
# Transcript of the Hearing of

**Date:** February 24, 2015
**Volume:** 5

**Case:** SITING COUNCIL - DOCKET NO. 192B

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Phone:866-534-3383
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STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Docket No. 192B

CPV Towantic, LLC, Motion to Reopen and Modify the June 23, 1999, Certificate of Environmental Compatibility and Public Need Based on Changed Conditions Pursuant to Connecticut General Statutes 4-181a(b) for the Construction, Maintenance and Operation of a 785 MW Dual-Fuel Combined Cycle Electric Generating Facility Located North of the Prokop Road and Towantic Hill Road Intersection in the Town of Oxford, Connecticut

Continued Council Meeting held at the Connecticut Siting Council, Ten Franklin Square, New Britain, Connecticut, on February 24, 2015, at 11:00 a.m.

H e l d  B e f o r e:

ROBERT STEIN, Chairman

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Appearances:
Council Members:
SENATOR JAMES J. MURPHY, JR.,
Vice Chairman
LARRY LEVESQUE, PURA
Designee
DANIEL P. LYNCH, JR.

Council Staff:
MELANIE BACHMAN, ESQ.
Executive Director and
Staff Attorney

MICHAEL PERRONE,
Siting Analyst

FRED CUNLIFFE,
Supervising Siting Analyst

For CPV Towantic, LLC:
BROWN RUDNICK, LLP
185 Asylum Street
Hartford, Connecticut 06103
BY: PHILIP M. SMALL, ESQ.
FRANCA L. DeROSA, ESQ.

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Appearances (Cont'd.):
For the Town of Middlebury:
LAW FIRM OF STEPHEN L. SAVARESE
103 South Main Street
Middlebury, Connecticut 06470
By: STEPHEN SAVARESE, ESQ.

Also present for the Town of
Middlebury:
RAYMOND PIETRORAZIO

For the Connecticut Light and Power
Company:
EVERSOURCE ENERGY
107 Selden Street
Berlin, Connecticut 06037
BY: JEFFREY D. COCHRAN, ESQ.

Also present for the Oxford Flying
Club:
BURT STEVENS

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Appearances (Cont'd):
Also present for the Pomperaug River
Watershed Coalition:
LEN DeJONG

Also present for Naugatuck River
Revival Group, Inc:
KEVIN R. ZAK

Also present for Naugatuck Valley
Audubon Society:
JEFF RUHLOFF

Also present:
WAYNE McCORMACK

Also present for Westover Hills
Subdivision Homeowners:
CHESTER CORNACCHIA, ESQ.

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THE VICE CHAIRMAN: Good morning, ladies and gentlemen. This meeting is called to order this Tuesday, February the 24th, 2015, at approximately at 11:01 a.m. My name is Jerry Murphy, I'm the Vice Chairman of the Council and opening the meeting this morning. Our Chairman will be along very shortly, but we'll start on time.

This hearing is held pursuant to the provisions of Title 16 of the Connecticut General Statutes and of the Uniform Administrative Procedures Act upon a motion to reopen the final decision on the Certificate of Environmental Compatibility and Public Need held by CPV Towantic, LLC for the construction, maintenance and operation of a 785 megawatt dual-fuel combined cycle electric generating facility located north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut.

On November 13, 2014, the Council, pursuant to a request filed by CPV Towantic, LLC, and the provisions of Connecticut General Statutes 4-181a(b),

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reopened the final decision rendered in this docket.

On June 23, 1999, the Council considered and approved granting a certificate to CPV Towantic, LLC's predecessor for the construction, maintenance and operation of a 512 megawatt natural gas-fired combined cycle facility located north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut.

On March 1, 2001, the Council considered and approved final site plans for this facility. The certificate for this facility is scheduled to expire June the 1st, 2016.

A verbatim transcript will be made of this hearing and deposited with the town clerk's office in Oxford and Middlebury for the convenience of the public.

We'll proceed in accordance with the prepared agenda, copies of which are available, if one has not already made themselves available to them.

The Council added one item to

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its administrative notice list which is listed as Roman numeral I, D, Item 46, Docket Number 438, Cello Partnership, d/b/a Verizon Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 53 Gallup Road, Voluntown, Connecticut. Record and final decision.

Does any party or any intervenor have an objection to this being listed in the administrative notice list?

MR. SMALL: No objection, Mr. Chairman.

THE VICE CHAIRMAN: Attorney Small indicates no.

Anyone else?

(No response.)

THE VICE CHAIRMAN: If not, so be it.

The certificate holder filed an objection to the request of Mr. Burton Stevens of the Oxford Flying Club to cross-examine the certificate holder and present his direct case during this public

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hearing due to his unavailability from February 25, 2015, through March the 20th, 2015.

Attorney Bachman may wish to comment.

MS. BACHMAN: Thank you, Mr. Chairman.

THE VICE CHAIRMAN: Are you going to continue with that objection?

MR. SMALL: Mr. Stevens did file something late yesterday. We've had a preliminary look at it. I think we may cross-examine him on this today, if that's his direct case, as long as there's no direct oral testimony, but we reserve the right when we have a chance to look at it in more detail, to cross-examine him when he's back the latter two days of hearing, which I believe are at the end of March. We may not need to. I just don't want to give up that right.

THE VICE CHAIRMAN: The plan today is to have -- Mr. Stevens of the Oxford Flying Club is here?

MR. STEVENS: Yes, sir, I am.

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THE VICE CHAIRMAN: The plan today is to have him cross-examine the panel. And because he's here and he has filed this one page, as I understand it --

MR. SMALL: Yes.

THE VICE CHAIRMAN: -- that the cross-examination of his case will be at that time, and then we will move to staff cross-examination of your panel.

MR. SMALL: We have no objection to that procedure, Mr. Chairman.

THE VICE CHAIRMAN: Then that's the way we're going to proceed today.

I think you have Eric Davison.

MR. SMALL: Yes, we have one additional witness, Mr. Eric Davison. So, if we could have him sworn.

THE VICE CHAIRMAN: Before we get to you, I take it that -- I'm told I didn't rule on your objection. I assumed you withdraw it for now, at least.

MR. SMALL: Yes. Based on your --

THE VICE CHAIRMAN: On our conversation.

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MR. SMALL: Right.
THE VICE CHAIRMAN: You have the right at a future time, of course.
MR. SMALL: Okay. We withdraw it on that basis.
THE VICE CHAIRMAN: Fine.
MR. SMALL: Mr. Davison is available to be sworn in.
THE VICE CHAIRMAN: Sorry to interrupt.
E R I C R I C H A R D D A V I S O N,
called as a witness, being first duly sworn by Ms. Bachman, was examined and testified on his oath as follows:
MR. SMALL: Mr. Davison, would you please state your full name and your occupation?
THE WITNESS: Eric Richard Davison. I'm a biologist.
MR. SMALL: And the company filed a document which is entitled -- as your resume. Was that document prepared by you or under your direction?
THE WITNESS (Davison): It was.

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MR. SMALL: And is it true and correct to the best of your knowledge and belief?
THE WITNESS (Davison): It is.
MR. SMALL: Thank you.
Mr. Chairman, we can go and adopt all of the interrogatory -- all the other documents along with this and then ask that it all become full exhibits, if we may?
THE VICE CHAIRMAN: Go ahead.
F R E D E R I C K S E L L A R S,
L Y N N G R E S O C K,
A N D R E W B A Z I N E T,
J O N D O N O V A N,
D E A N G U S T A F S O N,
D A N I E L L E P O W E R S,
T A N Y A B O D E L L,
having been previously duly sworn, were examined and testified further on their oaths as follows:
MR. SMALL: I think each witness on this witness panel is listed as a responsible witness for one or more of the documents listed as Exhibits 14 through 22 in the Council's hearing program today. Those

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documents consist of responses to Council interrogatories, Late-Filed exhibits, responses to Westover interrogatories, and responses and objections to Jay Halpern interrogatories.
Were each of those responses prepared by you or under your direction with respect to the ones that you're listed as a responsible witness?
THE WITNESS (Sellars): Yes.
THE WITNESS (Gresock): Yes.
THE WITNESS (Bazinet): Yes.
THE WITNESS (Donovan): Yes.
THE WITNESS (Gustafson): Yes.
THE WITNESS (Powers): Yes.
THE WITNESS (Bodell): Yes.
MR. SMALL: Do any of you have any changes or corrections to any of those responses?
THE WITNESS (Sellars): No.
THE WITNESS (Gresock): No.
THE WITNESS (Bazinet): No.
THE WITNESS (Donovan): No.
THE WITNESS (Gustafson): No.
THE WITNESS (Powers): No.

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THE WITNESS (Bodell): No.
MR. SMALL: And are they true and correct, those responses true and correct to the best of your knowledge and belief?
THE WITNESS (Sellars): Yes.
THE WITNESS (Gresock): Yes.
THE WITNESS (Bazinet): Yes.
THE WITNESS (Bonovan): Yes.
THE WITNESS (Gustafson): Yes.
THE WITNESS (Powers): Yes.
THE WITNESS (Bodell): Yes.
MR. SMALL: With that, I would request that the document designated as CPV exhibits for identification 14 through 22 be admitted as full exhibits for the record?
THE VICE CHAIRMAN: Is there any objection to the admission of these documents?
Hearing none, they're so admitted, Attorney Small.
(Exhibits II-B-14 through Exhibits II-B-22: Received in evidence - described in index.)
MR. SMALL: With that, our witnesses are available for

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cross-examination, Mr. Chairman.
THE VICE CHAIRMAN: Okay.
Mr. Stevens, I guess you're on. What we're going to do is you weren't here the other day when the opportunity for the Oxford Flying Club to cross-examine came up, but you're here today, and you're going to do it now.
MR. STEVENS: Yes, sir.
THE VICE CHAIRMAN: And whenever the cross-examination of the Oxford Flying Club is concluded, then you can put on your case, which I believe is this letter that's been prepared by you?
MR. STEVENS: Sir, I was told by Ms. Bachman that I would not be able to present direct testimony today, so I'm not prepared to present direct testimony today. That letter was a copy to Mr. Stein, as chair of this, in response to the FAA 7460 circulation.
THE VICE CHAIRMAN: Okay. Let me just -- you can sit down.
MR. STEVENS: Thank you.
THE VICE CHAIRMAN: Let me

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explain that in these proceedings it's not like in court. Direct testimony is not presented. It's presented in the form of written testimony in advance, which the parties have an opportunity to review. And then you adopt it just as Attorney Small had his witnesses adopt their written testimony, which recently was presented today, and then they were cross-examined on them. It was my assumption that your testimony was going to be basically this letter that was submitted.
MR. STEVENS: I understand that I will not have an opportunity, other than today, to present direct testimony. If that is the case, then you may -- I would like to offer that letter as my direct testimony.
THE VICE CHAIRMAN: Fine. Okay. That's what we'll do after the cross-examination is through.
MR. STEVENS: Sure.
THE VICE CHAIRMAN: And then the parties, including the Applicant, will have an opportunity to cross-examine you on the contents of this letter.

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MR. STEVENS: Sure.
THE VICE CHAIRMAN: I guess we understand now where we're going.
So proceed to cross-examine.
CROSS-EXAMINATION
MR. STEVENS: Thank you, sir.
I would like to thank the Council and the parties for allowing me to proceed out of order and to accommodate my needs, so thank you very much to all parties involved.
Mr. Small, I'll address these to you and you can --
MR. SMALL: No. Mr. Bazinet is the lead witness so --
THE VICE CHAIRMAN: Just address the questions, and whoever they feel is the most fit or responsible to respond will do so.
MR. STEVENS: Sure.
Are your plume calculations based on the prior duration of approximately 512 megawatts or the latest 798 or 805 megawatt plant?
THE WITNESS (Gresock): The

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information we've provided about temperature and velocity is based upon the current project configuration.
MR. STEVENS: And what are those discharge temperatures that you're referring to?
THE WITNESS (Gresock): We have provided information in a number of different responses. In the response to CSC Number 10, we have information that compares the stack exit velocity and temperature, comparing the current project to the inputs that were used in the 2012 MITRE model. That response identifies the exit temperature as 183.29 degrees Fahrenheit and identifies the exit velocity as 56.2 feet per second.
There was also a response that was provided to CSC Question 11 and Question 12 that provided additional information with regard to how that exit temperature attenuates with height above the stack and the velocity as well. I don't know if you're familiar with those. Do you need me to read out those numbers?

