermal backfill material. And it is not an absorbent material to my understanding. Is that correct?

MR. WILLIAMS: I don't know the absorbency of the material. It's like a weak mixed concrete, but I don't know what absorbency it would have.

MR. LORD: Moving on to the response to No. 5, it states that if polybutene were released, it would be diluted to negligible levels. How would it be diluted and what are negligible levels?

CHAIRMAN KATZ: Can you give the witness a reference point?

MR. LORD: That's the response to our Interrogatory No. 5.

MS. BENKINNEY: Okay. The whole dilution would be as the material is moving through the soil

column and moving through the subsoils and you're going to see it binding as I've talked about, and so what happens then is that from the total volume as you move down the soil column, you're going to see those concentrations decrease quite rapidly and quite exceptionally. And so what will happen is by the time it contacts then the groundwater, it will be at a much lower concentration. And then as it spreads over the surface of that groundwater plume, you're going to get it to the point where you see very low levels. Negligible would mean at the extent in most cases of your abilities to measure it scientifically, so you're at or below detection limits with analytical instrumentation.

MR. LORD: Going back to the scenario of a catastrophic spill of approximately 10,000 gallons to a watercourse and ultimately to a reservoir, understanding that the product floats, is it possible for it to form a vapor barrier, if you will, that could result in an oxygen depletion?

MS. BENKINNEY: Only if the volume of material to the volume of the waterbody would -- you'd have to have a lot of material and a very small waterbody. It would also have to be very shallow for the oxygen depletion to be memorable. So if you had a very

small farm pond and you could get a couple inch layer of the material, and over a matter of time that could occur. So it's not that the oil would -- the fluid would flow and it would form a layer and immediately the oxygen would disappear, you'd have some delay there in terms of when that oxygen depletion would occur. For example, under oil spill conditions when you have an oil spill hit, it's very rare to see total depletion even when you have massive amounts of crude oil or anything cover up the whole surface of a pond. It can happen in extreme cases, but you're looking at something that's going to be a very very small pond, probably two foot or less in terms of depth, and it would take a period of probably weeks until you'd see that depletion take place, and by that time you would anticipate that that material would have been picked up already.

MR. LORD: When polybutene spreads out over a waterbody, do you have any idea how thick of a layer it would form? Is it just constrained by the configuration of the banks of the reservoir if you will?

MS. BENKINNEY: Yes. It would be constrained by the boundaries it might face, otherwise it would just keep moving.

MR. LORD: And what would be the proper

response? I guess it's been compared to an oil spill, is that fair to say, that the remediation of that spill would consist of for example booms and absorbents?

MS. BENKINNEY: Yes. You could -- it actually would be easier to contain than an oil spill because you don't have the mixing taking place between the water and the material. And you can contain it with a physical barrier and then use materials to actually then collect it. But I mean physically you can corral it with a physical boom and then use an absorbent material, or even depending how close you got it, you could actually use a vacuum type principle as well to pick it up, a vacuum cleaner type.

MR. LORD: Could you explain how the material binds to particulates? That's in the response to No. 6. The response states that in an aquatic system, it would rapidly bind to particulates and be removed from the water column.

MS. BENKINNEY: Yeah. It has to do with the physical and chemical characteristics of polybutene and the fact that it has more of a propensity to adhere to particles than it does to be soluble in the water. And I don't know if -- my colleague Wes can provide you probably a greater chemical description than that. I'm a

fish biologist by training, so --

CHAIRMAN KATZ: Mr. Lord, is that answer sufficient or do you -- did you want more detail?

MR. LORD: Actually if there's more detail to be had, I'd appreciate it.

MR. KEGERISE: I think just the physical nature of the polymerization because there are some double bonds remaining in the polymer backbone, provides I think a polarity which results in this tackiness. And the tackiness really I'm going to say improves or gets greater and greater as the molecular weight gets greater and greater, so the thicker the fluid, the greater the tackiness. These polybutene can be polymerized from molecular weights of 300, which is like six butene groups -- 6 or 7 butene groups to molecular weights of 100,000 or more, which is -- which is basically, you know, a stiff rubber, somewhere -- you know, as you come back down you get the base for chewing gum, which is not necessarily tacky, but it's, you know, chewy. And as you back down through these viscosities, this tacky nature develops. So it's -- it's fairly -- I'm going to say it's fairly unique to polybutenes.

MR. LORD: Okay, so if I understand this, if it were released to a reservoir and it wasn't

immediately cleaned up, it would bind to particulates and then it would be removed from the water column by sinking to the bottom?

MS. BENKINNEY: Yes.

MR. LORD: And at the bottom it wouldn't necessarily be able to degrade through oxidation or photo-degradation?

MS. BENKINNEY: Not through photo-degradation, but you'd still have aerobic degradation occurring at the top of the sediment interface, the sediment water interface.

MR. LORD: Depending on the depth of the waterbody?

MS. BENKINNEY: Not depending on the depth of the waterbody, but depending on the depth of the interface. You know, certainly everywhere except the deep ocean ridges you see degradation occurring at the surface of the waterbody, that you still have an aerobic zone between the sediment and the water column.

MR. LORD: Even in a thermally stratified waterbody --

MS. BENKINNEY: Yeah --

MR. LORD: -- where you have hypolimnion --

MS. BENKINNEY: It would be slower, but you would still have degradation occurring, yes.

MR. LORD: Is it possible that -- having that polybutene sitting as I picture in a pool on the bottom of the reservoir, is it possible for that to interfere with the phosphorus cycling?

MS. BENKINNEY: I wouldn't expect it to. Instead of it -- it really -- instead of envisioning a pool of polybutene, what you really should be envisioning is that the pool has been broken up by all the particulates and you now have got this material adhered to the particulates that are scattered along the bottom, so you no longer have a definable pool or anything that you could define as being the -- that you could look at and physically say there's the polybutene. It would be scattered out along the bottom.

MR. LORD: And you would expect it to stay on the bottom?

MS. BENKINNEY: Yes. You wouldn't expect it to move back into the water column. You would expect it to degrade over time.

MR. LORD: Any idea how long?

MS. BENKINNEY: It would depend on the conditions, the time of year, the water temperature, the

depth to the water, the sedimentation rates, all of those things. Probably weeks to -- weeks to months to years depending on where we are.

MR. O'NEILL: Madam Chairman.

CHAIRMAN KATZ: Mr. O'Neill.

MR. O'NEILL: If we may reflect upon a real situation. We've had a leaky cable across the Long Island Sound you may have heard about. I don't know as a marine biologist if you've studied the consequences of those leaks as a real situation, of course the environment is different, it's a saline environment. But as I understand it there have been significant leaks of this fluid. Have you studied the consequences on the marine habitat out there in relationship to this fluid?

MS. BENKINNEY: From my review of the Long Island Sound materials, they were using -- they were not using the polybutene, they were using alkyl benzenes. And it's the alkyl benzenes that they've been looking at in terms of their long-term environmental effects. And they would have a very very different behavior over time in the environment mainly because of that benzene ring. And the polybutenes are straight carbon backbones. So you're -- you're talking about a very different animal that would behave very differently in the environment

than these materials.

MR. O'NEILL: The viscosity of those fluids is much different --

MS. BENKINNEY: Yes --

MR. O'NEILL: -- and much lighter, are they not, so they would tend to float to the surface, where this would sink under certain situations?

MS. BENKINNEY: Well, the alkyl benzenes are not a single material, they actually a class of materials, and you could -- they run the gambit in terms of viscosities, in terms of solubilities and binding coefficients. So as a class you would find them really everywhere from the surface to the bottom, where polybutene is a single type of material rather than that class of materials. You see some variability in terms of the chain link, but you are talking about something that behaves very consistently.

MR. O'NEILL: And as an insulating fluid how would you differentiate the two classes of materials as being an environmental consequence? Obviously, you're here as a proponent of this fluid as being very safe. And the other, how would classify that in relationship to this one?

MS. BENKINNEY: I think for an alkyl

benzene there would be -- as an environmental scientist I'd have more concerns about the long-term environmental consequences of an alkyl benzene material compared to a polybutene. So certainly from an environmental perspective, I think that polybutenes are -- based on the literature available are preferable in an environmental sense than an alkyl benzene material.

MR. O'NEILL: Perhaps -- if I may, Madam Chairman -- if you have any specific literature that you could enter at a certain point from your specific point of view that might be helpful to this Council, I would appreciate it.

CHAIRMAN KATZ: On -- exactly on the poly --

MR. O'NEILL: On -- on the studies that have been advanced on -- comparative studies between these two fluids.

MS. BENKINNEY: I haven't seen anything that they compare them directly. It's looking at -- really looking at the scientific data that's been generated for each of them individually, and as a scientist looking at those numbers and what they're -- what those numbers tell us in terms of their relative toxicity or relative environmental impact. But I haven't

seen any studies specifically that compare and contrast them from an environmental perspective.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Mr. Ashton.

MR. ASHTON: If I may, I'd like a little further clarification of what level of polymer we're talking about here for the insulating fluid. I understand that it go -- significantly vary in its weight, atomic weight, but where are we here? Is it a single polymer or is it a group of polymers at about X atomic weight?

MR. KEGERISE: The -- we're talking about a fluid here, a polymer fluid with a molecular weight somewhere around 320. A butene group -- the molecular weight of a butene group, like I said, is around 56. So 56 into 320 is 6 or 7. So that's about the length of the polymer chain of that pipe filling fluid. These polymers change, of course depending on the reaction that you want to get or the length of the chain that you want to get are basically time and temperature, pressure related. And in this particular case as the manufacturer of the cables, we use higher viscosity, higher molecular weight fluids as impregnation fluids in the cable itself because we want -- we want the fluid to stay within the laps of

the paper tape. In the case of the pipe fluid, you want something that is going to be easily circulated through the pipe, carry heat away, you know, and so forth.

MR. ASHTON: So there are several polymers that are involved in this, not just one?

MR. KEGERISE: Well in order to -- in order to get specific viscosities from these polymers, the manufacturer of the fluids actually has a specific blending operation. You can -- you can actually take a higher molecular weight polybutene fluid and blend it with a lower molecular weight fluid and get something, you know, in the middle --

MR. ASHTON: Okay --

MR. KEGERISE: -- and there are -- there are standard viscosities, but I suppose if you really wanted to, you could get, you know, a special viscosity.

MR. ASHTON: Are you aware as to whether or not this polymer -- or these polymers could be used or are used as an insulating fluid in transformers?

CHAIRMAN KATZ: Is there anyone on the panel who can answer that?

MR. ASHTON: Or circuit breakers? Mr. Zak?

MR. ZAKLUKIEWICZ: Not -- not that I am

aware of.

MR. ASHTON: Okay. Thank you, that's all I have.

CHAIRMAN KATZ: Thank you. Back to you, Mr. Lord.

MR. LORD: Just following up on the affinity for particulates and given that it has some viscosity, do you have any idea what might happen if polybutene were to come in contact with filter media in a public drinking water treatment system?

MS. BENKINNEY: I would expect it to be removed with the particulates and would stay with the particulates. So if the filter media would stop the particulates, I would expect that it would also stop the polybutene.

CHAIRMAN KATZ: Would it goo up the filter?

MS. BENKINNEY: I guess it would be --

MR. TAIT: That's a scientific term.

MS. BENKINNEY: I -- (laughter) --

CHAIRMAN KATZ: We're bottom line type of people here.

MS. BENKINNEY: As a scientist, you know, we hate to say absolutes. I guess it depends on how many

particulates are in the water versus the size of your filter. Certainly it would get caught on the filter.

MR. ASHTON: And not likely to come off if you have backwash, back flushing?

MS. BENKINNEY: As long as the particulates -- it's not going to be washed off the particulate by water. It's going to stay with the particulate and it's going to stick. So as long as you're not washing the particulates back off, then you're alright. If you wash the particulates back off, then it would -- it would go wherever the particulate goes.

MR. ASHTON: Thank you.

MR. LORD: If we could move back to the -- to our late filed MSD sheet.

CHAIRMAN KATZ: Which we are calling RWA Exhibit No. 3, the Champion Servo MSDS.

MR. LORD: Is the polybutene multi-grade essentially the same compound as the polybutene that's to be used in the proposed cable?

MR. KEGERISE: You know, in looking -- first of all, I've never seen in the fluids that we utilize the term multi-grade. And as -- as I look through this, in Section 9, Physical and Chemical Properties, color for instance says lighter pale or

brown. Now that would tend to indicate -- and by the way, Section 1 -- Section 1, identification of the substance says wire line lubricant --

CHAIRMAN KATZ: What does that mean in layman's terms?

MR. KEGERISE: It's -- it's a lubricant.

CHAIRMAN KATZ: Work with me here.

MS. BENKINNEY: It's like a grease or an oil. So it would be used for greasing purposes.

MR. KEGERISE: Good job. So, I would say that the term multi-grade then would mean that this was not refined to as stringent conditions as the pipe fluids that we would refer to, particularly if they're referring to a color of brown and an odor taste of ammonia. Viscosity interval at 1,000 centi-stokes at 40C would be comparable to a molecular weight somewhere around 900, which would be say three times more viscous than --

A VOICE: (Indiscernible) -- people can't hear --

CHAIRMAN KATZ: Excuse me. Yes, can you just hold on. We need to raise the volume on his mic please. (Pause). Thank you.

MR. KEGERISE: The viscosity at 1,000 to 1200 centi-stokes at 40C appears to be reasonably

comparable to a molecular weight of somewhere around 900, which would be three times more viscous than what we're using in the pipe, so --

CHAIRMAN KATZ: So --

MR. KEGERISE: It doesn't seem to be that this is as I'm going to say high grade a product as we would be recommending for the pipe fluid.

CHAIRMAN KATZ: So based on its application described as a wire line lubricant, you do not at this point believe that this is manufactured specifically to -- as an insulating fluid for cables?

MR. KEGERISE: Correct. It would not -- you know, it wouldn't fall in that classification of dielectric fluid.

MR. GERALD J. HEFFERNAN: Yeah, I've got a question. The color does look to be like light or pale brown?

MR. KEGERISE: You -- you do get color change from, you know, UV degradation, but it -- you know, it's an optical thing.