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MR. STEVENS: No. That's fine. You've answered my question.
MR. SMALL: Just so there's no confusion about numbering, that was in our Set II responses.
THE WITNESS (Gresock): And then, in Set III, there's a response to CSC-10 that provides further information related to the same question with regard to ULSD fire.
MR. STEVENS: Thank you.
Are these discharge plume calculations based on firing natural gas or ultra low sulphur distillate?
THE WITNESS (Gresock): The first were based upon natural gas, and the response in the CSC-3 question, response to CSC-10, is ULSD, the distillate.
MR. STEVENS: Are the exit velocities and temperatures the same for gas and low sulphur distillate?
THE WITNESS (Gresock): They do differ.
MR. STEVENS: And you indicated that the exit velocity was 62

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point -- correction, 56.2 feet per second with the current project, and the exhaust temperature was 183.29. Is that with natural gas or with distillate?
THE WITNESS (Gresock): That's natural gas, which is what the MITRE 2012 model looked at.
MR. STEVENS: So what you're doing is you're comparing the current with the MITRE 2012?
THE WITNESS (Gresock): Correct.
MR. STEVENS: And what would be the temperature and exit velocity with distillate?
THE WITNESS (Gresock): So, under ULSD firing, the stack exit exhaust temperature is 294.5 degrees Fahrenheit, and the stack exit velocity is 68.8 feet per second.
MR. STEVENS: Okay. So thank you.
So, 110 degrees hotter and 12 feet per second faster?
THE WITNESS (Gresock): Hotter

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and faster.
MR. STEVENS: Thank you.
According to some response to the CSC's request on water management, I believe you indicate that you're going to have a roughly the same amount of water as fuel when you're burning fuel oil, is that correct, you require about the same amount of water as fuel oil or distillate?
THE WITNESS (Bazinet): In gallons per hour that's roughly equivalent.
MR. STEVENS: And this water will exit the stacks as water vapor?
THE WITNESS (Bazinet): No. The water is used in a number of different ways, so, no, that's --
MR. STEVENS: So what will happen with this water?
THE WITNESS (Donovan): So, the water is consumed in a number of different places in the cycle. Some of it is used for NOx control following ULSD firing, but other uses include make-up to the cycle to replace the blow down.
MR. STEVENS: So what will

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happen with that water, and what percentage is used for NOx control?
THE WITNESS (Bazinet): So the answer is going to differ depending on ambient temperature. The water balances that -- I mean, I could --
MR. STEVENS: Just give me a range at, say, 25 degrees, a day like today.
THE WITNESS (Bazinet): So, how about 20 degrees?
MR. STEVENS: Sure.
THE WITNESS (Bazinet): All right. So at 20 degrees about 90 percent of the water.
MR. STEVENS: About 90 percent of the water will be used for NOx control?
THE WITNESS (Bazinet): That's correct.
MR. STEVENS: And what will happen to that water after it's used for NOx control?
THE WITNESS (Bazinet): It will evaporate.
MR. STEVENS: And where will it go? It will evaporate into --

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THE WITNESS (Bazinet): The atmosphere.
MR. STEVENS: Into the atmosphere through the stacks?
THE WITNESS (Donovan): That's correct.
MR. STEVENS: And the other 10 percent, what will happen to that?
THE WITNESS (Donovan): That goes into the cycle into the boiler for make-up.
MR. STEVENS: Back into the boiler.
THE WITNESS (Donovan): Yes.
MR. STEVENS: So approximately 90 percent of the water that is being used.
And how much water per hour will be being used when you're using distillate?
THE WITNESS (Donovan): About 45,000 gallons per hour.
MR. STEVENS: About 45,000 gallons an hour. So --
THE WITNESS (Donovan): That would be the 100 percent.

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MR. STEVENS: Right. So a little over 40,000 gallons an hour will be being discharged through your stacks and --
THE WITNESS (Donovan): Correct.
MR. STEVENS: -- 4 or 5,000 gallons will be being recycled into the boiler?
THE WITNESS (Donovan): That's correct.
MR. STEVENS: Great. Thank you.
In CSC-3, 11, you indicate that at a certain temperature these plumes will be visible. At what temperature would that be? That would be on CSC-3, 11.
THE WITNESS (Sellars): Yes. It really varies by the relative humidity of the area at any point in time, but generally the visible plumes are pretty rare below about, say, 40 degrees Fahrenheit or so.
MR. STEVENS: They're rare below 40 degrees, so they will be visible above --
THE WITNESS (Sellars): I mean

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they're rare to not occur unless the temperature is below 40 degrees, so they're more prevalent when it is cold or it is very humid.
MR. STEVENS: So, if the temperature like on a day like today if you're firing distillate, you'll have a visible plume?
THE WITNESS (Sellars): Under either condition on a day as cold as today, like your car or your house or every stack you pass between your house and here, there will be a visible plume.
(In the presence of Chairman Stein.)
MR. STEVENS: Okay. Thank you.
On a still day -- well, first of all, we're assuming that you have two turbines here, that both of these turbines are firing, and the numbers that you've given me are for both turbines firing?
THE WITNESS (Donovan): Those are total numbers.
MR. STEVENS: So thank you.

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So, when the temperature is under 40, we'll have a visible plume. How big will that plume be?
THE WITNESS (Sellars): Again, it's highly variable on a number of factors, the temperature --
MR. STEVENS: On a still day?
THE WITNESS (Sellars): The temperature, the humidity on that day, you know, what the temperature is that day.
MR. STEVENS: On a day like today, 20 degrees, no wind?
THE WITNESS (Sellars): Based on information from the 2012 MITRE Report --
MR. STEVENS: The 2012 MITRE Report is on the older, smaller unit. Right?
THE WITNESS (Sellars): That is correct, but the exhaust temperature and actually the exhaust velocity is fairly similar.
MR. STEVENS: I'm sorry. You just indicated on distillate it's 294 degrees versus 201 degree --
THE WITNESS (Sellars): Okay. I don't have that plume -- how tall a visible

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plume would be on oil.
MR. STEVENS: How tall is it on gas for the smaller unit that you're quoting there?
THE WITNESS (Sellars): It would probably be a couple hundred feet above the stack would probably be the maximum length. On the absolute most coldest day and stillest day, it would be several hundred feet.
MR. STEVENS: Several hundred feet. And that's for the older, smaller unit while on gas?
THE WITNESS (Sellars): Even under oil it would be several hundred feet.
MR. STEVENS: Okay. So this plume, on a day like today when you're firing distillate, will be several hundred feet?
THE WITNESS (Sellars): Correct.
MR. STEVENS: How about the volume, the size? I mean, I know how tall. How wide?
THE WITNESS (Sellars): Again, I haven't modeled the actual visible plume

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dimensions.
MR. STEVENS: These are very important questions for pilots.
THE WITNESS (Sellars): Understood. And I think it's pretty typical if you're a pilot you've seen plumes, and you've seen plumes on cold days. It would be very, very similar to what you see from other facilities.
MR. STEVENS: I would like an answer to that question, the size of the plumes on a 20-degree day, on a still 20-degree day.
How much more fuel will this plant burn per hour at 100 percent input rating over the previous 512 megawatt unit?
THE WITNESS (Bazinet): I'm sorry. Can you repeat the question?
MR. STEVENS: Yes, sure. How much more fuel will this plant burn than the older 512 megawatt unit will burn?
THE WITNESS (Bazinet): At what condition?
MR. STEVENS: At 100 percent. I'm sorry.

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THE WITNESS (Donovan): What temperature? It's variable on ambient temperature reading and percent load.
MR. STEVENS: At 20 degrees and at 70 degrees?
THE WITNESS (Bazinet): So you want 20 degree relative fuel burn?
MR. STEVENS: No, 100 -- a 20 degree temperature -- I'm just -- basically what I'm looking for is how much more fuel this will burn and if it differs with temperature and relative humidity, and so forth and so on. You can choose your best answer and choose your worst answer. Choose the best conditions and choose the worst conditions. I'm looking for a range.
THE WITNESS (Bazinet): Sure. So I'm going to just restate your question just to make sure that we're on the same page.
MR. STEVENS: Sure.
THE WITNESS (Bazinet): So, at 20 degrees Fahrenheit, we're going to give you the fuel burn for the old configuration as well as the new configuration, assuming

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100 percent gas turbine load. And I think that's it. Right?
MR. STEVENS: Sure.
(Pause.)
THE WITNESS (Donovan): So, the original, the 512 megawatt configuration, had about 72 percent fuel burn the current configuration has.
MR. STEVENS: So, in round numbers, about 30 percent more for the newer unit, 72 percent maybe --
THE WITNESS (Bazinet): One divided by .72.
MR. STEVENS: That's at 20 degrees. Would it be greater, would the difference be greater or less at 70 degrees?
THE WITNESS (Donovan): Just bear with me a second.
MR. STEVENS: Mr. Bazinet, my calculation says about 42 percent, one divided by 70 would be 42 percent. Someone with better math can challenge me on that.
THE WITNESS (Donovan): Actually I think 39 percent.
MR. STEVENS: Okay.

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THE WITNESS (Sellars): Thirty-eight point nine.
MR. STEVENS: So we're going to say about 40 percent more?
THE WITNESS (Bazinet): You might say that. We'll say about 38 percent --
MR. STEVENS: Thirty-eight point nine percent, fine.
Is the difference greater or less at 70 degrees?
THE WITNESS (Bazinet): Yeah, so it's about the same. It's 41 percent.
MR. STEVENS: So, in round numbers, about 40 percent. Thank you.
Is this 40 percent increase in fuel going to create a larger volume of combustion gases and discharge out of your smoke pipe?
THE WITNESS (Sellars): Yes. With a greater amount of fuel burn, there will be a greater amount of exhaust gas, correct, proportionately.
MR. STEVENS: So the plume will volumetrically be larger than the older

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unit?
THE WITNESS (Sellars): The volume of gas that's emitted will be proportionately larger.
MR. STEVENS: So it will be 40 percent larger?
THE WITNESS (Sellars): Plume dimensions vary on a number of different things but --
MR. STEVENS: Given the same day, the same relative humidity, the same temperature, what would be the difference in the volume of the plume?
THE WITNESS (Sellars): It would be roughly proportionate.
MR. STEVENS: About 40 percent larger?
THE WITNESS (Sellars): Yes.
MR. STEVENS: Thank you.
How would a pilot know the area of these plumes if it's above roughly 40 degrees and the relative humidity is low enough such that these plumes are invisible?
THE WITNESS (Sellars): They would generally emanate from the stack and

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basically be above the stack, plus any downwind direction of whatever the prevailing wind was.
MR. STEVENS: So the stacks are 22 feet in diameter?
THE WITNESS (Sellars): Correct.
MR. STEVENS: So the plumes are going to be 22 feet in diameter blowing downwind?
THE WITNESS (Sellars): Well, then they will expand and dissipate.
MR. STEVENS: But my question is how much will they expand on a still day?
THE WITNESS (Sellars): On a still day, they will probably expand three to five times the width of the stack by the time you get a few hundred feet above the stack, and then they dissipate. So there's technically plume, but it's at much lower velocity and less discernible than the center line of the plume, which would essentially go right above the stack and then in any direction the wind is blowing.
MR. STEVENS: So you're

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saying, on a still day, these plumes are going to be 22 feet wide times maybe 3 or 4, so less than 100 feet wide going up to a couple hundred feet and then dissipating?
THE WITNESS (Sellars): No. They dissipate right from the time that they're emitted from the stack, but by the time that the plume gets a couple hundred feet above the stack, it's probably a couple, 3 or 400 feet wide.
MR. STEVENS: Three or four, that's more than two or three times the diameter of the stack.
THE WITNESS (Sellars): Each stack, there's two stacks next to each other, and if you look at the total area above there, it dissipates in three dimensions around the stack as it is emitted. The plume has a --
MR. STEVENS: Excuse me, sir. When you say "dissipate" -- I'm sorry. I want to make sure I understand this. When you say "dissipate," do you mean that the visible plume will not be visible anymore?
THE WITNESS (Sellars): You

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were talking about a nonvisible plume, I believe.

So what I'm saying is as you move from the center line of the plume as it goes up in the atmosphere, as you move further and further away from it, the velocity and turbulence associated with it that would make it discernible as a plume as opposed to just ambient air, it's less and less.

MR. STEVENS: Sure. I do apologize if I confused you about the difference between visible and nonvisible plumes. Both are of concern to pilots for different reasons.