MR. HEFFERNAN: An optical illusion, right.

CHAIRMAN KATZ: Mr. Lord, if you in the future have an MSDS for a polybutene product that's

described as an insulating fluid, we would allow you to bring that in when you do your direct case.

MR. LORD: Alright, thank you. And I believe that concludes my cross-examination. Thank you very much.

CHAIRMAN KATZ: Thank you, Mr. Lord. I inadvertently passed over Mr. Frank. Do you have questions for this witness?

MR. MONTE FRANK: I may not. If we could take a two-minute break, I -- I may have one or two questions, but in all likelihood I will not have any, if that's possible.

CHAIRMAN KATZ: How about if we do this, how about if we go to Council questions and you use that time to prepare yourself.

MR. FRANK: That would be fine. Thank you.

CHAIRMAN KATZ: Okay. Mr. Cunliffe. Right now we're just doing questions for these two witnesses and then the Council will come back to our overall questions.

MR. CUNLIFFE: Both of the MSDS seem to identify measures for first aide and they seem to point towards medical attention. And you're saying that this

material is not hazardous, doesn't cause problems, but however the manufacturers are making a statement. Any comment to that?

MS. BENKINNEY: Typically on an MSDS or a material safety datasheet, the language that you see here in terms of first aide is fairly consistent and it's on there to protect the company. Certainly you wouldn't want to say you can drink this stuff, there's not a problem. So the language that's on here is not inconsistent across the board of what you see for a variety of products. So the fact that it says seek medical attention would be typical of what you'd want if somebody drank a gallon of this, just like it would be for a lot of other materials that are considered inert.

MR. TAIT: Do you suspect that it's drafted by a lawyer and not a scientist? (Laughter).

MS. BENKINNEY: What happens is a scientist drafts them and then a lawyer changes the language.

CHAIRMAN KATZ: We know that feeling.

MR. CUNLIFFE: Those are my questions. Thank you.

CHAIRMAN KATZ: Thank you. Other Council questions for these two witnesses? Why don't we -- does

any other Council member have questions for these two witnesses? Mr. O'Neill.

MR. O'NEILL: Just one, Madam Chairman. The worst case scenario, if there was a spill in a reservoir, would the company operating that filtration system need any special filters on hand in order to separate this material from the water supply?

MS. BENKINNEY: Not if they're already removing particulates, no.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Just --

MR. ASHTON: Just to follow on with that, insofar as water -- the polybutene does get into a water supply, it would be at the surface. It's lighter than water, it would tend to float, would it not?

MS. BENKINNEY: It would float immediately. And then the longer it would sit there, the more it would start interacting with the particulates in the water and then drop out of the water column.

MR. ASHTON: Okay. And would they likely be picked up by a water intake?

MS. BENKINNEY: It would depend on where the water intake is and how much of the volume of that reservoir would be pulling. So in other words, if it's

pulling off the surface and it was immediately associated with when the intake -- when that material had gotten into the water supply, there would be a potential there. The longer the material would have been on the -- in the material, the less likely it would be picked up in a water supply.

MR. ASHTON: Thank you.

CHAIRMAN KATZ: Would most licensed spill contractors know how to handle a spill like this?

MS. BENKINNEY: Yes.

CHAIRMAN KATZ: And how would they know that?

MS. BENKINNEY: Because the material being a fluid is not that unusual for them. Their -- their typical reaction when you get a spill is contain it -- irrespective of the material, contain it, keep it out of water surfaces, and then start using spill containment materials, vermiculite -- I've seen cat litter, everything else used to start cleaning that up. But the immediate response on a flowing liquid, a fluid type material is to start booming it and putting down physical natures to keep it out of water. So the response here would not be unusual for what fire departments and everything else do routinely.

CHAIRMAN KATZ: But it might be a logical condition that the Applicant would have to prepare some type of short spill response viable to be handling this just so that everyone is on the same page?

MS. BENKINNEY: Usually they -- anybody doing spill response would look at the material safety datasheet and see what's said in there in terms of any kind of spill containment. So the statements that are in here that say keep it out of the water are good general practices that are done.

CHAIRMAN KATZ: So the municipalities impacted by this fluid filled cable should probably have this MSDS on hand?

MS. BENKINNEY: Yes. They -- or it should be accessible. Usually these -- MSDS's are available. And when there's a response, the fire departments pull them up -- pull up the MSDS's or their HAZ MAT teams pull up MSDS's and look at the language in there in terms of any special conditions or anything they'd need to know as part of their response.

CHAIRMAN KATZ: But --

MR. JOHN PRETE: Madam Chair -- (indiscernible) --

CHAIRMAN KATZ: Yes, Mr. Prete?

MR. PRETE: Thank you. Actually in the conversations that Anne and I have had with a lot of the CEOs in these towns, they have asked for that very information. And we have talked to them about it as we go forward, that would be a very appropriate bible so to speak to have, both internal and to themselves.

CHAIRMAN KATZ: Thank you for putting that in the record. Other Council questions of these two witnesses? Mr. O'Neill.

MR. O'NEILL: Just one more. As a marine biologist you must be familiar with some of the studies being done regarding the West Nile virus and municipal approaches to standing bodies of water. Since this appears to be a fairly benign substance, are you familiar with any use of this material to address concerns on standing bodies of water and West Nile virus approaches to contain its spread?

MS. BENKINNEY: I'm not familiar with anybody that's published on it yet, but I wouldn't be surprised because it's used by a lot of the manufacturers that are going to be focusing on that as an inner-ingredient. I wouldn't be surprised if it may become an ingredient of something that they'd use, but they may have something active -- put something in that's a little

more active. This would be more of a passive type material. So, I wouldn't be surprised if somebody is considering using it as part of an application, but I don't know of anybody in particular that's working on it.

MR. O'NEILL: Again as a marine biologist are there any consequences regarding the habitat that have been an area of concern?

MS. BENKINNEY: None that I've seen based on reviewing the scientific literature.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Thank you. Mr. Frank, we will turn it back to you.

MR. FRANK: Thank you.

CHAIRMAN KATZ: Just for -- to let everyone know, we're going to go until noon and then we'll be taking our lunch break from noon to 1:00.

MR. FRANK: Miss BenKinney --

CHAIRMAN KATZ: For the record --

MR. FRANK: For the record, Monte Frank for the Town of Weston and Wilton.

Miss BenKinney, can you please compare the migratory qualities of petroleum or gasoline with polybutene?

MS. BENKINNEY: Migratory qualities in

what? In soil, in water --

MR. FRANK: Start with --

MS. BENKINNEY: -- in air?

MR. FRANK: In soil?

MS. BENKINNEY: Okay --

MR. FRANK: If there were to be a spill of an underground storage tank for example?

MS. BENKINNEY: Gasoline will move readily through the soil. It has very low binding coefficients. For the predominant factors, the benzene, toluene, ethylbenzene, xylene, or the B tech (phonetic) fraction of gasoline will move readily through soil and contact groundwater. It is also is very soluble in water. So once it contacts the groundwater, it will solubilize in the groundwater. Polybutene on the other hand will move very very slowly through the soils and it will not mix with groundwater.

MR. FRANK: And can you please compare the risk of a leak of an underground storage tank from a gasoline station versus the risk of a leak -- and the effects on the environment of polybutene?

MS. BENKINNEY: Okay. The gasoline components have very high toxicity to aquatic organisms. They also have human health effects. Because they're

soluble in water, they're very difficult to remove from water once they get into water. So what that means is aquatic organisms are going to be ingesting them, they're going to be exposed to them, it's going to create toxicity. The polybutenes because of their chain links, even if they get into aquatic organisms through ingestion of particles, they're not going to be taken up. They're going to do similar things to aquatic organisms that they would do to people, although probably not quite so extreme for the aquatic organisms, it will pass right through the body, right through the gastrointestinal tract. So they don't have that toxicity effect, they don't have that long-term effect, although you could have short-term -- some cleansing of their digestive systems.

MR. FRANK: Okay, let me follow up on that. In your opinion what poses a greater risk to a public drinking water watershed area, a gasoline station with an underground storage tank or the proposed HPFF cable with polybutene fluid?

MS. BENKINNEY: The gasoline service station.

MR. FRANK: Okay. And let me ask you a similar question about residential heating oil. Can you please compare the migratory qualities of heating oil

versus polybutene?

MS. BENKINNEY: Okay. Heating oil will -- although it moves slower than gasoline, it will still move faster than the polybutene. It -- some of the components will bind to soil, but the majority will move. It is somewhat soluble in water. What that means is unlike gasoline, which will be completely soluble in water, some of the components will float, but some of the components will be soluble as well. The polybutenes, as I've mentioned, are very slow to move, will not mix with water at all. In terms of human health effects from drinking the water, the components in the home heating oil that are the most soluble also have human health impact and they would be some of the like chain petroleum hydrocarbons.

MR. FRANK: Okay. So in your opinion what poses a greater risk to a public drinking water watershed area, residential oil tanks and their propensity to eventually leak or the proposed HPFF cable with the polybutene fluid?

MS. BENKINNEY: The residential tanks.

MR. FRANK: Okay. And one last question. Do you have any experience with failing residential septic systems and the effect on public drinking water

watershed areas?

MS. BENKINNEY: Yes.

MR. FRANK: Okay. And the same question, what poses a greater risk to public drinking water watershed areas, a failing residential septic system or the proposed cable with the polybutene fluid?

MS. BENKINNEY: The residential septic system.

MR. FRANK: Okay, thank you. I have no further questions.

CHAIRMAN KATZ: Thank you, Mr. Frank. Is there any party or intervenor that I've missed on these two witnesses? Mr. Fitzgerald, Miss Randell, do you have any redirect before we excuse these witnesses?

MR. FITZGERALD: No, thank you.

CHAIRMAN KATZ: Okay. At this point, thank you. At this point, next on the thing I have a report of homework assignments from the Applicant. Why don't you -- I was not here yesterday afternoon, so if you could preface on what you're reporting on, I would appreciate it until I read the transcript.

MS. LINDA RANDELL: Sure. I'll do a couple and then turn them over to Mr. McDermott.

CHAIRMAN KATZ: I'm going to need you to

move your mic a little closer.

MS. RANDELL: Mr. Prete, there was discussion yesterday of a noise study --

CHAIRMAN KATZ: Closer --

MS. RANDELL: Is that better, Tony?

MR. ASHTON: Your docile tones don't carry.

MS. RANDELL: Go figure. Mr. Prete there was discussion yesterday of a noise study that was being done with respect to the sites now proposed for the Singer Substation identified as Site 8 in the Site Selection Study. Has that been completed?

MR. PRETE: Yes, it has.

MS. RANDELL: And is -- are the companies prepared to submit that as a substitute for the noise study that was included in Volume 4 of the application with respect to Site 1?

MR. PRETE: Yes, we are.

COURT REPORTER: Hold it --

MS. RANDELL: And --

A VOICE: Grab that microphone.

MS. RANDELL: And does -- do you adopt that site noise study for Site 8?

MR. PRETE: Yes, I do.

CHAIRMAN KATZ: And this is a new exhibit?

MS. RANDELL: Well, it's up to you. We can substitute it for the noise study originally included in Volume 4 or we can make it Applicant's exhibit -- 64?

CHAIRMAN KATZ: Mr. Cunliffe, 64?

MR. CUNLIFFE: 64.

CHAIRMAN KATZ: Let's make it 64. And we'll just note for the record it's a substitution.

(Whereupon, Applicants' Exhibit No. 64 was received into evidence as a full exhibit.)

CHAIRMAN KATZ: And you'll serve the list in the usual way.

MS. RANDELL: Indeed.

CHAIRMAN KATZ: Because -- so the parties and intervenors have not yet seen this, correct?

MS. RANDELL: That is correct.

CHAIRMAN KATZ: Okay. So what I'm going to do is -- if there's -- we're going to sort of have a wrap-up day in June for some of these late appearing issues. So if there's any party or intervenor who wishes to cross-examine on this particular report, we'll do it during wrap-up day after they've had a chance to look at it.

MR. PRETE: Madam Chair, I did summarize

very briefly the results of that. If you'd like for me to go over that, I'd be happy to, it will take about one sentence.

CHAIRMAN KATZ: That sounds good.

MR. PRETE: The --

A VOICE: (Indiscernible) --

MR. TAIT: No, I believe Mr. Prete can do it in one sentence.

MR. PRETE: Is that a bet?

MS. RANDELL: I think that was your sentence.

MR. TAIT: Your yes and no answers yesterday give me confidence.

MR. PRETE: The noise levels are lower with this study than they were at the study that was produced in the application. So from that point of view --

MR. TAIT: Quit while you're ahead --

MR. PRETE: -- it's a better site.

MR. TAIT: Quite while you're ahead.

CHAIRMAN KATZ: Do you -- as far as coming attractions, are you planning a similar thing for the Beseck Station, a noise study, the 55,000 square foot Beseck Station?

MS. BARTOSEWICZ: In the application that was filed there is a noise study for Beseck.

CHAIRMAN KATZ: And it's -- you consider that current?

MS. BARTOSEWICZ: Yes.

CHAIRMAN KATZ: Thank you. I'm just anticipating. Okay.

MS. RANDELL: Okay. Next on the hit parade, Mr. Williams, you had a homework assignment with respect to Commonwealth Edison's underground 345-kilovolt transmission -- oh, I'm sorry, it's Roger -- excuse me, Mr. Zak, are you taking that homework assignment?

MR. ZAKLUKIEWICZ: Yes, we have.

MS. RANDELL: And what information were the companies able to determine with respect to Commonwealth Edison's 345 underground installations?

MR. ZAKLUKIEWICZ: The most recent one was a six-mile, high pressure fluid filled, 345-kV transmission line. Basically, the cables were installed at the end of 2003 and the beginning of 2004, and it was placed in service a few months ago.

We are also aware of in the Commonwealth Edison system the fact that they had installed two cable pipes for future installation of cables in the 1990's and

they have installed one 345 cable, again HPFF in one of the pipes in the '96-97 timeframe. The exact length of that installation we just do not have the information for, and we are continuing to pursue.

MR. TAIT: The most recent one that's the six-mile one, that goes from where to where, and what's the cable?

MR. ZAKLUKIEWICZ: The cable is high pressure fluid filled. The exact location from town to town or location to location --

MR. TAIT: Is it within New York City or is it -- is it within -- under the streets of New York City --

MR. ZAKLUKIEWICZ: No, this is in Commonwealth Edison, which is the Greater Chicago area.

MR. TAIT: I'm sorry. Okay.

MR. ZAKLUKIEWICZ: So it's in Greater Chicago. Exactly what borough or whatever in Chicago, but it's in the Greater Chicago loop.

CHAIRMAN KATZ: Thank you. Just to go back on a housekeeping matter, we need to -- Mr. Prete, are you going to adopt the Singer Substation noise study -- was that prepared under your auspices?

MR. PRETE: Yes, it was.

CHAIRMAN KATZ: And are you going to adopt that or how -- how do you want to do this, Miss Randell?

MS. RANDELL: I actually thought I did. We'll --

MR. TAIT: Yes --

CHAIRMAN KATZ: Oh, you did?

MS. RANDELL: I thought so, but I could do it somewhat more clearly.

CHAIRMAN KATZ: You see what happens when you don't feed me at regular intervals. (Laughter). I'm sorry. Okay. So we're all set on that, thank you.

MR. EMERICK: Madam Chairman.

CHAIRMAN KATZ: Yes, Mr. Emerick.

MR. EMERICK: Mr. Zak, just a point of clarification on the Commonwealth example you just gave us, the six-mile project --

MR. ZAKLUKIEWICZ: Yes?

MR. EMERICK: -- is that project length or cable length?

MR. ZAKLUKIEWICZ: That was cable length.

MR. EMERICK: So it's a three-mile -- or is it a double cable?

MR. ZAKLUKIEWICZ: I believe it's a single cable, six miles long.

MR. EMERICK: Okay, thank you.

MS. RANDELL: I'll turn the rest of the homework over to Mr. McDermott.

MR. McDERMOTT: Mr. Prete or Miss Shanley, you had the homework assignment I believe of determining UI's previous experience with contaminated soil in state roadways and how that was handled and who paid for that contaminated soil removal I believe.

CHAIRMAN KATZ: Have you been sworn yet?

MS. RANDELL: Yes.

CHAIRMAN KATZ: Thank you --

MR. McDERMOTT: Yes, she has.

MS. KATHLEEN SHANLEY: For the record, Kate Shanley. Go ahead? Alright.

United Illuminating has from time to time encountered soils that are contaminated when there has been State mandated projects. The Q Bridge that you heard about yesterday is one of those projects. We've had some road widening projects where we've needed to come off the right-of-way where we have been located onto an expanded right-of-way. During those circumstances when we've encountered contaminated soils, the State has taken control of those soils for management and disposal, those were State mandated projects.

In regular projects where we are in the state road where those types of activities are not prompted by a State mandated project and we are in a state road, any contamination that we encounter, we deal with unless the contamination can be attributed to a likely neighborhood source like a gas station. We're beating up on gas stations this morning, so gas stations for instance. If we cannot find a likely source, then we would take control of that contamination.

Another exception to that rule might be -- for instance in Stratford where there is a number of areas throughout the Town that have extensive contamination from past facilities that were located in the municipality where we have needed to put in distribution or other types of facilities, we have worked with the town to avoid those locations.

MR. McDERMOTT: Mr. Zak, I believe you had a similar homework assignment as it relates to Yankee Gas?

MR. ZAKLUKIEWICZ: Yes, I do. In the case of Yankee Gas in questioning their personnel last evening and early this morning, there have been a number of instances where in moving existing gas lines or extending the service mains that they have encountered hazardous

materials in the state roadways, in particular the examples provided were Route 68 or in the Naugatuck area, and that had to be changing -- (tape stopped) --

COURT REPORTER: Changing?

MR. ZAKLUKIEWICZ: Changing of an interchange on Route 8, there was an area there where hazardous materials were located. The company handled the hazardous material in a proper manner. And negotiations were in place with the State as to the recovery of dollars for the disposal of the hazardous materials. And that worked fine with agreements between Yankee Gas and the State DOT. To my understanding there was expanding of service mains on Route 69. Those materials were handled by Yankee Gas and paid for by Yankee Gas.

The exact state highway in Plymouth was not known, but that again was a gasoline station where the gasoline has migrated underneath the roadway. And in that case the disposal of the hazardous material was properly done by Yankee Gas. And as Miss Shanley has testified to, we -- Yankee Gas sought compensation for the cost of the disposal of the hazardous material from the generator of the materials, in this case the gas station.

There was an instance in Enfield that -- one of the 91 interchanges being changed where there were hazardous material in the interchange. And to the best of my knowledge, we extended the pipeline -- the gas pipeline such as to avoid that area as opposed to dealing with the hazardous material.

And in Darien on Route 1, again that was a gasoline release under the roadway where Yankee Gas just handled the disposal of the hazardous material. In other words, when you opened up the trench, you could smell the gasoline. Again when you're talking a four-foot opening basically down approximately three, three and a half foot, there's not a whole bunch of material there, so we -- we collected it and disposed of it properly, and again looking for the generator to compensate the company for that release.

I'm also being told that typically the DEP does not require the generators to clean up the migrating materials such as gasoline underneath the roadway. The basic cleanup virtually stops at the edge of the properties, such that under the roadbeds it's not typical to pursue underneath the public roadway. So that's -- I'm not -- I do not have firsthand knowledge of that, it's just what was passed on to me as a general practice.

So those are the encounters of Yankee Gas that were reported to me in this short timeframe.

CHAIRMAN KATZ: Mr. Emerick.

MR. EMERICK: Just a follow-up. Based on -- based on the examples that were just given, I think the practice is if it's a State mandated relocation of a utility, contaminations encountered, DOT steps forward and pays for the cost. If it's a utility initiated project, it seems as though the utility picks up the cost unless there's an obvious third party, and then you try and recover costs from that third party. Why in this case, based on my understanding of the discussion yesterday, is it different?

MR. ZAKLUKIEWICZ: I believe all we were saying was the position of -- we're not certain what we're going to encounter. Quite clearly if the generator of the hazardous material is a known group or an entity, we would pursue as we have -- as I stated yesterday, we would do the proper thing with the material to begin with, properly dispose of the material in an appropriate manner, basically follow all the remediation standards and regulations of the State of Connecticut, and then turn around and try to recover as much as we can, such that the ratepayers are not paying for the disposals of

someone else's generated materials.

My own sense, I think I also stated, is that in the past we have worked this out with the State of Connecticut, and I do not feel it's appropriate for myself to give a blanket order here stating that we will absolutely unequivocally pay for a hundred percent of the materials that we may find by placing the proposed route 24 miles underground. I'm not certain what we're going to run into. If that hazardous material was dumped on the ground by a contractor working for the State of Connecticut in placing the roadbed in, is it appropriate for the ratepayers of the State of Connecticut to pay for that cleanup?

MR. RICHARD REED: I think what we're saying is it's --

COURT REPORTER: A mic --

MR. REED: -- it is the same. And if -- if the State were the generator of it, then we would go to the State. If a gas station owner were the generator of it, we'd try to go to the gas station. So it is not any different than what we would do anywhere else.

MR. EMERICK: Okay. Based on the questioning or discussion yesterday, it seemed to me that the practice that you currently explained to us this

morning would somehow be different in this project, and --

MR. REED: It is not.

MR. EMERICK: It is not.

CHAIRMAN KATZ: Mr. McDermott, any other reports?

MR. McDERMOTT: One more. Mr. Prete, you were asked to determine the cost of relocating a HPFF cable in connection with the Quinnipiac Bridge construction?

MR. PRETE: That is correct. We're not totally finished with that homework assignment. We should clean it up before the end of today.

CHAIRMAN KATZ: Thank you. Just remind me before we adjourn today.

MR. McDERMOTT: Okay. And the only other assignment was -- I provided Mr. Cunliffe with copies of Mr. Hair's CV. And copies for the parties and intervenors are on the table --

CHAIRMAN KATZ: Okay, he's --

MR. McDERMOTT: -- towards the entrance there.

CHAIRMAN KATZ: He's the directional drill guy?

MR. McDERMOTT: Correct --

CHAIRMAN KATZ: Okay. So we --

MR. McDERMOTT: -- he testified for most of yesterday afternoon.

CHAIRMAN KATZ: So do we need to -- is that an exhibit already -- has that been verified?

MR. McDERMOTT: Yes. And it's Exhibit No. 60.

CHAIRMAN KATZ: Okay, so that's all set?

MR. McDERMOTT: Yes. And that's the end of our homework assignments I believe.

CHAIRMAN KATZ: Thank you. Mr. O'Neill.

MR. O'NEILL: Mr. Zak -- is my mic on? Thank you. Obviously when we are discussing old industrial sites in well established municipalities, such as Bridgeport, the issue of brownfields must come up occasionally when you're doing digging. If the underground line goes through the middle of a municipality such as Bridgeport and there are brownfields recognized, who does the remediation work or who picks up the tab in those areas? Is it a clear situation or is it subject to further review and further discussion? Hopefully not litigation.

MR. ZAKLUKIEWICZ: In my mind if we were

in a recognized brownfield, that's a risk we take on when we do an evaluation of the different sites and the different routes that are affected here. And I think we would have those discussions with the towns and the environmental groups, including the DEP, as to where the risks are minimal to the entire public, and take that into account into the final routing. And if we knew of some of those beforehand for which we will do the survey work, we will put that into the D&M plan with discussion and arguments, pros and cons about route A versus route B and make the Council aware of that at the time the D&M plans are filed. And prior to that time, we would have those discussions with the towns beforehand because they will participate in the development of the D&M plans. And we would also consult with agencies such as the DEP in putting together the D&M plans to start with.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Are there any other Council questions on the homework assignments? Mr. Lynch.

MR. LYNCH: Just a follow-up on the hazardous material. If you do encounter hazardous material outside of a brownfield and you cannot find who the original generator was or they've long since gone out

of business, am I clear that you would then maintain the entire cost and then come back to the State and give them the old Joan Rivers' line "we've got to talk"? (Laughter).

MR. ZAKLUKIEWICZ: I'm not -- I'm not familiar with Joan Rivers, but -- (laughter) -- let's put it this way, give it the Roger Zak, "can we negotiate here as to the responsibility". And clearly, clearly I want to leave with the Council, this material, irrespective of who's going to pay for it on this project, will be collected, will be properly disposed of, there will be documentation for it, and we will discuss with somebody later on if the companies can recover some of those costs.

MR. LYNCH: Thank you.

CHAIRMAN KATZ: Can we -- can we assume though if such a situation comes about, that the Council can be assured that the independent environmental inspector during construction will be involved in handling this issue?

MR. ZAKLUKIEWICZ: If -- if that becomes part of the requirements, which were part of the Docket 217 requirements, we would naturally -- in our discussions we've already identified that we would have

such a person on board, along with a safety person or persons. Clearly on a project this large, you would need an entity to assist Northeast Utilities and UI in ensuring the environment is not harmed in any way.

CHAIRMAN KATZ: Okay, so I'm going to take that as a yes that that's a reasonable condition.

MR. ZAKLUKIEWICZ: A long -- I apologize for that. Yes.

MR. O'NEILL: Mr. Prete, would you like to offer any additional comment on this issue?

MR. PRETE: No, not right now, thank you.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: Mr. Prete, Professor Tait is a new fan of your brevity -- (laughter). Any other Council questions on the homework assignments? Is there any party or intervenor who has a question specifically on these homework assignments? Mr. Golden.

MR. GOLDEN: Madam Chair, I have one question on something related to the homework assignment, a read-in from yesterday having to do with additional HPFF lines that were constructed by other utilities. May I --

CHAIRMAN KATZ: Yes, we can do that now. And then after we finish that, we'll do the lunch break.

MR. FITZGERALD: And is it the case that Mr. Kegerise --

CHAIRMAN KATZ: Yes --

MR. FITZGERALD: -- and Miss BenKinney can be excused after lunch?

CHAIRMAN KATZ: Mr. Cunliffe, can we excuse those witnesses?

MR. CUNLIFFE: It's the Chairman's call. (Laughter).

COURT REPORTER: Madam Chair, before they go, I'll need some spellings from them.

CHAIRMAN KATZ: Yes, please stop and see the court reporter. Yes, you are excused. Yeah, Mr. Golden.

MR. GOLDEN: Yes. For the record my name is Larry Golden, counsel for the Woodlands Coalition.

Mr. -- my question will be to Mr. Zak. Mr. Zak, yesterday you read-in in the afternoon some information about underground construction for N-STAR or its predecessor in the Greater Boston area. Do you have any information as to the depth at which the pipes were laid below the roadways -- city and state roadways?

MR. ZAKLUKIEWICZ: It's my information on the North Star installations, which are going back into

the 1980's, that the HPFF cable pipes are placed approximately three-foot below top of grade on those installations in the N-STAR service territory.

MR. GOLDEN: Thank you very much.

CHAIRMAN KATZ: Is there any other business we need to do before the lunch break? Seeing none, we are adjourned until 1:00 o'clock.

(Whereupon, a luncheon recess was taken.)

CHAIRMAN KATZ: I call this hearing back into session. I understand the Applicant has a report on a homework assignment. Why don't we do that first.

MR. McDERMOTT: Mr. Prete -- okay? Mr. Prete, have you had an opportunity to complete your inquire regarding the cost of relocating a cable in connection with the construction of the Quinnipiac Bridge?

MR. PRETE: Yes, we have.

MR. McDERMOTT: And would you please report?

MR. PRETE: Yes, I will. The estimated cost of a relocation of two 115-kV high pressure fluid filled lines in and around the Q Bridge area is approximately five million a mile. For comparison purposes that does not include terminations, river

crossings, return pipes, and of course the voltage is different just to give you a fair comparison to the numbers that we have in our application.

CHAIRMAN KATZ: So bottom line, if you include all those other things in?

MR. PRETE: If you include all those other things, it's probably another million on top, a million and a half, so it's probably fair to say about six.

CHAIRMAN KATZ: Any questions on that assignment?