So, if I could ask you this question about a visible plume, so we're discussing when the relative humidity is such or the temperature is such that we're going to have a visible plume, so under 40 degrees, so a day like today. How wide -- you know, when you say it dissipates, are you suggesting that when it would normally be visible, are you suggesting that it will no longer be visible?

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THE WITNESS (Sellars): When you get far enough away from the center line of the plume and the concentration of water vapor gets to below the condensation point, then the water vapor would no longer be condensed and no longer visible.

MR. STEVENS: And I'm really asking for, on a still day like today, how big is that plume going to be, so if you said it was going to dissipate when it gets to a couple hundred feet above the stack.

THE WITNESS (Sellars): As I've testified earlier, the vertical extent of the plume being visible would be several hundred feet. And as you've witnessed other plumes -- this is not the only plume, I'm sure, that you've seen flying -- they are much longer than they are wide.

MR. STEVENS: Okay. So --

MR. SMALL: Excuse me one second.

THE WITNESS (Bazinet): So, just with respect to exhaust flow, I think that answer we gave earlier was that it's roughly proportional. It is roughly

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proportional, but we had the ability to do forensic calculations while you were talking, and it's approximately 27 percent higher for the new configuration.

MR. STEVENS: So, at 20 degrees it's 25, and at 70 degrees it would be 30?

THE WITNESS (Donovan): That 27 percent is at an annual average of 50 degree case.

MR. STEVENS: That's at 50 degrees?

THE WITNESS (Donovan): That's correct.

MR. STEVENS: So the fuel burn is approximately 27 percent more at 50 degrees?

THE WITNESS (Bazinet): The fuel burn is 40 percent, but the exhaust flow is 27 percent. So it's proportional but less.

MR. STEVENS: So you're running more efficiently?

THE WITNESS (Bazinet): That's correct.

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MR. STEVENS: But it's, nonetheless, 25 percent greater discharge than --

THE WITNESS (Donovan): On the flow?

MR. STEVENS: On the flow.

THE WITNESS (Donovan): That's roughly 25, 27 percent.

MR. STEVENS: Okay. I'm glad you'll agree with me at 25 but not at 40.

THE WITNESS (Donovan): Well, you recognize that it's variable with ambient temperatures, loads. There's a lot of variables that go into the calculation.

MR. STEVENS: I do recognize that. Thank you.

Are these plumes generally going to be greater at night or less at night than during the day and why?

THE WITNESS (Sellars): The plumes or -- the plumes would be approximately the same at night or day. They vary with temperature, of course, but being diurnal or nocturnal has no particular effect.

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MR. STEVENS: So it's normally cooler during the evening than during the day, so it would be greater?
THE WITNESS (Sellars): In terms of visibility, the plume itself would be the same. So, if it's cooler, there's more likely to be condensation.
MR. STEVENS: When the plumes are invisible -- I'd like to ask this question again -- how would a pilot know the volumetric size of the plume when they are invisible?
THE WITNESS (Sellars): So, with regard to discerning a plume, the pilot would feel any sort of wind or turbulence associated with the plume. And so the first clue is the stack, you see the stack, and under day or night conditions the stack would be lighted. And, for example, in the response to CSC-11, we calculated what that different velocity would be and how that velocity would reduce with height above the stack.
So, with a stack exit velocity of 56.2 feet per second, that's about 38

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miles an hour, by the time the plume was 250 feet above the stack, it would have reduced to about 13 miles per hour, and by the time it was about 500 feet above the stack, it would reduce to about 9 and a half miles per hour.
MR. STEVENS: And I see that you're using the Australian Government Civil Aviation Safety Authority for those calculations?
THE WITNESS (Gresock): We are using that method, yes.
MR. STEVENS: Have you done that with distillate as well?
THE WITNESS (Sellars): Yes. In the third set of responses, CSC-3, the response to question CSC-10 provides the same information for distillate.
MR. STEVENS: Okay. And would you provide those numbers to me?
THE WITNESS (Sellars): Sure. The stack exit velocity of about 47 miles per hour would reduce to about 16 miles per hour within 250 feet of the stack, and 11.9 miles per hour within 500 feet of the stack.

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MR. STEVENS: And at what altitude will aircraft normally, in a VFR condition, be flying over this stack?
THE WITNESS (Gresock): The lowest height at which aircraft should be flying over the stack would be 300 feet above the stack, and that's the circling minimum distance in altitude.
MR. STEVENS: Is any principal, officer or employee of CPV Towantic related to any principal, officer or employee of Connecticut Airport Authority, owner of Oxford Airport?
MR. SMALL: Objection on relevance grounds.
THE CHAIRMAN: We need you to explain the relevance of the question as far as the Siting Council is involved.
MR. STEVENS: The CAA is going to be involved with this proceeding, and I believe that there's a relationship that should be identified between an employee of CPV and a chairperson of CAA. And my follow-up question, just so you know where I'm going, is I just want to make sure to

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know what measures are being taken to ensure that an unbiased determination of these proceedings occur.
THE CHAIRMAN: I'm going to ask our executive director to comment on the objection.
MR. STEVENS: Sure.
MS. BACHMAN: Thank you, Mr. Chairman.
Mr. Stevens, the FAA review of the plant and its impacts on the airport is an ancillary issue to this proceeding. For our purposes certainly that question really has no relevance, but in the FAA review, it may have relevance. But our purpose here is to balance the public benefit of this facility against the potential adverse environmental impacts.
MR. STEVENS: Thank you.
What is the standard FAA VFR approach for the three different aircrafts that are referenced in the MITRE Report that you referenced in question CSC-2, 10?
THE WITNESS (Gresock): I'm sorry. What is the question?

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MR. STEVENS: What is the standard recommended VFR approach for the three different aircraft types that you reference when you referenced the MITRE Report that you reference in your Question 10, CSC-10. I believe it's CSC-2, 10.

THE WITNESS (Gresock): Are you talking about circling procedures, or are you talking about approach to land?

MR. STEVENS: VFR conditions.

THE WITNESS (Gresock): We've provided information in response to Interrogatory CSC-2, in response to Question CSC-14, and also as part of a Late-Filed Exhibit 2H that provide an illustration of the various patterns. But as can be shown on one of those, the lowest recommended flight altitude when preparing to land, according to VFR traffic pattern airspace is at 1,700 feet above mean sea level. There are aircraft surfaces that do exist for various configurations like what I was just referring to, the circling minimum descent altitude, within the expanded Category A circling area

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is the lowest at 1,280 feet above mean sea level above the stack top, and that's what's approximately 300 feet above the top of the stack.

MR. STEVENS: You still didn't answer my question of what's the recommended FAA VFR approach for the three different types of aircraft that are referenced in the MITRE Report.

THE WITNESS (Gresock): I can't answer that question. There are a lot of traffic patterns. We have an aviation consultant that has considered the range of patterns that exist at this airport and --

MR. STEVENS: Is he here today?

THE WITNESS (Gresock): -- identified for us which ones would be affected and which ones --

MR. STEVENS: Is that expert here today?

MR. SMALL: Please let the witness answer the question; then you can follow up.

MR. STEVENS: Sure. I'm

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sorry.

THE WITNESS (Gresock): No, he's not. But all of the information that he's provided and gathered can be seen on those two figures.

MR. STEVENS: What is the distance of this proposed power plant to the runway 36/18?

THE WITNESS (Gresock): It's 0.59 nautical miles from the edge of the pavement for the runway.

THE CHAIRMAN: Can you translate that into feet?

THE WITNESS (Gresock): I can, 3,563 feet.

THE CHAIRMAN: Thank you.

MR. STEVENS: Are you folks familiar with the Airplane Flying Handbook?

THE WITNESS (Gresock): We're familiar with it, yes.

MR. STEVENS: On page 7.3 -- and I can hand it to you, if you wish -- it states that the downwind leg of a course flown parallel to the landing runway, but in the direction opposite to the intended

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landing direction, this leg should be approximately one-half to one mile out from the landing runway. Do you agree with that statement? I'd be happy to show you.

THE WITNESS (Gresock): I don't disagree with that statement.

MR. STEVENS: So you agree with it?

MR. SMALL: I think the question has been answered.

THE WITNESS (Bazinet): We haven't had a chance to review that. The materials that you're discussing, I'm sure, you just read them out loud, but if you'd like us to answer the question, then perhaps you could submit it in advance, and we could review the materials and provide an answer to your question.

MR. STEVENS: All right. You state that this proposed power plant is approximately .59 or six-tenths of a nautical mile east of the airport. In your understanding, would this be precisely under the traffic pattern of a small light training-type of plane?

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THE WITNESS (Gresock): It's our understanding that Category A aircraft, which those aircraft would be, do have the shortest turning radius. They do have a maneuver area that could result in them flying in the vicinity of the project, yes.
MR. STEVENS: Over the project?
THE WITNESS (Gresock): They could. And that's what we have reflected in the heights that we've shown in those other graphics.
MR. STEVENS: Are the types of aircraft that were used in the MITRE Report representative of the types of aircraft that are being flown into and out of Oxford in 2015?
THE WITNESS (Gresock): We don't have information about specifically the aircraft being flown in 2015, but we do know that, for example, in 2012, there were 128 single-engine, 8 multi-engine, 31 jet aircraft based at the airport, plus one helicopter. Certainly MITRE considers a range of aircraft types in a number of

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different categories, including light aircraft.
MR. STEVENS: Did MITRE include light aircraft, LSA aircraft, in their report?
THE WITNESS (Gresock): In the 2012 report the Navion GA, the Lockheed Jetstar and the Convair CV-ADM jet are the three types.
MR. STEVENS: Are any of those types representative of light sport aircraft, LSA aircraft?
THE WITNESS (Gresock): The report describes the Navion GA as in that category and representative of that category.
MR. STEVENS: Of light sport aircraft, LSA aircraft, as defined by the FAA?
(Pause.)
MR. SMALL: Mr. Chairman, rather than take time on whether or not this particular aircraft is a light sports aircraft, let us -- either we do a Read-In after the lunch break, if we can find it easily, or we can provide a Late-Filed. It's

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just not worth taking all this time, as Attorney Bachman said, on a more or less peripheral issue to the Siting Council.
THE CHAIRMAN: Well, but I'd prefer the former that you find out the information and let us know after the break.
MR. SMALL: Yes. We'll try to do it as a Read-In.
THE CHAIRMAN: Okay. I'm getting a little overwhelmed with these Late-Filings.
MR. SMALL: So are we, Mr. Chairman.
MR. STEVENS: Do you know the definition of a light sport aircraft?
THE WITNESS (Gresock): I don't know it to define it to you right now. I know that we can look that up.
MR. STEVENS: Would you think that it might be an aircraft that has a gross weight of less than 1,400 pounds?
THE WITNESS (Gresock): I can't answer that.
MR. STEVENS: Do you know the weight of the Navion aircraft that -- before

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I ask about the Navion aircraft, generally, if an aircraft flies through this plume, is it more dangerous to be in a large heavy aircraft or a small light aircraft; which is more dangerous?
THE WITNESS (Gresock): Clearly the lighter aircraft have more vulnerabilities to turbulence, in general, in the atmosphere.
MR. STEVENS: And what is the weight of the Navion aircraft that MITRE used? It's in the MITRE Report.
MR. SMALL: We'll add that to our Read-In.
MR. STEVENS: I think that their record will show that light aircraft is half the weight of the smallest aircraft that MITRE used in their report and --
MR. SMALL: You're not testifying now, Mr. Stevens, you're cross-examining, so please confine yourself --
MR. STEVENS: If you can answer these questions, I wouldn't have to be testifying.

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MR. SMALL: These questions go at the periphery of the Siting Council's jurisdiction.
MR. STEVENS: Excuse me, sir. They go right to the heart of the matter. They go right to the heart of the matter because as a flight instructor, I'm afraid for pilots. They go right to the heart of the matter.
MR. SMALL: Let's not have testimony.
THE CHAIRMAN: I mean, the Applicant has said they're going to research this and get us the information, and we'll have to leave it at that. They don't have anything else to add at this point.
MR. STEVENS: What is the FAA requirement for a VFR pilot to remain apart from clouds?
THE WITNESS (Gresock): I don't know.
MR. STEVENS: How do you propose -- when you don't know that answer, how do you propose a pilot maintain legal separation of 2,000 feet from a cloud

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produced by your plant and still remain in the traffic pattern at Oxford for a left downwind for 18? These are not peripheral questions.
MR. SMALL: Mr. Chairman, these are really questions for the FAA to deal with, not the Council. We suggest that -- we've all given Mr. Stevens a lot of latitude, as we do in these proceedings all the time, but at some point we're getting into intricate FAA-related details that are extremely complex and, frankly, beyond the jurisdiction or competence of any of us.
MR. STEVENS: Mr. Chairman --
THE CHAIRMAN: Can the Chairman say something?
MR. STEVENS: Sure.
THE CHAIRMAN: Thank you. While I tend to agree with you, Attorney Small, I mean, there is something I think that the Council has to be concerned about. If the plume is right, potentially right in the middle of the down -- what is it -- the downwind flight path, and if one is flying in a -- I don't know what planes you use, like a

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Cessna 172 -- I don't know if they still even make them anymore but --
MR. STEVENS: A small training plane.
THE CHAIRMAN: -- you know, how a pilot would be properly aware and therefore avoid the turbulence and stay in the pattern, I think, without getting into all the detail you've been asking for, that is a legitimate question.
THE WITNESS (Gresock): You know, and we've certainly provided information that we have available relative to how the temperature and the exhaust velocity dissipates as it leaves the stack. We know that there is the possibility that lighter aircraft could fly in this vicinity, but we also know that there is considerable additional space in that area to allow them to fly in that area without flying directly over the stacks as well.
THE CHAIRMAN: Could I ask maybe a follow-up where there are similar situations elsewhere, and is there some way, the markings on the stack or something, that

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can alert pilots that at least a zone of something?
THE WITNESS (Gresock): Obviously, any structure like this would be indicated as an obstruction, and pilots would be aware that it existed. It also, under good visibility conditions, would be clearly able to be seen. And there are many airports that have similar facilities in very close proximity without any records of accidents or incident.
MR. STEVENS: You just indicated that there are many facilities in proximity to airports. Are there any that are over the downwind leg of the only runway to an airport, to a publicly-owned airport?
THE WITNESS (Gresock): That would require a more detailed scrutiny of that specific issue, so I don't know the specific answer to that question. But I certainly know there are airports where not only stack exhaust, but cooling tower plumes emanate from power plants very, very close to airports, for example, up in Londonderry, New Hampshire next to the Manchester Airport.

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MR. STEVENS: But you answered my question that you didn't know of any power plants that are over the downwind leg of the only runway --
THE WITNESS (Gresock): I have not specifically researched that individual question.
MR. STEVENS: Does CPV plan to keep the Oxford tower appraised of times when the unit is being fired?
THE WITNESS (Bazinet): When the plant is operating?
MR. STEVENS: Yes.
THE WITNESS (Bazinet): We would have certainly no objection to doing that.
MR. STEVENS: And how would you -- so you don't have any objection to notifying the Oxford tower when the Oxford tower is open. How would you notify pilots when the tower is closed?
THE WITNESS (Bazinet): So I think the operating -- or the presumption based on our forecasts and the market data, et cetera, is that the plant will be

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operating nearly three-quarters of the year, so call it on average over a 20-year horizon, about 75 percent of the year. So I think pilots at that airport should be working under that assumption. But specifically, with respect to your question, I'm not sure how you notify a pilot otherwise.
MR. STEVENS: There is a mechanism.
THE WITNESS (Bazinet): Perhaps you could share it with us.
MR. STEVENS: It is called a NOTAM, Notice to Airmen. It's filed with the FAA. There is a NOTAM right now. There's an FDC NOTAM right now requiring pilots to avoid power plants such as this power plant.
THE WITNESS (Gresock): In the interest of national security. Correct?
MR. STEVENS: Yes.
THE WITNESS (Gresock): Yes.
MR. STEVENS: And there's also an airmen information manual requirement to fly upwind of power plants.
THE WITNESS (Bazinet): Please correct me if I'm wrong, but I think your

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question was asking about how we would notify a pilot of --
MR. STEVENS: Yes.
THE WITNESS (Bazinet): -- of when we were operating. Correct?
MR. STEVENS: Yes.
THE WITNESS (Bazinet): Okay. That's a decision that's made on a daily basis. So, if the NOTAM you're referring to is an on-line system that can be updated on a daily basis or even an hourly basis for that matter, well then, sure, by all means, we'd be happy to notify people.
MR. STEVENS: On CSC-2, 11 question, 2, 11, you state that the 90th percentile value for turbulent plumes is at 133 feet above the stack top.
THE WITNESS (Gresock): Is that a question?
MR. STEVENS: No. I just wanted to get --
THE WITNESS (Gresock): Yes, found it.
MR. STEVENS: Thank you. No, just to prep for a question.

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What is the FAA targeted level of safety? Does that 90th percentile fall into the FAA's targeted level of safety?
THE WITNESS (Gresock): Well, the FAA has not issued any target, and the FAA has fairly consistently stated that the risks associated with turbulence associated with such plumes is minimal.
MR. STEVENS: Would you look in the MITRE Report, page 4.3, and read the first sentence, please?
MR. SMALL: Are you in Section 4.3.1.1, sir?
MR. STEVENS: Just page 4.3. It's just below Table 4.2.
MR. SMALL: Okay.
MR. STEVENS: And TLS is targeted level of safety.
THE WITNESS (Gresock): It says, "To be consistent with the 2006 FAA study on exhaust plumes, a TLS of one times ten to the minus seventh was used to ultimately determine the likelihood of an event."
MR. STEVENS: Right.

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THE WITNESS (Gresock): It doesn't state that that's any kind of standard or target. It's simply a study method.
MR. STEVENS: It's a targeted level of safety.
THE WITNESS (Gresock): And the standard to which it's referring is a standard that is really associated with the consequences of an aircraft colliding with a physical obstacle.
MR. STEVENS: It is actually the likelihood provided by the ATOS manual, and it's --
MR. SMALL: Okay. Can you ask questions?
MR. STEVENS: Yes. Would you go to 7.7.
MR. SMALL: Of the MITRE Report?
MR. STEVENS: Of the MITRE Report, yes.
MR. SMALL: Okay, we're there.
MR. STEVENS: And would you read the first and second sentence?

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THE WITNESS (Gresock): Again, the tail of the data is extremely large for the Navion GA aircraft, as shown in Table 7-4, for stable conditions the 99th percentile of the data extends to 344 feet above the stack, but the 99.9th percentile and maximum extend to 788 and 1,294 feet respectively.
"Under unstable conditions and perfectly calm winds, less than one knot, the maximum height of possible severe turbulence rises to 1,551 feet above the stack."
However, it continues and says, "By executing the Houbolt roll model over the three years of environmental data, it was determined that aircraft upset criteria were never reached at this particular power plant -- at this proposed power plant."
MR. SMALL: And just for clarification, the power plant here, Ms. Gresock, is which plant?
THE WITNESS (Gresock): This is a study of the former configuration of the Towantic Energy Project in Oxford,

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Connecticut.
MR. STEVENS: You indicated -- you stated before that a circle-to-land approach an aircraft would be 300 feet above the stack. Would you explain the circle-to-land approach, an IFR circle-to-land approach, for the Council?
THE WITNESS (Gresock): So, under IFR conditions, the circling minimum descent altitude is defined as a minimum height, and the aircraft would be circling to determine their next move to determine whether they're going to land. In order to circle-to-land at the airport, as a circling aircraft would go over our stack, it would have to fly straight and wouldn't be able to turn until it was quite some distance past where our stacks would be located if it were to angle in and decide to land at that point in time.
MR. STEVENS: So, in a circle-to-land -- and IFR stands for?
THE WITNESS (Gresock): Instrument flight rule.
MR. STEVENS: So that's when

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there are clouds and visibility issues, and so forth?
THE WITNESS (Gresock): There could be.
(In the presence of Councilor Lynch.)
MR. STEVENS: Okay. So it is not when it's clear out and you can see for 5 or 10 miles?
THE WITNESS (Gresock): Sorry?
MR. STEVENS: I'm sorry. So, it is not when it's clear out and you can see for 5 or 10 miles?
THE WITNESS (Gresock): Under IFR conditions, not necessarily, right, yes.
MR. STEVENS: So under 3 miles visibility and 1,000 feet of cloud cover?
THE WITNESS (Gresock): (Nodding.)
MR. STEVENS: And you indicated before, I believe, that the standard VFR traffic pattern was 1,000 feet above the runway -- 1,700 feet?
THE WITNESS (Gresock): Seventeen hundred feet above mean sea level

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which is -- yes.
MR. STEVENS: A thousand feet above the runway. And how much above the top of the smoke stack?
THE WITNESS (Gresock): And that would be 720 feet above the stack.
MR. STEVENS: So, on an IFR flight where the weather is worse and the conditions are worse, the plane could likely be not at 720 feet over the stack, but at 300 feet over the stack?
THE WITNESS (Gresock): That is the minimum altitude, yes.
MR. STEVENS: And you consider that safe?
THE WITNESS (Gresock): Yes, I do.
MR. STEVENS: I have no further questions. Thank you.
THE CHAIRMAN: We're now going to start the process with you, so we have to swear you in, unless you have other witnesses. I don't know.
MR. STEVENS: I do not.
THE CHAIRMAN: Please stand.

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B U R T S T E V E N S,
called as a witness, being first duly sworn by Ms. Bachman, was examined and testified on his oath as follows:
THE CHAIRMAN: Did you prepare exhibits listed under 16-B-1 and 2?
THE WITNESS (Stevens): I'd have to be shown those, sir. I don't know.
THE CHAIRMAN: One of them, it's a letter from you to Specialist Clipper, dated February 23, 2015.
THE WITNESS (Stevens): Yes, sir, I did prepare that.
THE CHAIRMAN: And the other one was a request for intervenor status.
THE WITNESS (Stevens): Yes, I did prepare that too.
THE CHAIRMAN: Thank you.
Are these exhibits true and accurate to the best of your knowledge?
THE WITNESS (Stevens): Yes, sir.
THE CHAIRMAN: Do you have any corrections or modifications to the exhibits?
THE WITNESS (Stevens): No, sir.
THE CHAIRMAN: Do you adopt these exhibits as your testimony?
THE WITNESS (Stevens): Yes, sir.
THE CHAIRMAN: We'll now start the cross-examination with staff.
MR. PERRONE: Thank you, Mr. Chairman.
MR. PERRONE: How long have you been a flight instructor, sir?
THE WITNESS (Stevens): I've been a flight instructor for approximately 11 years.
MR. PERRONE: And what types of aircraft have you flown in and out of the airport?
THE WITNESS (Stevens): I've flown everything from light sport aircraft, which are aircraft 1,400 pounds or less, up to and including twin engine piston planes.
MR. PERRONE: Could you explain in detail your concerns about the impact on aircraft from exhaust plumes. Is it primarily turbulence and wind shear or

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reduced oxygen content?
THE WITNESS (Stevens): It's primarily -- there are two concerns. When the plumes are not visible, I'm concerned that a transient student pilot will come to the airport not knowing that there is a power plant, nor that the power plant is running and in a plane much smaller than the types of planes that MITRE has run calculations on will be upset and unfortunately crash and die.
MR. PERRONE: So is that getting more towards the turbulence issue?
THE WITNESS (Stevens): That's one issue when the plumes are not visible. When the plumes are visible, I'm quite concerned that the tower, which is on the west side of the airport, this proposed power plant is on the east side of the airport, consequently, the controllers routinely, and almost unanimously, put small training aircraft like the type that I normally fly in on the east side of the runway directly over the power plant. And if there is a visible plume, then they're either going to have to

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fly closer to the runway, which will be unsafe, or they'll have to be beyond the plume and be out of sight of the tower personnel.

MR. PERRONE: I understand you recently filed a letter with the FAA, dated February 23, 2015. Is this letter directed mostly to address the plume issue, or is it to tie in with FAA's review of the project?

THE WITNESS (Stevens): It's to respond to their FAA 7460 response in circulation that the Petitioner had to file with the FAA, and it was my response to the FAA's request for that.

MR. PERRONE: Have you had any other discussions with the FAA regarding this project?

THE WITNESS (Stevens): I don't believe I've had any discussions with any FAA employee concerning this project -- excuse me, other than I did e-mail Specialist Clipper, and he wrote me back an e-mail saying -- this was prior to my being an intervenor, and it was a -- I'd be happy to share the e-mail with you and the parties.

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There wasn't anything substantive discussed in the e-mail.

MR. PERRONE: Other than the exhibits you filed and what you've already discussed, is there anything else you would like the Council to know regarding this project?