MR. ASHTON: Did you use directional drilling in replacing that cable?

MR. PRETE: No, sir.

MR. ASHTON: It was trenching?

MR. PRETE: Yes.

CHAIRMAN KATZ: Okay, that completes the homework assignments?

MR. McDERMOTT: That's correct.

CHAIRMAN KATZ: Okay. At this time, we'll go to Council questions of the entire panel. And Mr. Cunliffe, do you want to start us off.

MR. CUNLIFFE: Thank you. In regards to the proposed change in Norwalk, what discussions have you had with the City?

MS. BARTOSEWICZ: The -- can you clarify the proposed change in Norwalk?

MR. CUNLIFFE: The proposed change in Norwalk on crossing under the Norwalk River entering the substation?

MS. BARTOSEWICZ: Yes. We have not had a discussion with Norwalk yet. The crossing of that river in a diagonal instead of a 90-degree angle is a recent detailed engineering discussion and evaluation. Our next step would be to talk to the City to make sure it's okay with them.

MR. CUNLIFFE: And what was the --

CHAIRMAN KATZ: And when will that happen?

MS. BARTOSEWICZ: We need -- as soon as possible.

CHAIRMAN KATZ: Okay. I'm going to include that on the June wrap-up day, I'd like a report back on that.

MS. BARTOSEWICZ: Certainly.

MR. CUNLIFFE: What is the length of -- are you going to do a directional bore for that crossing?

MS. BARTOSEWICZ: Yes.

MR. CUNLIFFE: Do you know the distance for that?

MS. BARTOSEWICZ: Approximately, 600 feet.

MR. CUNLIFFE: Are any of the proposed directional drills longer than any of the cable lengths that you will be using?

MS. BARTOSEWICZ: No.

MR. CUNLIFFE: Thank you.

CHAIRMAN KATZ: And what's the longest directional drill you can therefore have based on cable length?

MR. WILLIAMS: Excuse me. I would estimate in the order of -- I'm sorry -- I would estimate the longest to be in the order of 2,500 to 2,800, maybe 3,000 feet.

CHAIRMAN KATZ: To avoid splicing, which is difficult?

MR. WILLIAMS: We cannot splice if there's directional drill, that's right.

CHAIRMAN KATZ: Thank you.

MR. EMERICK: Pam -- Madam Chair?

CHAIRMAN KATZ: Yeah, Mr. Emerick.

MR. EMERICK: If we can get cable that's twenty-five hundred, 3,000 feet for a directional drill, why is it that in roadways we have a manhole every, whatever it is, fifteen hundred feet?

MR. WILLIAMS: I believe the typical manhole spacing should be a bit larger than that. For --

MR. EMERICK: Well, what is it? Is it 3,000 feet or twenty-five hundred? I thought it was shorter than the dimensions of the cable you just mentioned, but --

MR. WILLIAMS: Yes, it --

MR. JAMES HOGAN: Part of it could be associated with pulling tensions, it would limit it to a shorter length.

MR. WILLIAMS: Another part of it is a directional drill is a separate undertaking from a conventional trench installation, so you would get a larger reel that would require special permits for shipping over land or perhaps even water shipment for the very long ones. So the equipment used and material supplied is different for a directional drill versus conventional in streets. We design the in-street for standard reels and standard conditions, and the directional drill we pull out all the stops and do what we have to do.

MR. EMERICK: But in terms of -- well what -- how many more manholes are there? I mean, you know, doing a manhole, a splice, as it's been explained here in

a controlled environment, weeks of construction, etcetera, etcetera -- I would think the longer the lengths of cable you can get, you avoid that need and that expense. And obviously it's a balancing act, but --

MR. HOGAN: Part of that balancing act has to do with as you're going down the route where you're turning angles, maybe you're trying to coordinate between utilities being in or out of intersections, and some of those things will start to dictate. I know we're thinking closer to 2,000 foot might be a good starting number to space them, and then you could have some latitude closer if for some reason you need to or span out a little more if you can in certain areas.

MR. EMERICK: Okay, thank you.

MR. CUNLIFFE: Is the Applicant aware of correspondence from the City of Milford to the Siting Council dated April 16, 2004? It does copy the service list, so I presume it's been provided.

MS. BARTOSEWICZ: Can I have that date again?

MR. CUNLIFFE: April 16, 2004 from Mayor Richetelli to Chairman Katz?

MS. BARTOSEWICZ: Yes.

MR. McDERMOTT: Mr. Cunliffe, we received

a copy of that -- (indiscernible) -- to the City of Milford, and copies are -- additional copies are being made, so we can provide it to the Council and the service list.

MR. CUNLIFFE: Has the company considered an alternative location as identified in this letter?

MS. BARTOSEWICZ: Actually, the companies considered this alternative location when we were first doing design of the line essentially when the project -- we were looking at an all overhead solution, we were looking at the property that this letter refers to. When our design changed to an overhead/underground solution, we looked at the property that's in the application as a better property for the design of the project.

CHAIRMAN KATZ: Can you elaborate what's wrong with the Blackite location?

MS. BARTOSEWICZ: Certainly. There are actually several problems with the Blackite Corporation property. First of all, there are businesses currently on that property that would have to be acquired or at least gotten off the property.

The new design of the overhead/underground line would require us to cross Oronoke Road, which is on the -- the Blackite property is west of Oronoke Road, the

property in the application is east of Oronoke Road. So if you were to come -- in order to connect the existing transmission lines to a substation on the Blackite property, you would have to cross Oronoke Road and the railroad that's there. So you've got two more crossings of a public road and a railroad to deal with where the application property would not require it.

You would also have to -- we're connecting the Milford Power Plant to these -- to this part of the transmission line. The generator leads from the power plant would have to cross to the Blackite property.

CHAIRMAN KATZ: So the reasons you listed seem to be cost oriented? They sound like they're technically feasible to do, but they're going to cost money. Is that a fair statement?

MS. BARTOSEWICZ: Those are technically feasible to do. The -- another point of the property that's the Blackite property is we believe it is a -- was a repository for fly ash. So we believe that that property is contaminated.

CHAIRMAN KATZ: And it's your belief that the Jordan Realty property that you're interested in is not contaminated?

MS. BARTOSEWICZ: We -- we do not know if

that's a fact or not. We have not been certainly allowed on that property to get that information. It would be required for us to do an investigation of the property prior to any kind of construction.

MR. WILENSKY: Madam Chairman.

CHAIRMAN KATZ: Mr. Wilensky.

MR. WILENSKY: Have you tested the Blackite property as far for contamination? You said you believe. I was wondering do you know?

MS. BARTOSEWICZ: Correct. We -- we have not been allowed on that property. As a matter of fact, when we were originally discussing the purchase of this property, we requested to be allowed on to test the property and we were denied that request.

MR. WILENSKY: So you -- have you been allowed to test either one of the properties?

MS. BARTOSEWICZ: No, we have not.

MR. WILENSKY: Based on this letter, wouldn't you be allowed to test the Blackite property?

MS. BARTOSEWICZ: The owners of the Blackite property have not allowed us to test that property before taking ownership of that property.

MR. WILENSKY: Okay, thank you.

MR. CUNLIFFE: Those are my questions.

CHAIRMAN KATZ: Thank you. We'll go to --

MR. JAMES J. MURPHY, JR.: Let me ask you this, you mean they would require you to buy it without even doing a Phase 1 environmental test of the property?

MS. BARTOSEWICZ: That's correct.

MR. MURPHY: I can't blame you for not wanting it.

MS. BARTOSEWICZ: Thank you.

CHAIRMAN KATZ: Council questions? Why don't we start down -- Mr. Lynch, why don't we start at your end.

MR. LYNCH: No questions.

CHAIRMAN KATZ: Mr. Wilensky.

MR. WILENSKY: I'd like to ask Mr. Gregory a question. Whether this is appropriate or not, Madam Chairman, I don't know. If it isn't appropriate, shut me off.

Mr. Gregory, I know when we did Phase I, there was an amount of underground that we thought -- you thought would be feasible and practical, which is considerably less than is talked about for the -- going through Milford -- I'm sorry, going through Westport and Darien and -- not Darien -- Westport and Wilton and so forth and so on. I think it's 20 plus miles. Why are we

able to do this now and couldn't do it then?

MR. BRIAN GREGORY: I'm not sure that I can answer that because I haven't made these decisions. I think what I said before was -- I explained the limitations that could exist on cables. And for long length limitations were such things as reactive compensation, to compensate against the capacitive effect on the network. And we discussed then that we could have intermediate stations in which we had reactors to provide inductors to compensate for that along the route. And so basically you can extend the length by putting inductors in.

MR. WILENSKY: Are you comfortable with this proposal to go underground for 20 plus miles, whatever the miles are, are you comfortable with that amount of mileage for underground?

MR. GREGORY: Yes, I am. I mentioned before that the whole purpose and objective of under-grounding is to have a very reliable design of cable. And the HPFF cable that's been selected here is selected on the basis of proven service performance in other parts of the U.S.A. And providing there is the appropriate system design compensation, there's no reason why the circuit shouldn't be this length.

MR. WILENSKY: Thank you. Thank you very much. Thank you, Madam Chairman.

MR. MURPHY: No questions, Madam Chairman.

CHAIRMAN KATZ: Mr. O'Neill.

MR. O'NEILL: I would appreciate it if you would, Mr. Gregory, reflect upon the challenges presented when solid cable is used in a project and then interfaces with a fluid filled cable?

MR. GREGORY: Do you want me to explain that?

MR. O'NEILL: Yes, if you wouldn't mind.

MR. GREGORY: Yes. It's quite formidable for engineers. In this situation the fluid filled cable, the high pressure fluid filled, as we've heard, is pressurized to 200 pounds per square inch. On the solid cable, which is cross-link polyethylene insulation, there is only atmospheric pressure. So at the point of interface if you have a transition joint, then in the manhole in the jointing vault you have a joint which has to do a number of things; one is to join the conductor together to transfer the current, another is to preserve the electrical insulation between the conductor and the ground to withstand the voltage, and in this case also to withstand the fluid pressure. And the fact that the

joint has to have a hydraulic bearing to withstand the pressure means that the pressure also generates a force, the force is equal to the pressure times the cross-section area of the joint. So the joints are very much more complex. And it becomes difficult for these joints to withstand the mechanical forces and to prevent the fluid entering the cross-link polyethylene cable and to work electrically and withstand the voltage. Now if the fluid enters -- leaks into the cross-link polyethylene cable, it's likely to start to degrade the cable, especially the semi-conducting screens, the shields. And conversely of course if the fluid escapes from the pipe, in the end it will require the system to be switched out until the leak could be repaired. So these -- these joints are probably the most difficult type of joint in the world to design and to operate.

MR. O'NEILL: Do you know of any instances where there were two different types of underground cables used to address concerns regarding the slope of the land for example?

MR. GREGORY: Not specifically. Generally the choice would be made initially for one type of cable or another.

MR. O'NEILL: I see.

MR. GREGORY: And generally at this voltage, 345-kV, if one was choosing say a short length of XLPE cable, one would prefer to have outdoor terminations so the cable system is within known technology. The outdoor termination is known in its performance and so is the splices, and you're not mixing and getting the worst of both combinations.

MR. O'NEILL: So it wouldn't be as much of a challenge if you were to go above ground and use solid cable as obviously making two different types of underground --

MR. GREGORY: Yeah. If you come above ground, it's -- you can treat them as completely separate and there's no problem.

MR. O'NEILL: Thank you very much.

CHAIRMAN KATZ: Mr. Ashton.

MR. ASHTON: Several questions. Mr. Williams, first of all, refresh us as to the general nature of the history of failure of 345 cables on the Con-Ed system? I'm aware they had some failures, but typically what were they caused by? Are they likely to occur on new installations, that type of thing?

MR. WILLIAMS: Con-Ed installed its first 345-kV cable switch or high pressure fluid filled, HPFF

cables in 1964, and they put in quite a number of miles, a bunch of shorter length circuits of course, but totaling almost a hundred miles.

In the late 1960's and early 1970's there were several failures that were caused by thermal mechanical bending, a movement of the cables within the joint casing that flexed the cables and caused the eventual failure of several occurrences. Con-Ed rebuilt -- they designed a joint with restraints that would prevent that happening --

MR. ASHTON: This was in a shaft as I recall, is that correct?

MR. WILLIAMS: In Con-Ed's case it happened just in street runs as well as perhaps in shafts, yes.

MR. ASHTON: Okay --

MR. WILLIAMS: The ones I'm familiar with with Con-Ed actually were not in shafts, they were in runs -- just main runs in the street.

MR. ASHTON: Have you had any problems with dig-ins?

MR. WILLIAMS: There have been over the years a couple of occasions where dig-ins have caused cable failures, yes.

Just to complete the story, with this thermal mechanical bending, that was identified as a problem and it has been solved. And all new cables installed since the early 1970's have these restraints installed. And I do not know of any splice failures that have occurred due to thermal mechanical bending since that time.

MR. ASHTON: Are you familiar with the terrain of the route selected in this case?

MR. WILLIAMS: Yes.

MR. ASHTON: Do you feel there's anything remarkable about it that would potentially lead to problems?

MR. WILLIAMS: I don't believe so. Con-Ed even though it has a small service territory, actually has some fairly rough terrain with several hundred foot elevation changes coming from West Chester down into the City. They have water crossings, city street installations. So even though the area is different here from on the Con-Ed system, I think all of the conditions that would be seen on the potential lines here have been one place or another within the Con-Ed system been installed and operate satisfactorily.

MR. ASHTON: Um-hmm. Well, I guess the

next question is probably for Mr. Gregory as well as you, and that is when a joint -- when you have to freeze a section, a location in order to seal off that piece for repair or whatever, is there any damage caused by freezing to the cable at all?

MR. WILLIAMS: No. There's actually be a fair amount of testing. This freezing you describe is done not only for failure repair but also for cut -- relocation. So there's been a fair amount of testing. And the freeze has been dozens of times. There has been once incidence that I know of in which the cable has moved slightly and in the area of the freeze there needed to be a repair done, but that's one time out of many dozens of times.

MR. ASHTON: Um-hmm.

MR. GREGORY: I would agree with that. With low pressure fluid filled, the method also is used extensively. And the strict rule is not to move the cable where you freeze.

MR. ASHTON: Not to move the cable where you freeze?

MR. GREGORY: Yeah.

MR. ASHTON: Yeah.

MR. LYNCH: Excuse me. Mr. Williams, not

being as familiar as Mr. Ashton, could you explain how freezing is actually accomplished?

MR. WILLIAMS: Sure. Freezing is needed when you need to access the cable pipe to make repairs or to relocate. You have to get at the conductors, you need to stop the dielectric liquid from leaking out and messing up your work. So what is done is a pit is excavated, 25 or 50 feet away from where you're going to be doing your work, either a stainless steel jacket or a coil of copper tubing is placed around the cable pipes after you remove the coating, liquid nitrogen is run through for a period of six to twelve hours until a temperature is achieved at which the cable fluid is frozen over a length of perhaps eight to ten feet to withstand the hydraulic head of the dielectric liquid that's uphill from that location. That freeze is maintained using the liquid nitrogen until you've completed all the work on your repair and you're ready to reintroduce the fluid.

MR. LYNCH: Thank you.

MR. ASHTON: I have several other questions, but I'm not sure this is the right panel and the right time at which to ask them, but let me identify what the issues are I want to talk about. One is line

charging as a result of the cable. Is -- Mr. Zaklukiewicz, I'll look at you, is this the right panel to talk about this issue?

MR. ZAKLUKIEWICZ: We can discuss it.

MR. ASHTON: Okay. Let's try it anyway. One of the concerns that arose in Docket 217 was the impact of line charging on the reliability of the area, making the area goliting, to use a term of art, and generators in the area to goliting. Does anybody on the panel have any comment on that phenomenon as it relates to the installation of the substantially increased length of high voltage underground cable?

MR. ZAKLUKIEWICZ: Those are the results of the studies that are taking place at this time, is how in a steady stay condition do you deal with the line charging that is associated with the cable systems. I believe we've testified before the cables -- the two cables in parallel have approximately 42 mega-VARs per mile. When you multiply that by the 24 miles, you're approaching close to 1,000 mega-VARs that you have to compensate for and operate the system to. And clearly with the 10 plus miles of HPFF on the Bethel to Norwalk project plus the 2.3 miles I believe of the cross-link polyethylene all toll in this Southwest Connecticut area,

we have just introduced a tremendous amount of mega-VARs that are a concern to Northeast Utilities and are a concern to ISO New England, which has the overall responsibility to operate the system.

This is the challenge that is before us. We plan to compensate up to approximately 70 percent of the cables with shunt reactors. However, the issue comes up of what do you do with the system should you have to take the shunt reactors out for maintenance and what happens to the total VARs of the system should at any given time under different scenarios of load dispatch, where -- where are you at that time.

Clearly -- if I go back in history a little bit, the CL&P system, when I look back at what did we do in the mid 90's as a result of shutting down of the nuclear units in the State of Connecticut, we interjected a tremendous amount of capacitors onto the system to reliably operate the system, to hold the voltage up as a result of the lack of generation in the State of Connecticut. And that was required as a result of the magnitudes of the imports of power that were required in '96, '97 and '98 to keep the lights on. So even before we started looking at the Bethel to Norwalk project, we were, if you will, an unusual utility to begin with.

With the amount of amount of load that we have on the system and the amount of capacitors that we have installed on the system, we were -- in our analysis there was no other utility anywheres close to where Connecticut was on the range of here is the amount of capacitance -- capacitors installed relative to the short circuit duty of the system itself.

The issue of what do we do with the capacitors is one for which when Mitch Kowalski was here with the ISO team, and that was Steve Whitley, Mr. Kowalski testified they're still studying the situation and there are some contingencies and some dispatches -- generation dispatches where they feel the system is not responding in the manner that they would like to see, and there's some issues associated with operating the system in a reliable manner.

Let me give you an analogy. With an all overhead system, the system basically is operating like a car on a highway. In a car you have fairly well control of the system. Should there be an accident in front of you, should someone pass you and kind of cut you off, you have -- you have some control. If something -- for a vehicle breakdown, you're able to control that vehicle as long as you keep a safe distance and you're driving

within the speed limits, you have total control of the system for basically -- virtually any -- any -- any occurrence that comes before you, you should have control of the system. Once we start putting the cables in the Bethel to Norwalk project on and place them in service, you've now taken from a vehicle, such as an automobile, you've just now went to a trailer truck. And in my analogy this trailer truck may be a trailer truck with a horse and one or two trailers attached to the back end. And as we know of trailer trucks, they do not have the same capabilities as the vehicle does. We see a lot more accidents under slippery road conditions, we see a lot more jackknifing of trailer trucks as opposed to jackknifing of vehicles on the highways. We see a lot more accidents involved at the speed you're able to operate the system. However, that trailer truck on a straight road with no other vehicles on the highway, no other circumstances that I have to drive through under various conditions, that trailer truck is totally safe and it operates fine. Our concern now is that -- I've taken that trailer truck now and I may have added one or two more or three more trailers on it, so I have the horse and now I don't have a single trailer behind the horse, I may have three or four or five trailers attached

to that horse.

COURT REPORTER: One moment please.

(Pause). Thank you.

MR. ZAKLUKIEWICZ: And as long as I'm going down the highway where there are no other vehicles on the highway and there are no other cases where I need to stop this vehicle rather suddenly because of an accident, because of someone cutting me off the road, because someone had a breakdown and the traffic all backs up as I come around the bend, and even though I'm driving at the same speed, when I have slippery road conditions, when I have some icing, when I have some snow, when I have any of these other conditions, the control of this trailer with three or four trailers all in a series behind it becomes a serious issue. Can I operate under all of the conditions that one would face driving a trailer truck with a tandem of trailers behind it, meaning more than two, all the way from Baltimore to Boston and ensure that I can get from one location to the other without having an accident. With the utility system when you think of all of the conditions that confront a trailer truck driver, when you think of the contingencies that are out there on this interconnected system and a combination of dispatches that are before

you, that's where I really have a concern. And we can do studies and we can say under the ideal conditions, no snow, no ice, no rain, no breakdowns, no one is cutting me off, no other lane changes, no construction taking place where I'm going from four lanes to two lanes, or whatever in the road system, I can get from Baltimore to Washington -- I mean Baltimore to Boston without any problems, when I take into account all of these other experiences I need to travel through and I incorporate now and look at the power system and say what combination of transmission lines are being worked on, what generation is available for those hours, what is the load at any given minute because it's totally -- it varies from minute to minute, what combinations of generation are on and at what locations are they, it makes one awful nervous that they can sit before this body and say yeah, this is -- this will work under all of these conditions and all of these combinations, something that has never before been a real issue with overhead transmission lines.

In the past we've worried primarily with the thermal overloading, we've worried somewhat on the transfers. And the capacitance of an overhead transmission line is approximately one-twentieth what it

would be for cables. And now when we inject in a rather small area this much capacitance for a cable, it is of concern. We think we can operate the cable systems as proposed.

And Mr. Wilensky asked the question before what are the differences. Well, part of the differences are -- is that we have taken 24 miles of cable, but we've also injected a substation power in between. In other words, you've gone with a full switching capability from East Devon down to Singer and then from Singer to Norwalk, so you -- in the Bethel to Norwalk project we were talking about a 22-mile cable -- or a 21-mile cable without a substation in between. In other words, you were switching at the either Plumtree Substation in Bethel or you were switching at the Norwalk Substation at the southern end of the Bethel to Norwalk line. In this case we are going to be able to switch each of the two sets of cables separately in sections of eight miles and in sixteen mile lengths as opposed to having an entire cable of 21 miles. A major difference, because now I am switching at any given time a shorter length of cable with less capacitance and reactors now at each one of those terminus both at Singer and at East Devon and at Norwalk.

CHAIRMAN KATZ: Mr. Zak, that eight miles that you referred to is East Devon to Singer, is --

MR. ZAKLUKIEWICZ: East Devon to Singer is eight miles --

CHAIRMAN KATZ: Eight miles --

MR. ZAKLUKIEWICZ: -- and it's approximately 16 miles from Singer to Norwalk on the proposed route.

CHAIRMAN KATZ: So that is the logical breaking off point at Singer --

MR. ZAKLUKIEWICZ: That is -- that is the break off point where in the Bethel/Norwalk project we did not have proposed say a substation at the Redding/Wilton line or in some area of it --

CHAIRMAN KATZ: Yeah --

MR. ZAKLUKIEWICZ: -- so you were switching the entire 21 miles all at one time.

CHAIRMAN KATZ: Mr. Ashton, can I ask a question while we're at this point?

MR. ASHTON: You're the chairman.

CHAIRMAN KATZ: Well. Let's -- let's take this hypothetical -- this is usually where the Applicant's attorney goes into cardiac arrest, but I'm going to ask it -- (laughter) -- let's say on -- you show

-- on the route map from East Devon to Singer you show an eight-mile alternative overhead along the railroad. Let's say that this Council, hypothetically, said let's take that eight miles and use it somewhere else. If we have a maximum of 24 miles underground, let's take that eight miles and go overhead along the railroad from East Devon to Singer and use that eight miles of underground somewhere more on the northern part of the proposed route. Is that doable if we -- because we still have a maximum of 24 miles underground, could we do -- does that -- can that eight miles be moved?

MR. TAIT: Do they need to be contiguous? In other words, the 16 and the 8 together or can we separate them and place them where we think they might be better utilized?

CHAIRMAN KATZ: Right.

MR. ASHTON: Advil anybody? (Laughter).

MR. ZAKLUKIEWICZ: You need to have a strong substation at one of the terminus. So when you say move it anyplace, you're moving anyplace is going to be subject to -- Chairman Katz, where are we talking about moving it?

MR. TAIT: Do you need a strong substation at either end of that link? So instead of having three

substations, you'd need two and another two?

MR. ZAKLUKIEWICZ: Well we're in an ideal condition now, we have generation at East Devon, a strong source --

CHAIRMAN KATZ: Right --

MR. ZAKLUKIEWICZ: -- you have multiple generators at Singer, a strong source. And you have the 345 tie at Norwalk which comes from the Bethel/Norwalk project.

CHAIRMAN KATZ: But how about if you kept those substations, I'm not saying eliminate them, let's say you had additional substations, let's say you had substations in Durham or Woodbridge, additional substations to tie two ends of an underground up there, is that doable?

MR. ZAKLUKIEWICZ: You need -- you need to keep -- you need to keep the Beseck Substation --

CHAIRMAN KATZ: Okay --

MR. ZAKLUKIEWICZ: -- from a strong source --

CHAIRMAN KATZ: We're not taking away anything, we're -- we're adding.

MR. TAIT: Can we --

MR. ZAKLUKIEWICZ: I'm trying -- I'm

trying to answer your question such as you're not going to come back to me and say Mr. Zak on the 21st at 1:41 you said it was feasible -- (laughter) -- and not that I want -- I'm saying to you anything is possible, but it's going to take a lot of additional studying to make certain it works. And something today where we've been studying it now for probably more than a year is still -- does not have satisfactory answers to, and that was the testimony you heard from Mr. Kowalski at ISO. I mean we -- we have been trying to make this work. And to date there are still some in the technical community who are not in full agreement or buy in that what is proposed before you will totally work. And some of the issues have to do with dealing with the capacitance of the 24 miles of cable out there, but they are lessened significantly by the fact that you've got generation at East Devon where you've got the machines which have instantaneous basically responds to changes established right there as opposed to many many miles away, and you have the same benefits of the generation at Bridgeport, whether we're talking the Bridgeport units owned by Public Service Electric & Gas or the Bridgeport Energy units, and you've got ERESCO right now the street that tie into the bus, and then you've got the stronger 345 tie that goes into Norwalk

from the Bethel/Norwalk project. So from a situation of where could we install the most underground in this whole area, I think we've selected the most ideal locations to make this work technically. And that was what was studied and that was what we proposed in the proposal --

CHAIRMAN KATZ: But --

MR. ZAKLUKIEWICZ: To ask me can we inject someplace in the line another eight-mile stretch, that will require a lot of additional testing and studying to come up with an answer of yes or no.

CHAIRMAN KATZ: But it sounds like the criteria to have an underground portion is it has to be anchored by a strong substation, correct?

MR. ZAKLUKIEWICZ: With multiple lines coming into it --

CHAIRMAN KATZ: Okay, so where -- north of East Devon where are potential points where you have -- for example, let's just take -- you've got a couple -- like in Woodbridge you have a couple of junctions, Pease Junction, another -- junctions are an area where you have multiple lines, correct?

MR. ZAKLUKIEWICZ: Yes, but they're not really strong. They're really not strong sources. If you look at the total number of lines that we've got

coming into Devon, not only do you have the 345 lines proposed, but you have five or six not -- right now the 115 lines going through Woodbridge are a total of three lines at 115 as opposed to the multiple lines. And now when I add up the impedances between those locations in Woodbridge back to say the Devon Station, that impedance gets added in, and so the strength of those positions become less -- weaker --

CHAIRMAN KATZ: But it sounds --

MR. ZAKLUKIEWICZ: -- when I put that station there and I cut the 345, when the northern part of the line say from Beseck down to this theoretical station in Woodbridge is opened, I can -- I probably cannot switch in and leave that other line in place between say Devon and Woodbridge without having that other 345 line in place.

CHAIRMAN KATZ: But it sounds like from what you've said about Beseck, Beseck is the possible area that you could anchor an eight-mile underground, is that correct --

MR. ZAKLUKIEWICZ: It would be --

CHAIRMAN KATZ: -- one end of --

MR. ZAKLUKIEWICZ: It would be one of the -- one of the -- one of the locations where there would

be a higher probability that something like that would work.

CHAIRMAN KATZ: And if you went eight miles in either direction from Beseck, where does that take you?

MR. ZAKLUKIEWICZ: I would -- I would not go -- I would not go and advocate that this commission approve going east of Beseck with underground.