THE WITNESS (Stevens): I have been flying out of Oxford Airport since 1972. I've been flying since 1972. I started flying at Oxford Airport. I don't have a concern for any student that I teach because I will be able to tell that student how to avoid this power plant. My concern is for the transient student pilot flying a small plane not aware that this power plant exists.

And my review of power plants in association with airports is that there aren't any in the downwind leg of primary runway to -- anywhere in the country, and I will, if the Petitioner proves me wrong, I will stand corrected, but I am unaware of any, and I've looked.

I think this is the worst place to situate a power plant in regard to

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its relationship with a general aviation airport. I'm not at all concerned about large corporate jets that routinely fly in and out of that airport because their traffic pattern is two or three or four miles. They will be flying around the power plant. They will not have any problem at all. They're larger, up to 99,000 pounds.

I'm talking about a small, 1,400 pound aircraft with a young fellow, maybe your age, who has ten hours, and he's flying up from Groton flying into Oxford to have lunch there, and he flies over this, and he doesn't have the time or the ability to, you know, recover from a stall spin because he's only going to have 700 feet or 800 feet to recover.

It's a -- I serve on -- it says in my letter -- I won't repeat what I do, but one of our major emphasis is the mitigation of risk. And what I'm trying to do outside of the FAA -- within the FAA and for the FAA, for the flying public generally, I'm trying to mitigate risk, and I'm trying to mitigate risk here for that poor young

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pilot who doesn't know just how severe turbulence is going to be in a 1,400 to 2,000 pound aircraft.

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

THE WITNESS (Stevens): Thank you, sir.

THE CHAIRMAN: We'll now continue questions from the Council.

Senator Murphy?

THE VICE CHAIRMAN: Mr. Stevens, so I take it that your concern really is kind of for the unusual, this pilot who may be coming up, for example, from Groton down near my neck of the woods, who's new and not familiar with this airport. Isn't there some indication for pilots as a whole that there's a power plant nearby with these stacks?

THE WITNESS (Stevens): There --

THE VICE CHAIRMAN: I'm not a pilot, and I don't even like the idea of getting in a plane -- but here I am.

THE WITNESS (Stevens): Sir,

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your question is, is it abnormal or unusual or is it -- is there a mechanism for the pilot to know that this power plant will be there; is that your question?

THE VICE CHAIRMAN: I don't know that mechanism is the right -- but yes, is there something that should tell this pilot or there's some place that this pilot should be alerted that there is these stacks nearby the airport?

THE WITNESS (Stevens): There is definitely a mechanism, sir. For the VFR pilot there's a sectional that he refers to, whether it's on an Ipad, which I use all the time, or whether it's a paper. It's very similar to a, if we remember, road maps. I remember road maps. Maybe some of the younger people here don't, but very similar to a road map. And those are marked with power plants. It will show that there is a power plant on -- we call it a sectional -- on that sectional, sir.

THE VICE CHAIRMAN: Would it indicate how high the stack?

THE WITNESS (Stevens): Yes,

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sir, it will indicate how high the stack is, but it will not indicate --

THE VICE CHAIRMAN: So, if you had your example of a young pilot coming up from Groton, if in the reasonable precautions of flying into Oxford for the first time, shouldn't he look to see if there's an indication of a power plant and the stacks there?

THE WITNESS (Stevens): There's no doubt, sir. There's a power plant and a stack at Brainard Airport in Hartford that we routinely fly around, and it's no problem at all. There's a power plant at Bridgeport, which we routinely fly around. That's no problem at all. The problem with this placement of this power plant is its precise location is over the traffic pattern that I, as a flight instructor and all of the other 97,000 flight instructors in the U.S., teach all of our students to fly between a half a mile and a mile of beam the runway, and this is exactly where that is.

So what's happening is we have the student who's being taught to fly between

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a half a mile and a mile and looking at what should be, you know, oh, my Lord, there's a power plant over there, maybe I shouldn't fly over that. But if he has 10 or 15 hours of flight time and he's flying into an unfamiliar airport -- I use from Groton to Waterbury, but any other airport -- he's going to be so concerned that he may avoid the actual thing, but if there's no -- if the plumes are invisible on this light plane that he'll be flying, he could -- he could be thrust into a circumstance that he cannot recover from.

THE VICE CHAIRMAN: Well, whether you're talking about realistic or hypothetical -- but let me ask you a very practical question: If the FAA approves whatever applications they file and they receive approval for, would you expect this Council to turn this down for being an unsafe airport for flying conditions?

THE WITNESS (Stevens): I expect this Council -- I hope that this Council will, on its own review of what the FAA says, and after the FAA provides their

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testimony, review what the Connecticut Airport -- CAA, I'm sorry, provides this Council, and then make an appropriate determination after that occurs.

THE VICE CHAIRMAN: But that's quite some time down the road, isn't it?

THE WITNESS (Stevens): Of course. These processes take a long time, sir.

THE VICE CHAIRMAN: I have no further questions, Mr. Chairman.

THE CHAIRMAN: Thank you.

Mr. Levesque?

MR. LEVESQUE: No questions.

THE CHAIRMAN: Mr. Lynch?

MR. LYNCH: Just one clarification from Senator Murphy's question. You mentioned -- I'm very familiar with the power plant in Hartford and in Bridgeport. And did you give me -- I still don't understand the difference you're talking about between those two areas and Oxford because to me, with all due respect to Gertrude Stein, a tower is a tower is a tower.

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THE WITNESS (Stevens): Sure. The smoke stack that -- and I'll remain with Brainard Airport in Hartford.

MR. LYNCH: That's the one I'm most familiar with, so go ahead.

THE WITNESS (Stevens): Okay. So that stack, the red and white stack, is northwest of runway two zero. Two zero is a heading of two zero zero, which is almost south. So, for instance, when I fly from Oxford to Brainard, I'm coming in from the southwest, and I'll report to the tower to enter the right downwind with their landing to the south, I'll report right downwind, and I will fly north toward Bradley. And then I will turn east toward East Hartford and then south and land.

So it's basically like this: That stack is right here, so I'm flying around it. In my routine traffic pattern I'm flying around it, and I have no difficulty with that at all. If the stack were south and west of where it is, then I'd have a great deal of difficulty because my standard traffic pattern would be flying right over

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that stack, and that stack would be a problem to -- and a safety concern to pilots.

MR. LYNCH: Even though it's marked and lit, it's still a problem?

THE WITNESS (Stevens): It would still be a problem, yes, sir. It would be a problem in that it would have to be avoided. And if I knew it was there by either the tower telling me or by previous knowledge, by current knowledge of that situation, I would fly around it, and I wouldn't have any difficulty flying around it.

MR. LYNCH: Then why wouldn't the tower inform someone flying into Oxford to fly around the tower?

THE WITNESS (Stevens): When the tower is open, they would and they should. And what may happen and what the Petitioner has suggested could happen is that they shut down the east side of the airport so that no traffic can fly on the east side of the airport. I don't know whether that would be a taking in the common term of taking. I don't know what that would -- I

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haven't researched that issue as to whether if the FAA made that determination for safety's sake, but that would be one way to mitigate this risk, just don't fly on the east side of the airport.

MR. LYNCH: If there's no fly on the east side, is that for small planes, or is that commercial planes also?

THE WITNESS (Stevens): That's above my pay grade, sir.

MR. LYNCH: Okay. All right, I'll move on.

Would the air traffic controllers changing over to more of a GPS rather than the old, what is it, vector system or something, is that going to make a difference? Is that in place at Oxford?

THE WITNESS (Stevens): That will take place at Oxford in 2019 -- 2020, actually, but that won't have any bearing on the two concerns, the circle-to-land that was discussed earlier where planes come in from the south from Bridgeport and they line up to land to the north, but the prevailing winds suggest that the plane land to the south.

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That was this IFR circle-to-land discussion. The next gen will not make that any different at all. And unfortunately Oxford lies precisely -- it lies within the New York TRACON area, but New York cannot see Oxford, the planes at Oxford, with their radar. That will change when this happens. But routinely Bradley can see planes at Oxford.

MR. LYNCH: You say New York. Is that LaGuardia and Kennedy, or does that include Westchester?

THE WITNESS (Stevens): It includes all of greater New York. We are controlled by New York controllers. And consequently, even when we're landing to the south, you'd think that we'd fly up to Bradley and come down. They don't do that. They routinely fly down this ILS circle-to-land, and so it's going to be placing a lot of -- when you have to land to the south, we're going to be placing a lot of planes at 300 feet over the stack, which is very low.

MR. LYNCH: I'm actually aware of that. And my last question -- and I don't

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know much about airport procedures or anything -- in the Late-File we got from the Applicant on this second set, or whatever, that refers to the FAA, the FAA says that their records indicate that the airport has approximately 47,000, rounded to 48,000, of operations per year. "Operations," does that mean flights?

THE WITNESS (Stevens): Operations are take off or landing.

MR. LYNCH: Okay. All right. That's all I wanted to -- I was just curious. I didn't understand what that meant.

THE WITNESS (Stevens): Yes, sir.

MR. LYNCH: Thank you very much. No more questions, Mr. Chairman.

THE CHAIRMAN: Thank you. I have just a couple.

One of the issues for the Council is there is an approved project. It was approved in 1999, I believe, and at least on some basis it could go forward. Obviously, the Applicant is proposing -- well, what we have before us today. But do

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you have any feeling as to which -- I was going to say which is better, but maybe it's which is less bad from your point of view of the two? I know you discussed the issue of the size of the plume, but there was also, I think, an issue of the placement of the stacks. So, do you have any sense from your standpoint?

THE WITNESS (Stevens): Sir, I have a sense that, you know, purely from a mathematical point of view and plume calculations, a smaller plant would be better and would reduce the risk to pilots than a newer plant that produces a larger plume. And I have to say that I, as a pilot, am not at all concerned about the smoke stacks, the physical smoke stacks. Those are easy to avoid. It's the plume, both the invisible and the visible plumes that I as a pilot, and more importantly as a flight instructor, am concerned about.

And back in 1999 the FAA did approve the smaller plant, but that was prior to any significant concerns about the production of plumes, and I think because of

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the outcry of the aviation public, you know, the FAA, as we are -- I believe we all are quite aware -- have produced this MITRE Report with their calculations to calculate just, you know, the effect of plumes in particular power plants.

THE CHAIRMAN: But my understanding from, I guess, your questioning the MITRE Report, though, did not look at the impact on light sport aircraft.

THE WITNESS (Stevens): No, sir, it didn't.

THE CHAIRMAN: So is that being updated? How is that issue being resolved?

THE WITNESS (Stevens): Again, sir, I've worked with the FAA on some very specific things, you know, rewriting the practical test standards for all pilots. I am not working with the FAA on the plumes. I believe what happened was that the FAA contracted with MITRE, and the engineers at MITRE went out to the sources to find what they thought were three representative planes to do calculations on, and they chose this

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1950 model Navion to be representative of the types of planes that I fly, a Cessna 172, a Cessna 150, or a light sport aircraft. The Navion is a spinoff of the P-51. It was designed by North American Aviation who built the P-51, and it is about as strong as the P-51. So, unfortunately I can understand why MITRE chose it, but it isn't representative of the types of airplanes that are being flown in 2015.

THE CHAIRMAN: I guess back to my question. You say the location of the stacks don't -- I think you said don't bother you.

THE WITNESS (Stevens): The height.

THE CHAIRMAN: Okay, the height. But the fact that this application has moved the stacks and, therefore, the plume presumably is moved, what impact does that have?

THE WITNESS (Stevens): For a pilot infinitesimal. The movement of the stacks, from a pilot's point of view, I believe they move the stacks a couple hundred

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feet. I'm not sure, but I believe that's it. It's totally insignificant. I was the person who was actually flying the plane over the project during your walk in January, and, you know, I flew at three different levels. I flew at the standard 1,700 foot traffic pattern, and I flew at the 300 foot traffic pattern, and I flew between a half a mile and three-quarters of a mile. That's what I teach my students to fly.

The FAA does say between a half a mile and a mile. I'm inclined to favor closer because the highest time of risk in an airplane is when you're closest to the ground, when you're taking off and when you're landing. And when you're taking off and when you're landing, you want to be prepared. If you're going to be taking off or landing at an airport, you want to be prepared to land at that airport. So it's critical to stay within that, in my opinion, within that half mile to three-quarters of a mile.

THE CHAIRMAN: Okay. I don't know if you're the best one to ask, and the

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Applicant may have previously answered this question, but in their responses -- and I have it 2B as a Siting Council Late-Filed exhibit, they have -- and I didn't bring it because I didn't want to give my chiropractor anymore business than he already gets from carrying all this stuff. There were a whole list of, I guess, FAA notice of presumed hazard. You're aware of that?

THE WITNESS (Stevens): Yes.

THE CHAIRMAN: There's one sentence that I just don't quite understand. I'll read it to you, and if you can -- and they have it on the various elements, but I think it's a standard sentence: "Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected, and this would constitute substantial adverse effect unless the heights are reduced."

From your point of view, what is "one VFR operation per day will be affected"? I'm trying to figure out what the heck -- what that means. And if you don't have that answer, that's fine too.

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THE WITNESS (Stevens): I believe that the FAA, they, like any other large bureaucracy, you know, have a particular range of safety, and they say -- and I was attempting to discuss this or ask these questions before. Unfortunately the Applicant, you know, wasn't aware of how the FAA determines what is safe and what isn't safe, what is acceptable risk and what is unacceptable risk. And I think what they're really trying to say there is that these heights that they're suggesting are unacceptable risks, and to mitigate -- the Applicant will have to mitigate those risks, those unacceptable risks.

THE CHAIRMAN: We're going to break at one for lunch, but since there's still a few minutes left, we'll now continue cross-examination by the Applicant, and then at one o'clock we'll break and resume after.

MR. SMALL: Let me start, Mr. Stevens, with your discussion of the visible and not visible plume. And you have concerns that -- would you restate again your concern when there's a visible plume?

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THE WITNESS (Stevens): My concern, when there's a visible plume, is that the pilot will have difficulty maintaining the required 2,000 foot avoidance of that plume while still remaining in a safe condition in the traffic pattern, particularly while on downwind. While there's a visible plume, they realize that they have to comply with Section 7-15-5 of the AIM which requires them to fly upwind of any power plant. So, since this power plant is 0.59 nautical miles east of the airport, they're going to have to fly closer to the airport than the power plant because the prevailing winds at Oxford are from the northwest, as your wind rows showed, I believe.

MR. SMALL: And are you familiar with the Algonquin compressor station that's very close to this site?

THE WITNESS (Stevens): Very close to your site?

MR. SMALL: Yes.

THE WITNESS (Stevens): I'm aware that it's a gas compressor.

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MR. SMALL: And is that a critical infrastructure facility?
THE WITNESS (Stevens): I have no idea.
MR. SMALL: If it were a critical infrastructure facility, would the various guidelines and requirements of the FAA and these other institutions you mentioned require that the air space over that compressor station be avoided?
THE WITNESS (Stevens): Is it producing a plume?
MR. SMALL: Is this a --
THE WITNESS (Stevens): If it's producing a plume, yes, it would have to be avoided. If it isn't producing a plume, it would not necessarily have to be avoided.
MR. SMALL: But I thought you spoke at one point that critical infrastructure facilities need to be avoided as well; is that correct?
THE WITNESS (Stevens): I never brought that term up.
MR. SMALL: Under the Homeland Security -- under Homeland Security

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requirements?
THE WITNESS (Stevens): I brought up an FDC NOTAM. And is that what you're requiring?
MR. SMALL: Yes, please.
THE WITNESS (Stevens): It says -- this is a restatement of a previously-issued advisory notice in the interest of National Security, and to the extent practicable, pilots are strongly advised to avoid the air space above or in proximity to such sites as power plants, nuclear, hydroelectric or coal, dams, refineries, industrial complexes, military facilities, and other similar facilities. Pilots should not circle as to loiter in the area over these types of facilities.
So I think to answer your question, a natural gas compressor would not fall under that NOTAM.
MR. SMALL: At least not specifically. It's not one of the enumerated facilities. Correct?
THE WITNESS (Stevens): My opinion is that it would not fall that under

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NOTAM.
MR. SMALL: But the power plant would. Correct?
THE WITNESS (Stevens): Yes, I believe it would.
MR. SMALL: And what would the implications of that be under that NOTAM?
THE WITNESS (Stevens): That you would have to avoid that airspace.
MR. SMALL: And what diameter around there, what area around that airspace would you have to avoid?
THE WITNESS (Stevens): You would probably want to avoid it by at least a mile.
MR. SMALL: And so, given that NOTAM, am I correct that if pilots comply with that, they would be avoiding the airspace over the Towantic Power Plant?
THE WITNESS (Stevens): The power plant, yes. If they complied with that NOTAM, they would have to fly -- there are actually two -- there's a NOTAM and there's -- there are two requirements. There's that NOTAM, and then there's the AIM,

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which we discussed before. They would have to fly upwind or down -- upwind meaning between if the plumes were going southeast where they normally go, they'd have to fly northwest of that power plant.
MR SMALL: Okay. And so a pilot would not be allowed or certainly be advised not to fly over the stacks the way you flew over the balloons on the site visit day; is that correct?
THE WITNESS (Stevens): When practicable, yes.
MR. SMALL: And what was your lowest -- just for perspective, your lowest flight over those balloons?
THE WITNESS (Stevens): Thirteen hundred feet MSL, which purports closely to the 1,280 feet that we discussed circle-to-land.
MR. SMALL: So, roughly 300 feet over where the stacks would be, or 300 feet over where the balloons were?
THE WITNESS (Stevens): Yes.
MR. SMALL: Thank you.
And let's talk a bit about

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when a plume is visible. When a plume is visible, we all agree that's cold weather. Correct?

THE WITNESS (Stevens): I believe with certain types of relative humidity, too, that you folks know better than I.

MR. SMALL: And the plume would be visible during the day in cold weather?

THE WITNESS (Stevens): It will be visible during the day, yes.

MR. SMALL: Would it be visible at night as well?

THE WITNESS (Stevens): Clouds are very difficult to discern at night. So it really depends on the overall visibility of the evening. I have flown into clouds at night not knowing that I was flying into clouds.

MR. SMALL: While flying under visual flight rules?

THE WITNESS (Stevens): Yes.

MR. SMALL: And, by the way, the tower at -- are planes allowed to land in

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the Waterbury Oxford Airport using visual flight rules when there's no controller?

THE WITNESS (Stevens): Yes, they are.

MR. SMALL: And that's day or night?

THE WITNESS (Stevens): Yes.

MR. SMALL: Interesting. Okay.

One of the concerns you expressed was an invisible plume and pilots flying into that; is that correct?

THE WITNESS (Stevens): Yes, sir.

MR. SMALL: You had mentioned the 2012 MITRE Report. Do you have that in front of you? Would you look at page Roman III, page 3 of the executive summary?

THE WITNESS (Stevens): Sure. The abstract?

MR. SMALL: Correct. Yes.

THE WITNESS (Stevens): I have that.

MR. SMALL: Is it correct that the first sentence of that says that "Weather

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conditions that cause the most severe impacts are typically cold temperatures, calm winds and unstable atmospheric stratification"?

THE WITNESS (Stevens): Yes, sir.

MR. SMALL: And am I correct that during those conditions a plume would be fully visible?

THE WITNESS (Stevens): It depends on the temperature.

MR. SMALL: Well, it says "typically cold temperatures."

THE WITNESS (Stevens): Well, I think we discussed if it's less -- if typically cold is less than 40 degrees, then your own experts have indicated that it would be visible.

MR. SMALL: Okay. So the only, if I'm understanding this section of the MITRE Report right, the most -- the riskiest conditions are the ones where you would have a visible plume; is that correct?

THE WITNESS (Stevens): Yes, sure.

MR. SMALL: And that plume

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would be, at least during the day, would be visible. Correct? At night you have the stack is lighted, so the stack would be -- the lighting would be visible to a pilot. Correct?

THE WITNESS (Stevens): At night, again, it depends on the weather conditions.

MR. SMALL: Right. But are you going to have visual flight rules --

THE WITNESS (Stevens): Oh, the visual flight rules, yes, the stack lighting will be visible under visual flight rules. Yes, sir.

MR. SMALL: Thank you.

This would probably be a good -- can we pause at this point?

THE CHAIRMAN: Sure. That's fine. We'll take a 45-minute break, so see you all back at 1:45.

(Whereupon, the witnesses were excused, and a recess for lunch was taken at 12:59 p.m.)

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AFTERNOON SESSION
1:47 P.M.

F R E D E R I C K  S E L L A R S,
L Y N N  G R E S O C K,
A N D R E W  B A Z I N E T,
J O N  D O N O V A N,
D E A N  G U S T A F S O N,
E R I C  D A V I S O N,
T A N Y A  B O D E L L,
D A N I E L L E  P O W E R S,
B U R T  S T E V E N S,
having been previously duly sworn were examined and testified further on their oaths as follows:

THE CHAIRMAN: Good afternoon. We'll resume cross-examination by Attorney Small.

MR. SMALL: Thank you, Mr. Chairman. Before that, we do have the Read-Ins from this morning's session regarding FAA issues, and Ms. Gresock can do those just to get those on the record.

THE WITNESS (Gresock): I believe the first one was a question about

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the weight of the North American Navion GA aircraft used in the MITRE 2012 Study. On page 3-3 of that study, Table 3-1, it specifies that the weight assumed for that aircraft is 2,750 pounds.

And the second question that was asked was with regard to FAA rules for distance from clouds. Federal Aviation Regulation Part 91, Section 155, provides some basic BFR weather minimums in that section. There are a number of different distances, depending upon a lot of different circumstances. But focusing on when the tower is open, there's a requirement to maintain the 2,000 foot radial horizontal distance or 500 feet below or 1,000 feet above. And if the tower is not open, there's a requirement to maintain a three statute mile distance. There is, in Part 157, I believe, also discretion that the tower can adjust those differences, as appropriate, but there is a lot of information in that particular rule.

MR. SMALL: With that, we have just very brief additional cross-examination.

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CONTINUED CROSS-EXAMINATION

MR. SMALL: Let me start with the document we were talking about when we broke for lunch, which was the 2012 MITRE Report. Do you have a copy of that?

THE WITNESS (Stevens): Sure.

MR. SMALL: Could you turn to page 4-7 of that report, Section 4.3.3? I'm sorry, correction. I have the wrong -- would you turn to -- sorry -- page 7-7? My apologies.

THE WITNESS (Stevens): Sure.

MR. SMALL: If you turn back one page, am I correct that this section, 7.3, deals with the Towantic Energy project?

THE WITNESS (Stevens): Yes, sir.

MR. SMALL: And there's a Table 7-4, and underneath -- and that lists three different types of aircraft and various heights?

THE WITNESS (Stevens): Yes, sir.

MR. SMALL: Then there's a sentence underneath that or there's two

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sentences. Can you read those sentences, please?

THE WITNESS (Stevens): Yes, sir. It's the same sentence that Ms. Gresock, is it --

MR. SMALL: Gresock.

THE WITNESS (Stevens): -- that she provided in her question to the Siting Council already. It said, "By executing the Houbolt roll model over the three years of environmental data, it was determined that aircraft upset criteria were never reached at this proposed power plant. There is an area above the stack where elevated temperatures pose a risk for helicopters, and it was determined that 180 foot above the stack was the maximum height where temperatures greater than 52 degrees celsius could be experienced."

MR. SMALL: Okay. And am I correct that -- I mean, do you accept this MITRE document as an accurate document?

THE WITNESS (Stevens): To the extent that it provides a modeling for a 2,750 pound aircraft, yes, but not for a

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1,400 pound aircraft.
MR. SMALL: And you agree it says that -- and how do you define the term "aircraft upset criteria"?
THE WITNESS (Stevens): Aircraft upset criteria is the FAA terminology is a roll greater than 45 degrees, a pitch, I believe, up greater than 30, down greater than 10.
MR. SMALL: And what's the consequences of those sort of upset criteria? What does that mean in layman's terms?
THE WITNESS (Stevens): In layman's terms, that's the threshold that a pilot could experience an upset and be required to recover.
MR. SMALL: Okay. And it does say in that sentence that those upset criteria were never reached for the Towantic Power Plant that was modeled. Correct?
THE WITNESS (Stevens): Given a 2,700 pound aircraft, yes.
MR. SMALL: Okay, good. Just one more item. You mentioned in I think it was your discussion with either the Chairman

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or Vice Chairman Murphy, the FAA approval in 1999. Do you recall that discussion?
THE WITNESS (Stevens): Yes.
MR. SMALL: And you're aware that that was not the last FAA approval of the stacks for this power plant, correct?
Let me rephrase.
THE WITNESS (Stevens): Sure.
MR. SMALL: Are you aware whether the FAA approved this plant, this plant, including the stacks, subsequent to 1999?
THE WITNESS (Stevens): I have no personal knowledge.
MR. SMALL: Okay. And last, and I believe I heard you say -- I just want to make sure I understand this -- that you're not terribly concerned about the stacks themselves; your concern is almost exclusively with respect to the plumes. Did I hear you correctly?
THE WITNESS (Stevens): Yes, you did.
MR. SMALL: No further questions at this time. We do reserve our

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right to cross-examine later on on the more technical documents. Thank you.
Thank you, and enjoy your vacation.
THE WITNESS (Stevens): Thank you.
THE CHAIRMAN: We'll now continue with the other parties, intervenors, and just go down the list.
Mr. Halpern, is he here?
(No response.)
THE CHAIRMAN: Mr. Stevens, just stay there. Everybody is now going to get a chance.
THE WITNESS (Stevens): Oh, I'm sorry. Forgive me.
THE CHAIRMAN: You thought you had enough, just getting warmed up.
Town of Middlebury?
MR. SAVARESE: Where shall we sit, Mr. Chair?
THE WITNESS (Stevens): Forgive me. I'm sorry. I didn't know the procedure.
THE CHAIRMAN: That's fine.