CHAIRMAN KATZ: But possibly going west, where would that -- I don't have -- let me grab my other map -- so if you --

MR. ZAKLUKIEWICZ: I believe it would take you into -- it would take you part way through Wallingford I believe --

CHAIRMAN KATZ: Okay --

MR. ZAKLUKIEWICZ: -- I believe Wallingford is approximately 11 miles of overhead --

A VOICE: Yes.

CHAIRMAN KATZ: Okay.

MR. ZAKLUKIEWICZ: -- and Beseck I think is towards the -- the edge of -- the edge of the line. So it would take you eight -- eight of the eleven miles of Wallingford.

CHAIRMAN KATZ: Thank you. Back to you,

Mr. Ashton.

MR. ASHTON: Okay. I want to just explore a little bit more on this point. You indicated that the underground works because there are strong sources attached to either end of it. Could you explain a little bit more why the strong source is necessary? You said the generator could make instantaneous adjustments. In what respect? What are -- what's going on that makes it possible?

MR. ZAKLUKIEWICZ: Well, the strong sources help to compensate for the voltages and the voltage differences. And the fact that you've got in that local area the ability of the machine to respond should systems change, makes having a long set of cables available. If we look and compare the Connecticut system at 345-kV, our strongest source by far is Millstone. And Millstone has -- in relative terms has the capability there of a factor -- call it -- without getting into the details just so you have a semblance, a strong strength of approximately 15. When you look at the Con-Ed system, a number of their buses have a strength of 45 to 50. So it gives you a relevance of the fact that on the Con-Ed system because of the magnitude of generation they have in the small central area of New York itself, they have -

- because of their requirements and their limited ability to import power, they at any given time have to have local generation, approximately 80 percent or above. They can never go below 78 percent of the total load within the Greater New York area. That's because they cannot import more than at peak approximately 18 to 20 percent of the power they need, so that any given minute a requirement is is that they operate with that magnitude of power. Having all of that generation somewheres between eight and ten thousand megawatts in that local area means that any given point on the system, the strength of the system is significant relative to the strength of the CL&P system.

MR. ASHTON: And the strength you're measuring is what, the short-circuit ratio?

MR. ZAKLUKIEWICZ: The short-circuit ratio and short-circuit duty.

MR. ASHTON: And that -- am I correct in believing that that is a measure of the magnitude of a fault that would occur on a bus and the total current flowing into that fault, is that a fair way of putting it? Fault duty?

MR. ZAKLUKIEWICZ: Yes, it is.

MR. ASHTON: And have you had any

discussions with any of the generators in this Southwest Connecticut area, and I'm thinking particularly the ones in Milford, the Devon Plant, Milford Power, Bridgeport Harbor, as to whether or not they are (a) cognizant of the amount of cable that would be injected and the line charging differences that would be seen, and whether this would have any adverse impact on their machines?

MR. ZAKLUKIEWICZ: No, we have not had that specific discussion with the generators/operators themselves. And there's concern that I believe is -- already is out there in the public. One of the Devon units has already been given notice that their reliability must run contract will be ending in 60 days -- or 90 days. And I think that notice was given to them in the beginning of February. And as soon as the second Milford unit is on, I would expect the same thing to happen to the second Devon generator now. Not having the reliability must run contracts, how long they will stay in service and keep those units available are a question mark.

MR. ASHTON: So that 7 and 8 are the last two units of the Devon plant and they would be presumably no longer required once Milford 2 comes on?

MR. ZAKLUKIEWICZ: Well, they would be --

they would be not required, but they would be having to bid in the market such that they would not be compensated for the fact that they may not have a bid which allows them to run. They may not be able to compete with their competition --

MR. ASHTON: Yeah, yeah --

MR. ZAKLUKIEWICZ: -- and would not be receiving monthly payments whether they operate or not, to the point where it becomes economic. Whether they continue to operate or not, that would be a corporate decision on their part.

MR. ASHTON: Was any consideration given to an intermediate station -- a reactor station between Norwalk and Singer, the 16-mile section?

MR. ZAKLUKIEWICZ: We've looked at it. The feasibility of purchasing property, trying to put in midpoint reactors between those two locations, and the studies indicating that we think we can operate it without a midpoint station or a total switching station, we just did not put that into the proposal recognizing that acquiring four to six acres of property to put in a full substation in that area is -- the feasibility of that is close to zero.

MR. ASHTON: Has there been any -- or what

consideration has there been given -- has been given to the -- a possibility or even I'll use the requirement to de-energize one cable in light loads?

MR. ZAKLUKIEWICZ: Right now we are studying and trying to finalize having reactors on each of the cable systems at East Devon and at Norwalk such that they are continuously in operation. And those would be approximately a two-percent reactor, and those --

MR. ASHTON: A series reactor?

MR. ZAKLUKIEWICZ: These would be series reactors in addition to the shunt reactors to compensate for the capacitance. This is part of the study which is still being worked on to try to finalize to come in agreement.

We did look at the fact that we would need somewheres around a seven percent reactor to choke off some of the power flow on the remaining cable should we have one of the two cables out of service either for maintenance or for a fault condition or contingency, for which then you would switch in the seven percent reactor, choke off the current such that you do not overload the remaining cable. And by doing that, you would now force the current back around through the overhead 345-kV system from the central part of the State north over to

the New Milford area and down through Milford, Bethel and Norwalk and feed the load through that way.

MR. ASHTON: So this would be a deliberate insertion of extra resistance, the proper term impedance in the cable circuit when -- in the event that you went to a single cable operation, is that correct?

MR. ZAKLUKIEWICZ: Just adding the seven percent one should you lose one part of the cable, in other words at the same time you're opening up the breakers to isolate the faulted section or you're doing switching, you would switch in at the same time, concurrent, this large block of impedance, the reactance of a reactor, which would now add that much additional impedance onto the system.

This seven percent reactor, just to give you a sense, equates to somewheres close to adding approximately 200 miles of overhead 345-kV transmission system into that cable circuit. That's what it equates to.

MR. ASHTON: As far as its electrical characteristics go?

MR. ZAKLUKIEWICZ: Its electrical characteristics would be instantaneously I now switch in 200 miles of overhead transmission line.

MR. ASHTON: And that would be intended to try and maintain a balance of flow between alternate paths in the loop, is that fair to say?

MR. ZAKLUKIEWICZ: That is correct.

MR. ASHTON: Is that kind of engineered solution common in the world to your knowledge?

MR. ZAKLUKIEWICZ: It is not extremely common in the Northeast. I believe there are, because of the extreme lengths of the circuits, in the Northwest. Primarily where you're bringing the hydro power from the Oregon/Washington area into the San Francisco area there are some extremely long lines there where you have to operate under those conditions, but what you're trying to do there is to switch capitances on because of the extremely long lengths of overhead transmission lines through those areas, those are in the four or five hundred mile lengths, and now you've got the opposite effect, you've got extremely high impedances, such that if you lose one of the lines, I now have extremely low voltages trying to push the power those distances over the overhead transmission lines.

MR. ASHTON: Let me just switch tacks for a little bit here. The East Devon Substation is a new location. Has -- has the company considered, and if so,

why did it dismiss expansion of the existing Devon yard?

MR. ZAKLUKIEWICZ: Not knowing -- not knowing exactly what was going to take place at that facility, whether -- I mean clearly the commission and everyone else has to realize the site itself is ideal for some kind of a generating facility. And the question comes up then if someone was to build a new gas turbine combined cycle facility at that location, land is a premium. And to turn around -- in our discussions when we sold the property or required to sell the properties, we tried to identify at that time expansion properties associated with that substation. The Public Utility Commission in the State ruled that was not prudent, it would reduce the selling price of the properties, and we were not allowed to retain anything but the fence line that was basically there. If you go immediately south of the substation, basically by the entrance-way, that whole area is a rock area, as is part of the substation today, there is basically no expansion property and there are no ways of getting transmission down to that site where we propose to do what we're doing at East Devon, we would bring the 345 in at the northern end, and what is proposed is to go underground coming out of East Devon towards Singer, so you would basically go on the right-

of-way immediately north of the East Devon site and then go upon to public roads before you get to the actual Devon Substation site and then go underneath the Housatonic River. That -- that is one of the reasons, it didn't allow us room at Devon itself to bring the 345 in, put in the autotransformers, allow the connections of the Milford unit onto the 345 system to drive down the short-circuit duty, which today is an enormous problem. At East Devon, as you know, we have reactors between the two buses now to limit the short-circuit duty at the 115-kV level.

CHAIRMAN KATZ: Mr. Zak --

MR. ASHTON: Nothing further, thank you.

CHAIRMAN KATZ: Mr. Zak, to further answer that question, can you go to Volume 9, Segment 47.

MR. ZAKLUKIEWICZ: (Pause). I'm there.

CHAIRMAN KATZ: Okay. My understanding is on Segment 47 where it says Northeast Utilities System property, that's where the Devon Substation is located?

MR. ZAKLUKIEWICZ: (Pause). If you look at -- if you look at where the arrows are, it says Northeast Utilities property there, and if you're looking at close to where -- the Housatonic where it comes in land north of where the tanks are, those two arrows refer

to the property and the right-of-way, which is immediately east of the gas pipeline. It is not that we own that property abutting up against the water --

CHAIRMAN KATZ: So --

MR. ZAKLUKIEWICZ: -- the substation itself is -- is directly underneath where it says Housatonic Development District --

CHAIRMAN KATZ: Okay --

MR. ZAKLUKIEWICZ: -- do you see those -- what looks to be small little things connected, that's -- and I don't mean to facetious with that, I don't know which way to describe the aerial view, but --

MR. ASHTON: She's got it.

CHAIRMAN KATZ: I've got it.

MR. ZAKLUKIEWICZ: -- those -- those are -- those are bus 1, bus 2 of the substation, which is primarily all 115-kV, and that's the only property that we have access rights to on this site.

CHAIRMAN KATZ: Do you own the property under the words Milford in black letters?

MR. ZAKLUKIEWICZ: No, we do not.

CHAIRMAN KATZ: Okay.

MR. ZAKLUKIEWICZ: That is owned by NRG.

CHAIRMAN KATZ: If -- if we went along the

railroad overhead from Singer to Devon, could you then -- it looks like the railroad is just adjacent to this property, is that correct?

MR. ZAKLUKIEWICZ: Yes.

CHAIRMAN KATZ: So if you were overhead from Singer to Devon, then you could connect -- instead of doing East Devon, you could have a substation expansion of Devon and make the connection there?

MR. ZAKLUKIEWICZ: You're saying we would somehow come into this whole area on 345 overhead --

CHAIRMAN KATZ: Right --

MR. ZAKLUKIEWICZ: -- and then leave --

CHAIRMAN KATZ: -- by the railroad --

MR. ZAKLUKIEWICZ: -- and then leave overhead --

CHAIRMAN KATZ: Correct.

MR. ZAKLUKIEWICZ: -- somehow?

CHAIRMAN KATZ: Somehow.

MR. ASHTON: She's suggesting a substation would be built where the words Milford in large black caps are.

CHAIRMAN KATZ: Or an expansion of your existing substation to handle this new 345?

MR. ZAKLUKIEWICZ: That -- that is -- that

is -- that is all solid rock ledge up in that area, as is the upper yard, meaning the substation to the left of where it says Housatonic Development District --

CHAIRMAN KATZ: Yes.

MR. ZAKLUKIEWICZ: -- that is all presently built on -- partially built on ledge. And that is -- and those are the block start units -- those two little boxes above the Milford unit --

CHAIRMAN KATZ: Yeah --

A VOICE: It's a coastal zone as well, Roger.

MR. ZAKLUKIEWICZ: And that is a coastal zone in that area up here also --

MS. LOUISE MANGO: Yeah, I think that a site -- an upland substation site --

COURT REPORTER: Hold it, hold it --

MS. MANGO: An upland substation site at that location would be very difficult to permit through the DEP Office of Long Island Sound Programs because it would -- it would be occupying a water -- it would be a non-water dependent unit occupying an above ground site adjacent to the Housatonic River and there's no reason to put a substation facility there if there's available upland sites.

CHAIRMAN KATZ: Understood. Thank you. Mr. Zak, I'm still going to be pursuing ripping these eight miles from you, so keep thinking.

MR. ZAKLUKIEWICZ: Okay. I will take that on as a homework assignment or --

CHAIRMAN KATZ: Well --

MR. ZAKLUKIEWICZ: -- do I have a little reprieve but a formal assignment?

CHAIRMAN KATZ: I -- at this point consider it food for thought on the flexibility of breaking up that 24 miles.

MR. ZAKLUKIEWICZ: I hear you.

MR. TAIT: Mr. Zak, I've got some thoughts too, not just ripping up those eight miles, but somehow getting more miles somewhere along the currently proposed overhead route. What's the most fruitful area for us to consider to see if such an option is possible, working from Beseck south or west?

MR. ZAKLUKIEWICZ: I think we said in our supplemental filing in December if you had to do it, you would continue on with the underground where it is today for a period up to -- five miles I think is what I signed my name to. And I said may, and I really mean the big word may. I think I've already testified to you I do not

-- I'm right on the edge with what you have today.

MR. TAIT: Well, you were also in Docket 217 --

MR. ZAKLUKIEWICZ: Well, I think -- I'm not going to change my testimony --

MR. TAIT: No --

MR. ZAKLUKIEWICZ: -- so I want you to know that today --

MR. TAIT: Right.

MR. ZAKLUKIEWICZ: -- so you're not well maybe he's going to change in June. My answer in June is probably going to be stronger --

MR. TAIT: You stuck with --

MR. ZAKLUKIEWICZ: -- than it is today.

MR. TAIT: You stuck with F-3 through hell and high water in Docket No. 217.

MR. ZAKLUKIEWICZ: Understand.

MR. TAIT: I was just wondering, you know, is that --

MR. ZAKLUKIEWICZ: If you have to do it, you do it out of Devon.

MR. TAIT: You do it out of Devon and --

MR. ZAKLUKIEWICZ: The East Devon Substation.

MR. TAIT: And going -- and five miles is about the max that you could squeeze out of there? And that would --

MR. ZAKLUKIEWICZ: I'm not even comfortable with the five, but whatever.