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This is rather unique with the number of parties and intervenors.
MR. SMALL: I have a clarification or a question. Various parties were grouped together. I don't recall whether Mr. Stevens and the Flying Club were grouped with -- they were not grouped.
MS. BACHMAN: They were not grouped.
THE CHAIRMAN: No.
MR. SMALL: Okay.
THE CHAIRMAN: Go ahead, sir.
MR. PIETRORAZIO: Thank you. Mr. Chairman. Good afternoon.
THE COURT REPORTER: Would you tell me who you are, please, just to refresh my memory?
MR. PIETRORAZIO: Yes. Raymond Pietrorazio.
THE COURT REPORTER: Thank you.
MR. PIETRORAZIO: Mr. Stevens, are you familiar with -- we had a great discussion on plumes. Are you familiar with whether plumes remain the same after the sun

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goes down and night comes on, is there a change in the physical aspects of the plume produced by such a plant?

THE WITNESS (Stevens): Sir, I'm not an expert in plumes. I believe, through my questioning to the Applicant, I ascertained that plumes were larger in the evening or at night than in the daytime because there's usually a temperature decrease at night. So my understanding is that the plumes are larger at night. I also answered to a question, I believe, of Chairman Stein, I indicated that clouds very often are not visible at night. So, those are my answers to your question.

MR. PIETRORAZIO: Well, do you have any input on whether the plumes would be -- would attain a greater height at night?

THE WITNESS (Stevens): I believe Mr. Sellars indicated that they would attain a greater height at night because it would be colder at night. So, my understanding is that plumes would be volumetrically higher because of the lower temperature.

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MR. PIETRORAZIO: So that's in conflict with the previous testimony with our earlier session by CPV?

THE WITNESS (Stevens): I'm sorry. I don't know whether it's in conflict. I believe Mr. Sellars indicated that plumes at night, because of the lower temperature, would be greater.

MR. PIETRORAZIO: Okay. Would you happen to know the weight of the most common LA type aircraft being the 172 or not Cirrus but --

THE WITNESS (Stevens): Cessna.

MR. PIETRORAZIO: -- Cessna, the 172 aircraft?

THE WITNESS (Stevens): Yes, sir. The Cessna 172 has a maximum gross weight of 2,400 pounds in its normal category and a maximum gross weight of 2,100 pounds in its utility category, and it's normally flown in utility category when a student and flight instructor are in there, so it should not exceed 2,100 pounds at that point.

MR. PIETRORAZIO: Would you say that there's an appreciable difference in

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weight between that plane and the Navion used in the MITRE Report?

THE WITNESS (Stevens): It's a significantly different plane. The Navion that MITRE used is comparable to today's Beechcraft Baron -- correction, Beechcraft Bonanza, which is a single engine, 300 horsepower plane with a gross weight of about 3,600 pounds. The weight that they used was 2,750 pounds for the Navion, which is under the gross weight of 3,160 pounds that the Navion is certified to fly at.

MR. PIETRORAZIO: And this discussion is important because we're talking about the turbulent effect of a rising plume and the effect that that would have on an aircraft of specific weight?

THE WITNESS (Stevens): Yes. And it's my understanding that the lighter the aircraft, the more significant the plume, a given plume will have a greater impact on a wider plane, and that is why I chose my line of questioning in questioning the Applicant about light sport aircraft, which was only recently certified by the FAA to be flown.

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And that type of plane, of which there are several at Oxford flying out of Oxford, can only be flown at a maximum gross weight of 1,400 pounds, which is just over 50 percent of the weight that the Navion was tested at in the MITRE report at 2,750 or 2,730, 2,760 pounds -- 2,700 and some odd pounds.

So that is the type of aircraft that is of utmost concern to me as a flight instructor.

MR. PIETRORAZIO: Thank you.

And isn't the Cessna 172 the most popular light aircraft in this country?

THE WITNESS (Stevens): That along with the Piper Archer, yes, yes. The Cessna 172 is the ubiquitous training plane that's a four-seat training plane. The Cessna 150 is even lighter coming in at 1,600 pounds gross weight.

MR. PIETRORAZIO: So neither you nor I know the reason why MITRE used the Navion?

THE WITNESS (Stevens): Well, I believe that MITRE used the Navion because the Navion had a significant amount of data,

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but it's an incredibly strong plane. As I indicated to the Council before, it is a -- it was manufactured by the -- it was designed by the same people that designed the P-51, which won World War II, as far as I'm concerned.

MR. PIETRORAZIO: I agree. And are you familiar with the Casa Australian Aviation circular that specified the threshold at which thermal plumes could endanger aircraft and even cause damage to aircraft which is 4.3 meters per second discharge rate out of the stacks which the FAA has accepted as the criteria to use?

THE WITNESS (Stevens): I believe it's referenced in the MITRE Report that we've been discussing, yes, sir.

MR. PIETRORAZIO: And 4.3 meters per second is roughly how many feet?

THE WITNESS (Stevens): Well, there's 39 inches per meter, so 3 feet, 12, 15 feet.

MR. PIETRORAZIO: Fifteen feet roughly?

THE WITNESS (Stevens): Yes, I

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would guess.

MR. PIETRORAZIO: And with the previous 512 megawatt plant, we had discharge rates fully six times that, did we not?

THE WITNESS (Stevens): I believe there were.

MR. PIETRORAZIO: And in this case at least four and -- well, that's a question for CPV. I'm getting a little confused. That's fine. Thank you.

Would you say that in the left downwind leg of a landing pattern a pilot is under considerable workload?

THE WITNESS (Stevens): Whenever you're close to the ground, whenever you're in the traffic pattern, you're --

MR. PIETRORAZIO: Low and slow?

THE WITNESS (Stevens): -- you're under increased workload, yes, sir.

MR. PIETRORAZIO: Thank you.

And what in the aviation community do we mean by "see and avoid"?

THE WITNESS (Stevens): It means just that. You must, in both VFR and

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IFR conditions, if you are not in instrument meteorological conditions -- if you're not IMC is the acronym -- you are not in the clouds, you must, whether you're IFR or VFR flying under visual flight rules or instrument flight rules, you must at all times remain vigilant and see and avoid any dangers.

MR. PIETRORAZIO: And that's particularly true at an airport?

THE WITNESS (Stevens): Oh, absolutely.

MR. PIETRORAZIO: In the vicinity of an airport?

THE WITNESS (Stevens): Yes, sir.

MR. PIETRORAZIO: I mean, it's true when you're flying anywhere at any time, but particularly at an airport?

THE WITNESS (Stevens): More so at an airport than anywhere else, yes, sir.

MR. PIETRORAZIO: Because of the traffic?

THE WITNESS (Stevens): Yes,

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sir.

MR. PIETRORAZIO: Thank you.

And the pilot is doing more with his aircraft than when cruising at his designed altitude of whatever. When he is constantly reducing his altitude and his air speed as he makes his approach, he's fooling with his machine a little bit more and is more attentive to that, plus see and avoid and --

THE CHAIRMAN: Is this a question or a statement?

MR. PIETRORAZIO: Yes. And the question is: Does having to pay particular attention to a possible hazard of a thermal plume, does that increase his workload even further?

THE WITNESS (Stevens): The short answer is absolutely. To flesh out that answer a little bit more, when a pilot is under an increased -- a pilot is under an increased workload when the conditions deteriorate. So when the weather is bad -- and we had a discussion earlier this morning about circle-to-land minimums of being 300

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feet over the top of the stack. When a person is flying an instrument approach in the Runway 36 with a circle-to-land into Runway 18, he is probably under the most incredible pressure when the weather is bad that a pilot can possibly imagine, and circle-to-land landings are probably the most dangerous landing that a pilot can experience.

We had the misfortune of losing an airplane down in New Haven two years ago when he was approaching Runway 2 to the north and he had to -- the controller required him to circle-to-land, and unfortunately we lost a former Microsoft executive and his son who were coming from Seattle to visit Yale. We lost them in a crash in a circle-to-land.

I had the privilege and the honor of going to Sun 'n Fun, which is one of the two major aviation exhibitions of the year, and I went there last April, and I was one of three master flight instructors that offered scenarios to pilots who were visiting Sun 'n Fun in a full motion simulator. One

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of the scenarios allowed the pilot to choose whether he was going to land downwind or whether he was going to circle-to-land. My personal experience with the 20 participants that I had, the ten that chose landing with a tail wind landed safely; the ten that circled to land at a reduced altitude of approximately 500 feet over the runway crashed the simulator.

So circle-to-land -- landing is the most dangerous portion of flying. Whenever you're slow and whenever you're close to the ground is the most dangerous phase of flying.

MR. PIETRORAZIO: Thank you.

And when we had the loss of life pilot at Waterbury Oxford Airport just a few years ago --

THE WITNESS (Stevens): Yes, sir.

MR. PIETRORAZIO: -- that airplane caught the electrical -- one of the most outward portions of the steel lattice towers, and flipped him over, and he impacted the electrical generating -- the electrical

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substation.

THE WITNESS (Stevens): Yes, sir.

MR. PIETRORAZIO: Is that correct?

THE WITNESS (Stevens): Yes, sir.

MR. PIETRORAZIO: And isn't it true that -- well, I think the investigation showed that no one could say why he was that low; is that correct?

THE WITNESS (Stevens): I think he -- I'm not -- I haven't -- I don't recall the NTSB report, so I can't comment on what happened. I don't recall.

THE CHAIRMAN: Excuse me. I'm trying to figure out the relevance of this accident. Because somebody flew low into wires, I don't understand how that --

MR. PIETRORAZIO: I'm sorry, Mr. Chairman, I'll clarify that now.

The point I'm driving at here is -- and I'm not a pilot, but I have studied the issue for a number of years. And is it not true that flying is not a perfect science

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and you get into -- pilots have to handle conditions as they present themselves when they present themselves at that time at that moment and make decisions kind of from the holster. It's not -- everything doesn't work out perfectly, is that true, when flying?

THE CHAIRMAN: Again, I'm not -- I just don't understand the relevance. I think that's a given. Everybody understands flying, like other activities, is -- under certain conditions, the workload is greater -- we all understand that -- when you're landing. I'm still trying to figure out your point, and I wish you'd get to it.

MR. PIETRORAZIO: Well, I guess I was drawing a relationship between the accident that took place where the pilot should not have been that low, but he was, and the --

THE CHAIRMAN: Well, but again --

MR. PIETRORAZIO: -- same thing can happen with these stacks, and that's the point I'm trying to make.