MR. TAIT: I can see you squirm right now. Yeah, okay --

MR. ZAKLUKIEWICZ: And I'm not certain how you'd go overhead into Singer. In other words, in any way, shape, or form you can't get by, if you will, Seaview. You're not going to put 345 overhead going into Bridgeport. So you're going to have to recognize that you're going to have to put underground in coming out of Singer --

MR. TAIT: Okay --

CHAIRMAN KATZ: How --

MR. ZAKLUKIEWICZ: -- or some length coming out of Singer. And then possibly if you all deem it the best route to be acceptable to everyone going overhead then back into Devon.

CHAIRMAN KATZ: How about if we use Pequonnock instead of Singer as the junction?

MR. ZAKLUKIEWICZ: They're one and the same --

MR. ASHTON: Yeah, the same --

MR. ZAKLUKIEWICZ: -- they're within two --

CHAIRMAN KATZ: Well isn't Pequonnock closer to the railroad?

MR. ZAKLUKIEWICZ: They're within a couple of blocks of each other.

CHAIRMAN KATZ: Which one is closer to the railroad? If we're using the railroad as a possible overhead route --

MR. ZAKLUKIEWICZ: I'm -- I -- just so you are aware, the agreements that were signed on the Pequonnock/Ely Avenue line do not allow any transmission on the railroad greater than 115,000 volts. I tried for over a year to get those words added in that would allow it.

CHAIRMAN KATZ: Well, what am I looking at when I look at the blue line --

MR. ASHTON: Wait a minute, Pam --

CHAIRMAN KATZ: -- on the -- just a second --

MR. ASHTON: You said for Pequonnock to Ely. That's going westward.

MR. ZAKLUKIEWICZ: Understand. But it's

still --

MR. ASHTON: Does that --

MR. ZAKLUKIEWICZ: -- it's still the electrified railroad --

MR. ASHTON: Does that restriction cover from Pequonnock eastward?

MR. PRETE: Yes. From UI's point of view -- that same argument and desire from UI's point of view is a very similar outcome, that it --

MR. ASHTON: Are you bound by that agreement -- is UI bound by that agreement?

MR. PRETE: We have a separate agreement until the year 2030 that limits the voltage on the existing railroad catenaries at 115-kV.

CHAIRMAN KATZ: Well on your route map it appears there's a blue line indicating an alternative overhead that goes from approximately Singer to Devon along the railroad. Am I --

MS. BARTOSEWICZ: Chairman, you're correct, the map that you're looking at does have a blue line as one of the overhead routes studied. We looked at the railroad alternative. And in part of our filing, which I believe is the subject of tomorrow's hearing, we talk about the railroad route, and we've dismissed it

from consideration because of a number of issues building along the railroad.

CHAIRMAN KATZ: Oh. You see I had taken those blue lines as meaning you could put an alternative 345-kV there. But that's not necessarily so?

MS. BARTOSEWICZ: Correct. The application provides the three, the proposed and the two alternatives that can be built.

CHAIRMAN KATZ: Understood. Thank you.

MR. ZAKLUKIEWICZ: Mr. Ashton, to answer your question, CL&P does not have the transmission lines if you will east of -- east of the Pequonnock/Ely Avenue line. And our agreement was basically from the Fairfield County line to Ely Avenue --

MR. ASHTON: Right, in the service area --

MR. ZAKLUKIEWICZ: -- and -- and that agreement ended in approximately 1998. Mr. Torrance advised me somewheres around 1992 to begin work on a new air agreement, okay, for air rights where the 115 lines presently are. I had signed along with -- I think it's a Mr. Harris, who heads up C-DOT Railroad, an agreement that it -- where we added in the words where we would be allowed to install 345 on that right-of-way with the understanding that we would conduct and be responsible

for and pay for all of the studies to ensure the signal system was not interfered with by the electric fields of the 345-kV transmission line. That agreement never got through the AG's office, who review all contracts, and that page and a half were crossed off. And after a year of refusing to sign that agreement, I finally signed it because we were three and a half year, four years without an actual contract to have our 115 lines on the right-of-way. And it was made perfectly clear to me that no way was this contract going to be signed with the rights to put anything on that transmission -- any rights on the railroad right-of-way greater than 115,000 volts --

MR. ASHTON: So --

MR. ZAKLUKIEWICZ: -- so we -- we also to the west of it have an agreement in place for the next 30 years -- I think it's 30 years, expandable in 10 years, two 10 year groupings thereafter where the limited rights on that -- along the railroad tracks are limited to 115,000 volts.

MR. TAIT: And who were the signatories to this contract?

MR. ZAKLUKIEWICZ: I believe myself, a Mr. Harris, and the AG's office.

MR. ASHTON: NU and Con-DOT?

MR. ZAKLUKIEWICZ: NU and Con-DOT.

MR. TAIT: Not Amtrak or --

MR. ZAKLUKIEWICZ: No. This is the State of Connecticut.

MR. TAIT: And so --

MR. ASHTON: So it would be the Connecticut Attorney General's Office then who for all intents and purposes is controlling what may happen on that railroad, is that correct?

MR. ZAKLUKIEWICZ: That is correct.

MR. ASHTON: Thank you.

MR. TAIT: But all agreements can be modified so that there could be some possibility of -- all things being considered that this was the best solution for the State of Connecticut, that the agreements might be able to be rewritten?

MR. ZAKLUKIEWICZ: I think I tried that argument for about five years and was unsuccessful.

MR. TAIT: Well --

MR. ZAKLUKIEWICZ: But I recognize you have a lot more authority than I do.

MR. TAIT: Conditions may change as conditions in the Sound may change when the alternative is putting overhead power lines through people's

backyards.

MR. ZAKLUKIEWICZ: All I wanted to do was make you aware of it --

CHAIRMAN KATZ: Yes --

MR. TAIT: Yeah --

MR. ZAKLUKIEWICZ: -- from an easement right-of-way and rights to be on that property today, they are limited. And I believe UI's contract has similar words because the contracts that they cut were basically trying to get CL&P to sign a contract and then go to UI and say here's what's already been agreed to, sign on the dotted line.

MR. TAIT: Mr. Prete, does UI have the same similar contract with the same parties, with Con-DOT?

MR. PRETE: I believe they're almost exactly the same.

CHAIRMAN KATZ: Mr. Cunliffe --

COURT REPORTER: One moment please. (Pause). Thank you. We're on the record.

CHAIRMAN KATZ: Mr. Cunliffe, why don't we give Con-Dot a heads-up tomorrow that we might be asking them about the possibility of modifying things so that a 345 can be along the railroad.

A VOICE: You should talk -- ask the Attorney General --

MR. CUNLIFFE: I think that sentiment is out. Miss Meskill, I assume you've heard the Chairman's wishes.

MS. MESKILL: Yes, I have.

CHAIRMAN KATZ: Thank you.

MS. BARTOSEWICZ: And Chairman Katz, just so we are clear, the legal contract issues aren't the only issues that we have with the railroad group.

CHAIRMAN KATZ: Right. We'll explore that tomorrow.

MS. BARTOSEWICZ: Terrific.

CHAIRMAN KATZ: And perhaps this is something that the Legislature might want to be helpful in.

MR. TAIT: That's what I was suggesting.

CHAIRMAN KATZ: So we would like to fully explore that issue tomorrow. In fact, I'm going to give you another food for thought, Mr. Zak --

MR. ASHTON: You're going to give him --

CHAIRMAN KATZ: Well, he knows I'm one of his biggest fans as far as understanding this system. But when we talk about East Shore in June, let's talk

about -- and tell us why it would work or not work, underground from Beseck to East Wallingford Junction, and then a new 345-kV from East Wallingford Junction to East Shore.

MR. ASHTON: Say that again.

MR. ZAKLUKIEWICZ: Do you have that written down --

MS. BARTOSEWICZ: I want to make sure I understand. This is underground from Beseck --

CHAIRMAN KATZ: From Beseck --

MS. BARTOSEWICZ: -- to East Wallingford --

CHAIRMAN KATZ: -- to East Wallingford Junction.

MS. BARTOSEWICZ: Underground?

CHAIRMAN KATZ: Right. Instead of somewhere else.

MS. BARTOSEWICZ: And then overhead --

CHAIRMAN KATZ: Overhead --

MS. BARTOSEWICZ: -- from East Wallingford to --

CHAIRMAN KATZ: Wallingford Junction to East Shore --

MS. BARTOSEWICZ: East Shore --

COURT REPORTER: One at a time please --

MS. BARTOSEWICZ: And then from East Shore underground again to --

CHAIRMAN KATZ: Well, you'll have to work that part out --

MS. BARTOSEWICZ: -- to East Devon -- just -- I want to make sure we're clear on what we're talking about.

CHAIRMAN KATZ: I have not thought out the part from East Shore to Devon.

MS. BARTOSEWICZ: There is no overhead right-of-way from East Shore --

CHAIRMAN KATZ: Right --

MS. BARTOSEWICZ: -- to Devon.

CHAIRMAN KATZ: Well, I guess I was thinking perhaps a marine -- I'm trying to -- I guess I'm thinking in a bigger box. And if I shouldn't be thinking outside the box, then I want you to tell me, and we'll go from there.

MR. ASHTON: Madam Chairman, may I inquire just a little bit more based on this --

CHAIRMAN KATZ: Yeah.

MR. ASHTON: As I recall the right-of-way coming from Pequonnock eastward, there's some fairly

significant stretches of it where it's quite wide. The railroad had multiple tracks there, a lot of which were probably sightings for local industry. And I guess maybe as a homework assignment -- and I'm looking at Mr. Prete perhaps a little bit more since this is his turf, whether or not it is practical to think of an overhead 345 through this fairly wide former industrial area. The last time I rode it, the buildings had been demolished fairly substantially. Is this a reasonable solution for a separate overhead structure through a lot of it?

MR. PRETE: Mr. Ashton, that would be connecting --

MR. ASHTON: East --

MR. PRETE: -- the Pequonnock area to --

MR. ASHTON: Pequonnock --

MR. PRETE: -- Norwalk?

MR. ASHTON: -- to East Devon.

MR. PRETE: Pequonnock to East Devon?

MR. ASHTON: Right. You know, I can appreciate the fact that where you have a double circuit 115 attached to the -- or approximate to the existing catanery structures along the railroad going west from Pequonnock, things are a little bit tight. And I'm familiar enough with the right-of-way that it's a fairly

tight right-of-way in many instances. But once you come east from Pequonnock, the situation changes fairly significantly I think. And that's an area I'd like to come back and talk about a little bit more.

MR. PRETE: And we'll be happy to do that. I know Burns & McDonnel has done some work --

MR. ASHTON: Thank you --

MR. PRETE: -- specifically there.

CHAIRMAN KATZ: Mr. Heffernan.

MR. HEFFERNAN: Yeah, just one question, Roger. We talked about this --

AUDIO TECHNICIAN: Grab a microphone.

MR. ASHTON: Oh, sorry.

MR. HEFFERNAN: It seemed to me that one of DOT's concerns, which I understand, is they allow you to put this cable under the ground, and for whatever reason five years from now some project is going to require that it be moved, and the law says they're going to have to pay for it. So, I'm -- I'm just -- the movement of it. So, I'm just questioning is this a negotiable item? Is this something -- or is this in stone?

MR. ZAKLUKIEWICZ: Well, the legislation is clear at this time, so unless legislation has changed.

Is it in -- is it in stone on this project? I'd have to --

MR. HEFFERNAN: I mean --

MR. ZAKLUKIEWICZ: -- I'd have to double check with my CEO, but as far as I'm concerned this could be something that we would negotiate for this specific line because of the length of it. It's totally different that what we've got in other locations. Most of our other locations, Mr. Heffernan, are overhead --

MR. HEFFERNAN: Yeah, and --

MR. ZAKLUKIEWICZ: -- with the exception of the distribution facilities which may be underground. So, I don't think it's the C-DOT's concern as much for an overhead movement for a new interchange or some other movement because the cost of relocating overhead is significantly less than the cost of relocating underground --

MR. HEFFERNAN: And --

MR. ZAKLUKIEWICZ: -- and it was -- it's clear to me from their testimony and the questions that were raised yesterday, that is their primary concern.

MR. HEFFERNAN: Yeah, it would seem to me that as an individual it wouldn't be prudent to let somebody put something in your backyard and, you know,

then say now you have to move it and I'm going to have to pay for it, I mean --

MR. ZAKLUKIEWICZ: It just -- it just ends up being later on a cost -- a question mark, not a cost -- a question mark --

MR. HEFFERNAN: Of who pays.

MR. ZAKLUKIEWICZ: -- of can we recover the cost of the dollars to move it. So if I agree to this or we agree to this, is the public utility commission or anyone else a responsible entity going to say hey you were imprudent in making that agreement seven years ago, the legislation is clear you recover the dollars from the State of Connecticut, and oh by the way you made that agreement, you take on the risk, I think the shareholders ought to pick up that nine million dollars or seven million dollars to move it, that is one concern that we somehow would have to have some agreement with the State of Connecticut on, that we're going to be able to recover those dollars. One way or another the residents in the State of Connecticut are going to pay for it whether it be out of the DOT budget or out of your electric bill.

MR. HEFFERNAN: Well, there might be some people that --

MR. ZAKLUKIEWICZ: Or there may be some other way --

MR. HEFFERNAN: -- CL&P or UI customers in Connecticut --

MR. ZAKLUKIEWICZ: Understand. But on the whole --

MR. HEFFERNAN: No, I agree --

MR. ZAKLUKIEWICZ: -- understand what I'm saying. And I think the concern would be that there's some recovery mechanism in place which everyone is not going to change later on if we were to come to some agreement that if there is an issue of total recovery because I'm putting in another interchange or I'm expanding, or whatever --

MR. HEFFERNAN: Um-hmm --

MR. ZAKLUKIEWICZ: -- whatever the circumstances are for this proposed transmission line, the companies were willing to sign a separate agreement which overrode the legislation, yes, we would entertain something like that --

MR. HEFFERNAN: That's possible. Thank you.

MR. FITZGERALD: (Indiscernible) -- maybe you and Mr. Heffernan can work that out -- (laughter) --

MR. HEFFERNAN: Well, it just seems to me that DOT wouldn't be very prudent if they said you can put this here, I mean if we have to move it, we'll pay for it, you know.

MR. MURPHY: He probably would be easier to deal with than some of the other -- (indiscernible) --

COURT REPORTER: A microphone please --

MR. MURPHY: -- than some of the other --

COURT REPORTER: A microphone, I can't hear you --

MR. TAIT: It's not necessary.

CHAIRMAN KATZ: We'll move on. Mr. Heffernan, does that complete --

MR. HEFFERNAN: That's it.

CHAIRMAN KATZ: Mr. Emerick.

MR. EMERICK: I guess by way of in the box out of the box, I have more of a question of probably in the box, but in terms of routing, site selection, and it kind of parallels I think a question or a routing alternative that was raised by Durham and Middlefield, but as -- and I guess before I start that, I just want to clarify, Beseck in the application is described as a switching station, but in some of the interrogatories it's described as a substation. And I'm thinking -- Mr.

Brandien in I think at least one interrogatory described it in that manner. And also this afternoon we've heard the word Beseck Substation --

MS. BARTOSEWICZ: Uh --

MR. ZAKLUKIEWICZ: It should be --

MR. EMERICK: -- just to be clear --

MR. ZAKLUKIEWICZ: -- it should have been --

MR. EMERICK: -- that it's a switching station?

MR. ZAKLUKIEWICZ: It should have been Beseck Switching Station. There is no transformation there, so it is a switching station and it is not a substation. And if I said substation, I was in error.

MR. EMERICK: Okay. The -- the proposed line -- again, just looking at the routing maps, is it true that it's tied to the 348 and I think it's the 362 lines?

MS. BARTOSEWICZ: Yes.

MR. EMERICK: And those lines are in a common right-of-way with 387 between Chestnut Junction and Oxbow -- Black Rock, is that correct?

A VOICE: Yes.

MR. EMERICK: And --

MS. BARTOSEWICZ: Yes.

MR. EMERICK: And under your proposal the 348 line would be rerouted along an existing 115 line and to the Beseck Substation, so that it passes through the substation and either heads down to Devon or it goes to Southington. In terms of the connection with the 362 line, it's a radial extension from Black Rock down to the Beseck Switching Station. Is that correct?

MR. ZAKLUKIEWICZ: Beseck Substation itself would end up having three major transmission lines besides the line that goes between Beseck and East Devon. It would be directly tied to the Southington Substation. It would be directly tied to the Haddam neck Substation. And it would be directly tied to the Millstone Substation, in addition to the Beseck to East Devon transmission line --

A VOICE: Excuse me --

MR. ZAKLUKIEWICZ: -- so that anytime I have one of those major transmission lines out of service, Beseck is still being served by two additional extremely strong sources. And then even if I was to lose one of those 345 lines with one of them being maintained, I am still tied to one very strong source in Connecticut, whether that be Haddam Neck, Southington, or Millstone

Substation --

MR. EMERICK: Okay --

MR. ZAKLUKIEWICZ: -- and that's what I mean by a strong source basically under -- under what we do is the study conditions where it's a pretty extreme contingency to say two of the 345-kV lines into the substation are out of service.

MR. EMERICK: And -- okay. Then the Beseck Switching Station is fed by all three of those lines that go from --

MR. ZAKLUKIEWICZ: Yes, at the -- at the station itself --

MR. EMERICK: Okay --

MR. ZAKLUKIEWICZ: -- they come into a common bus and each has individual circuit breakers such that you can isolate each one of the lines, but they do form a common bus. And the strength of Beseck is that you are summing up the strength of Southington, the strength of Millstone and the strength of Haddam Neck, minus the impedances between them.

MR. EMERICK: And from an electrical perspective you're creating a new switching station at Beseck that's fed by these three lines. Why can't that switching station be moved to Black Rock --

CHAIRMAN KATZ: Black Pond.

MR. EMERICK: -- Black Pond where all these three lines are anyway, and you would use the existing right-of-way rather than recreating a new 345 along the existing 115 line that goes through Durham and Middlefield?

CHAIRMAN KATZ: And following on that thought, after you say that, and then couldn't you instead of doing Oxbow to Beseck, do Chestnut Junction to Black Pond, and that would take you out of the Royal Oaks area?

MR. ZAKLUKIEWICZ: I think what we inject -- and not answering your question directly off-hand, but we basically inject -- by doing what we propose, we inject a third transmission line into the eastern corridor into Southwest Connecticut by the formation of what we have, which is basically one additional 345-kV line than what you presently have today by just injecting a substation at where you presently are. What you're proposing, you still end up not having anywheres near the strength and the strength after contingencies for what has been proposed at the Beseck -- for the Beseck Substation. And it may be difficult for me sitting here trying to convey that message to you. And I will try to,

if you want, put together a white paper or something and walk you through that so it's clearer to understand from an electrical standpoint. We looked at a number of variations for which you are asking questions of right now. And after many many months of study, basically came to the conclusion that what was in the proposal from an electrical standpoint is far superior to any of the other alternatives.

MR. EMERICK: Again, I only derived that by looking at your existing lines and where you want to go and how you can join those lines to accomplish it. Obviously, there's --

MR. ZAKLUKIEWICZ: Right. And what we do at Beseck is if you severed your two lines out of Millstone and out of Haddam Neck, you still have tied back into Southington from the north coming back into Beseck --

MR. EMERICK: But --

MR. ZAKLUKIEWICZ: -- and Southington then is also tied directly then to Manchester Sub by the route Manchester/Scovill Rock, Scovill Rock to Southington, and then you come back down. So under the worst of circumstances where you've got some disaster or fire, a grass fire or whatever underneath the lines going from

east to west and you need to interrupt those for the safety of the fire departments, you are still being fed from the north. And what you're proposing, I now end up having that substation virtually dead because I'm relying on everything coming from the east as opposed to another feed coming in from the north --

MR. EMERICK: I don't --

MR. ZAKLUKIEWICZ: -- and Southington then would also be tied then directly to New York --

MR. EMERICK: How --

MR. ZAKLUKIEWICZ: -- New York, Long Mountain, Frost Bridge to Southington, along with that Manchester down to Scovill over to Southington.

MR. EMERICK: I don't quite understand by moving the switching station a mile north to the Black Pond area, how that doesn't still create a path to Southington? The path to Southington is there.

CHAIRMAN KATZ: Via Schwab Junction.

MR. ZAKLUKIEWICZ: We will -- we will -- I will look at that --

CHAIRMAN KATZ: Okay --

MR. ZAKLUKIEWICZ: -- and see what we can do to discuss that further. And I -- it was my understanding maybe that was going to be discussed --

CHAIRMAN KATZ: Yes --

MR. ZAKLUKIEWICZ: -- when we discussed Segments 1 and 2 --

CHAIRMAN KATZ: Yes --

MR. ZAKLUKIEWICZ: -- as opposed to Segments 3 and 4 --

CHAIRMAN KATZ: You are exactly right --

MR. ZAKLUKIEWICZ: -- but now that you've brought that to our attention that you want us to look at that, we will look at that further and make certain we are better prepared than I am right at this minute without some other type of diagram --

CHAIRMAN KATZ: Yes --

MR. ZAKLUKIEWICZ: -- or easy explanation --

CHAIRMAN KATZ: Yes --

MR. EMERICK: This was offered more as a -- as a future homework assignment --

CHAIRMAN KATZ: Yes --

MR. EMERICK: -- or something that we would be looking at. And I wasn't sure that actually I was going to offer it today, although I've had the question in my mind for quite awhile.

CHAIRMAN KATZ: Right. No, we -- Mr.

Emerick is exactly right, we did not expect an instantaneous analysis from you since it is Segments 1 and 2. It's food for thought. And if you could prefile something supplementary so that we can cross-examine on this point in early June when we get into Segments 1 and 2 in more detail, we'd appreciate that. But just looking at your map, it looks like there might be some electrical flexibility to maintain this strong hub you want to maintain in that area, but maybe do something a little different.

MR. EMERICK: Just a follow-up question. I know in your prefile you describe a strong source and a weak source. I assume there's a gradation between those two extremes. And -- are you either a strong source or a weak source, can you be an intermediary source, a less than strong source?

MR. ZAKLUKIEWICZ: Well, I think -- I think if you had -- if -- ideally if you had a substation with ten 345-kV lines coming into it, you'd say that's an extremely strong source. Once you get down into the condition where you only have one or two lines -- and in the case of Beseck we're talking behind it of three lines, that ends up for the Connecticut system being a strong source. Once you get down to two lines and I've

got one of the lines out for maintenance, when I lose that other line under any condition, I've now taken that and gone from a strong source to zero source. So there isn't really very much of a difference except for an additional 345-kV line from a relatively strong source to begin with where we try to differentiate between what we thought of as a weak source and a strong source, taking into account that at anytime I can have one of the sources out of service for maintenance. It leaves me where that's the way I need to operate the transmission system, and that is whatever the conditions are I've got to establish myself such that for the next contingency the lights do not go out and I can maintain my transfers and reestablish them within 30 minutes of the time the event occurs. And from an operational standpoint, those are my operating ground rules for which I am not allowed to deviate. And we all saw on August 14th what happens when people decide they're going to ignore the ground rules.

CHAIRMAN KATZ: Any other Council questions today of the panel? Mr. O'Neill.

MR. O'NEILL: Just one small homework assignment --

MR. ZAKLUKIEWICZ: A small one please --

(laughter) --

MR. O'NEILL: Yeah. As a point of clarification, your maps indicate that some of the lines are owned by this Penn Central Railroad and some are owned by Conn-Rail. If in fact that is the case, is your agreement via the AG's Office and Conn-DOT only regarding the Conn-Rail transportation lines or does it impact the Penn Central Railroad line as well, or was that Penn Central Railroad line indicated on the map in error?

MR. ASHTON: Is it now Amtrak?

MR. PRETE: Mr. O'Neill, what segment map are you looking on --

CHAIRMAN KATZ: The large route map.

MR. O'NEILL: The large route map.

MR. ASHTON: The back of Volume 1.

CHAIRMAN KATZ: We all have these maps hanging in our bedrooms. (Laughter).

MR. ZAKLUKIEWICZ: We -- we will look into that and make certain our description of the ownership of those railroad lines --

MR. O'NEILL: Yeah, by way of description --

MR. ZAKLUKIEWICZ: -- are proper or were we looking at some other property deed --

MR. O'NEILL: By way of description --

MR. ZAKLUKIEWICZ: -- that may or may not be proper --

COURT REPORTER: One at a time please --

MR. O'NEILL: By way of description, legal agreements --

MR. ZAKLUKIEWICZ: We will clarify that if they are one and the same or if they are separate.

MR. O'NEILL: Thank you.

CHAIRMAN KATZ: And Ms. Meskill, if you could also just check into that. You got that -- thank you -- from Conn-DOT's point of view.

Any other final questions for the panel on Segments 1 and 2? Mr. Fitzgerald and Miss Randell, do you have any issues before we adjourn?

MS. RANDELL: Just a question. I think you meant --

MR. ZAKLUKIEWICZ: 3 and 4 --

MS. RANDELL: -- Segments 3 and 4?

CHAIRMAN KATZ: Yeah, I'm sorry. Yes.

MS. RANDELL: With that clarification, I don't think so.

CHAIRMAN KATZ: Okay. We had a request from Counsel members, for tomorrow's session on

alternatives, if you can bring any type of easels and graphics in that -- if there's going to be a whole lot of pointing and things going on, if you can bring in any type of graphics so that we can all be discussing things, that would be appreciated. I mean I don't expect you to run out and whip them up, but I thought you might have them from your other -- if you have them available from your other municipal consultations, whatever. Miss Kohler.

MS. JULIE DONALDSON KOHLER: At the risk of keeping us any later, I just wanted to ask a couple of --

COURT REPORTER: Whoa, whoa -- wait a minute, wait a minute --

CHAIRMAN KATZ: Wait, we've got to get you a mic.

MS. KOHLER: At the risk of keeping us any later, I did just want to ask a couple of questions about the substation issue that were just raised.

CHAIRMAN KATZ: The --

MS. KOHLER: The East Devon Substation.

CHAIRMAN KATZ: Okay, we can do that.

MS. KOHLER: Thank you.

CHAIRMAN KATZ: Can we have you come down.

And I just want to mention to all parties and intervenors, we will have wrap-up day where we will be taking up miscellaneous things as things develop toward the end of the docket. Yes.

MS. KOHLER: I just have a couple of -- I just have a couple of questions about the East Devon Substation and the Mayor's letter that was dated and distributed to the service list on April 16th. Probably most aptly answered by Miss Bartosewicz. I believe your testimony so far was that the Blackite property, the owner was unwilling to allow you to complete any Phase 1 unless it was purchased by the companies. Is that accurate?

MS. BARTOSEWICZ: Unless we had an agreement to purchase in place, correct.

MS. KOHLER: Correct. Is it also accurate to say though that they did not want you to complete a Phase 1 unless you had actually -- they weren't allowed -- they weren't going to allow you to option the property, but would allow you to complete a Phase 1 on the property without compensation?

CHAIRMAN KATZ: Would you like to inform us about that tomorrow?

MS. BARTOSEWICZ: Yes.

MS. KOHLER: Maybe I could just wrap up by saying would the companies reconsider their position if they were made aware that the Blackite owners actually would allow you to complete a Phase 1 without compensation? And I can get that information for them by tomorrow.

CHAIRMAN KATZ: Yes, if you could facilitate that, we can make that a report first thing tomorrow morning.

MS. BARTOSEWICZ: Certainly.

CHAIRMAN KATZ: Anything else?

MS. KOHLER: Nothing else.

CHAIRMAN KATZ: Thank you. Any other business before we adjourn for today? We are in adjournment until 10:00 a.m. tomorrow morning. Thank you everybody.

(Whereupon, the hearing adjourned at 2:40 p.m.)

HEARING RE: CL&P and UI
APRIL 21, 2004

INDEX OF WITNESSES

HEARING RE: CL&P and UI
APRIL 21, 2004

INDEX OF APPLICANTS' EXHIBITS

INDEX OF SOUTH REGIONAL WATER AUGTHORITY EXHIBITS

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