THE CHAIRMAN: Okay. That's

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the point. Well, I'm glad you got to the point.
MR. PIETRORAZIO: Thank you.
With regard to the NOTAM that was mentioned that you responded to, that NOTAM was issued after 9/11; is that correct?
THE WITNESS (Stevens): Yes, sir.
MR. PIETRORAZIO: And the purpose of that NOTAM was to try to have a handle on aircraft hanging around certain facilities and the threat that that might present --
THE WITNESS (Stevens): I believe that's correct.
MR. PIETRORAZIO: -- from the standpoint of terrorism?
THE WITNESS (Stevens): Yes, I believe that's correct.
MR. PIETRORAZIO: Thank you.
And that NOTAM is still in effect?
THE WITNESS (Stevens): Yes, sir, it is.
MR. PIETRORAZIO: And that

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NOTAM was brought up by CPV?
THE WITNESS (Stevens): It was brought up in my line of questioning, and they did respond and discuss -- we did discuss that NOTAM during my line of questioning, yes, sir.
MR. PIETRORAZIO: Well, am I mistaken?
THE WITNESS (Stevens): I believe that's correct. I may be wrong. I may have discussed it in response to questioning from the parties. I don't recall specifically.
MR. PIETRORAZIO: Okay. Thank you.
And the point here is wouldn't it be advantageous for -- wouldn't it serve Waterbury Oxford Airport well concerning that, when you consider this NOTAM that applies to it and the fact that a power plant would be sitting under the left downwind leg, wouldn't it be so much better if there were no power plant under the left downwind leg?
MR. SMALL: Objection.
Mr. Stevens can't speak for Waterbury Oxford

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Airport. You can rephrase the question.
THE CHAIRMAN: Rephrase the question, please, or else I'm going to sustain the objection.
MR. PIETRORAZIO: In your professional opinion as a pilot, wouldn't it be better for Waterbury Oxford Airport not to have this power plant under its left downwind leg?
MR. SMALL: Same objection. He can't speak on behalf of the airport.
THE CHAIRMAN: Well, he said as a pilot. And a simple yes or no answer would be fine.
THE WITNESS (Stevens): Okay.
THE CHAIRMAN: I think we all --
THE WITNESS (Stevens): Then I want to make sure I answer it correctly, so can I ask the question he asked real quick? Would it be safer, is that your question, if there were no power plant?
MR. PIETRORAZIO: Yes. And considering the NOTAM, as well that that complicates the issue, the NOTAM exists, and

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therefore, if the power plant were not a factor of its relationship to the airport, wouldn't that be a positive thing?
THE WITNESS (Stevens): I'll answer very briefly. If the power plant did not exist, then there would be no need to comply with the NOTAM or the AIM which pilots have to comply with.
MR. PIETRORAZIO: Thank you. You did a much better job than I did.
Are you familiar with Blythe 1 plant in California, Blythe 1 electrical generating station in California?
THE WITNESS (Stevens): You'll have to refresh. I'm not sure.
MR. PIETRORAZIO: In Blythe, California, there was a siting taking place for a second plant, Blythe 2, a combined-cycle generating plant.
THE CHAIRMAN: So the question is, are you familiar? And if you're not --
THE WITNESS (Stevens): The answer is I don't believe I am.
THE CHAIRMAN: So please continue because if he's not --

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MR. PIETRORAZIO: I understand. Thank you, Mr. Chairman.
Are you aware that cooling tower thermal plumes can have an effect on aviation as well as --
MR. SMALL: I'm going to object because this plant does not have a cooling tower, so the question is irrelevant.
THE CHAIRMAN: So is there relevancy to the question since it does not have cooling tower?
MR. PIETRORAZIO: Absolutely. The relevancy is plume and its effect on aviation.
THE CHAIRMAN: But you talked specifically about a cooling tower in your question. Rephrase the question, please, to make it relevant to, you know, the application before us.
MR. PIETRORAZIO: Isn't it true that the plumes emanating from a cooling tower --
THE CHAIRMAN: If there's no cooling tower associated with the project, why the question? There are plumes

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associated with other --
MR. PIETRORAZIO: The MITRE report, Mr. Chairman, and the previous report, the SAIC report, do not necessarily relegate themselves to plumes from power plants. It's all thermal plumes.
THE CHAIRMAN: Right, but the application before us is specific. So the questions that you're asking Mr. Stevens should relate to facilities that are going to be part of this power plant, and my understanding, and correct me if I'm wrong, is a cooling tower is not part of this facility.
MR. PIETRORAZIO: I understand.
THE CHAIRMAN: There are --
MR. PIETRORAZIO: Maybe I'll ask that question at the brief -- I'll rephrase it for a later cross.
THE CHAIRMAN: No. Rephrase it now, please, because Mr. Stevens is not going to be here. He, I believe, is going to be away, so this is your opportunity to cross-examine him.

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MR. PIETRORAZIO: Well, without mentioning cooling tower, I don't see how I can do that, so I'll go on to the next question.
The upset criteria -- and that was discussed with CPV -- they do ask whether the findings that were -- that supported their response from the modeling, did you not ask if those results were for the 512 megawatt plant and not the new plant?
THE WITNESS (Stevens): I did, and I believe their response was that the 2012 MITRE report referenced the 512 megawatt plant, but the calculations that they provided were for a distillate plant that was for the proposed present plant of 798 or 805 megawatts.
MR. PIETRORAZIO: Thank you.
Are you familiar with the SAIC report that preceded the MITRE report?
THE WITNESS (Stevens): Again, I believe that was referenced in the MITRE report as well.
MR. PIETRORAZIO: Thank you.
Are you familiar with the

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finding of that SAIC report, if I may use the term "SAIC," that stated specifically if the Towantic plant, at that time the 512 megawatt plant, were sited at that place in Oxford, Connecticut, next to that airport, that the adverse effect to the airport -- there would be an adverse unacceptable risk, excuse me, unacceptable risk, within the whole area of the airport? Are you familiar with that statement?
MR. SMALL: I'm going to object to that question primarily because the SAIC model was never accepted or acknowledged by the FAA. In fact, the FAA asked MITRE to review it. MITRE severely criticized it for its inaccuracy, if you look at the two 2012 reports that MITRE issued and some other reports that Mr. Pietrorazio has provided. So, on that basis, I don't think it's a valid question. It's not a valid model. It's been invalidated by subsequent documents not validated.
MR. PIETRORAZIO: Can I respond to that, Mr. Chairman.
THE CHAIRMAN: Well, first,

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are you familiar with it? We may not need to --
THE WITNESS (Stevens): Yes, sir, I am.
THE CHAIRMAN: Then respond as to why, in light of the objection, that I should overrule the objection.
MR. PIETRORAZIO: So you don't overrule the objection?
THE CHAIRMAN: I'm asking you to give me some guidance as to --
MR. PIETRORAZIO: Okay. Sure. Okay. First, the FAA did not endorse the SAIC report, and I have verbiage from FAA personnel that the SAIC report is not rejected in any way, shape or form, that the FAA had the latitude to endorse or not endorse, but I have the flat statement from the FAA that in no way do they diminish the accuracy, and so on, of the SAIC Report. So it's not a rejection.
THE CHAIRMAN: Well, okay. I'm going to -- we'll have to have that. I mean, it's just your word, unless you have something in writing, but I'll allow this

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questioning to continue up to a point because I don't want to go too far on this because I think what you're also saying is it was not endorsed, so I'm not exactly sure why we're going to continue this. If you have one or two very specific questions relating to this, and if Mr. Stevens is able to answer, that's fine, but if this is going to go beyond that, then I'm going to have to cut you off.
MR. SMALL: Mr. Chairman, just one more point of clarification. Based on our reading of the SAIC Report, Mr. Pietrorazio is mischaracterizing it. So I would just ask if he has a specific statement in that report that he believes supports his position, if he wants to read that in context, that's different than just making a broad statement about what the report says, which we don't believe the report does, in fact, say.
THE CHAIRMAN: We're going to take what he said for what it's worth. So, if you have a specific -- I guess you did answer that you are familiar with that report; is that correct?

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THE WITNESS (Stevens): Yes, sir, it was referenced. I believe it was referenced in the MITRE Report.
MR. PIETRORAZIO: Thank you.
And are you familiar with the findings from both reports that multiple plumes complement the effect of turbulence in an adverse manner; in other words, when you have multiple plumes merging that even more dangerous eddies are produced that have to be considered?
THE CHAIRMAN: So I understand, you talk about multiple plumes. Are you stating, therefore, that this project will produce multiple plumes because, otherwise, I don't see the relevance?
MR. PIETRORAZIO: Yes, multiple plumes, and that those plumes, Mr. Chairman, will merge, and it's that merging of the plumes that creates an additional risk. There are two stacks.
THE CHAIRMAN: There are two stacks, right. They talked about two stacks. Okay, you're talking about the plume from the two stacks and talked about what that would,

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in your previous examination, but if there's anything else you want to add to that in response to what, I guess, is a question.
THE WITNESS (Stevens): I believe that when the, in this particular case -- and we discussed my line of questioning with the Applicant -- was that these numbers they were providing were when both turbines were operating and exhaust plumes were emanating from the two stacks that they would merge and at some point become one, and the merger of those two exhaust plumes would create one larger plume, yes, that was my understanding of my questioning.
MR. PIETRORAZIO: And do you know if, in the MITRE Report, the findings that underscored the plume rise and turbulence effects of the plumes, do you know whether that was reported as a single plume or merged plumes?
THE WITNESS (Stevens): I believe the MITRE Report reported it as a merged plume.
MR. PIETRORAZIO: Okay. Thank

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you. That's all I have, Mr. Chairman.
THE CHAIRMAN: Thank you. Yes, we have a follow-up question from Mr. Lynch.
MR. LYNCH: Mr. Stevens, you referenced earlier a simulator test?
THE WITNESS (Stevens): Yes, sir.
MR. LYNCH: Of which ten pilots took the tailwind landing and --
THE WITNESS (Stevens): Yes.
MR. LYNCH: -- they all landed safely. Then you said there was a circular pattern and they crashed. All ten crashed?
THE WITNESS (Stevens): Yes, sir.
MR. LYNCH: Okay. That's all I wanted to know. Thanks.
THE WITNESS (Stevens): This was a full motion simulator. It was a Redbird Full Motion Simulator. And yes, it was shocking to me as well.
MR. LYNCH: Well, you just left it there, so I wanted to make sure it was all ten.

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THE WITNESS (Stevens): Yes.
MR. LYNCH: Thank you.
THE CHAIRMAN: Okay. Now we'll continue with the Town of Middlebury.
MR. SAVARESE: For the record, Attorney Stephen Savarese for the Town of Middlebury.
Mr. Stevens, you suggested a scenario in trying to satisfy the AIM and this NOTAM that a pilot may have to travel further away from the runway to make that pattern. Would that bring the flight in approaching the landing further into the Town of Middlebury if he widened his circle-to-land?
THE WITNESS (Stevens): It would -- yes, it would actually. In either instrument conditions, you know, cloud conditions or visual flight rule conditions, it would increase the flight path over Middlebury and over Naugatuck.
MR. SAVARESE: You're familiar with the density of the population around the Oxford Airport?
THE WITNESS (Stevens):

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Anecdotally. I've lived there a long time.
MR. SAVARESE: Are there currently any structures, if you will, between the tarmac and the proposed plant in that 3,000 feet area?
THE WITNESS (Stevens): I don't quite understand your question. If you would ask the question again?
MR. SAVARESE: Is it, in fact, vacant land currently between the tarmac and the proposed site?
THE WITNESS (Stevens): Yes. Other than what's on the airport itself, it's quite vacant between the end of the airport property and the proposed power plant, yes, sir.
MR. SAVARESE: So, if the shortening of the leg with a tighter turn, which maybe a more experienced pilot could handle, would bring them over vacant territory; is that correct?
THE WITNESS (Stevens): If the power plant has to be avoided, you're either going to avoid -- recall that we're flying either north or south when we are on our

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downwind leg of landing. And we are approximately, as I had indicated before, we're approximately -- we should be between a half a mile and three-quarters of a mile off of the runway, away from the runway, flying in the opposite direction to the runway. We call that the downwind leg. And then when we get past the end of the runway, we proceed another quarter to half a mile past the end of the runway, and then we turn our base leg, and then we come and turn final and land.
So, if we are flying downwind, the downwind portion is where the power plant intends to be. The downwind portion, if we fly over that -- if we have to avoid that, we either have to fly closer to the runway and aim, you know, 7-5-15 would require a pilot to avoid the plume by flying closer to the runway, then a half a mile because it specifically instructs when able to fly upwind. That means if the wind is going this way, to fly this way.
MR. SAVARESE: But is it, if I may interrupt, isn't it, in fact, requiring a tighter turn if you're closer to the runway?

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THE WITNESS (Stevens): It would almost be -- what we would have to do is we'd have to fly around, come back out, and we'd have to do a dog leg around the power plant.
MR. SAVARESE: Which maneuver is entirely over the neighborhoods of Middlebury?
THE WITNESS (Stevens): Well, it would. The placement of this power plant would, whether you fly upwind or downwind of the power plant, would create more aircraft flight over the Town of Middlebury.
MR. SAVARESE: Thank you. I have no further questions.
THE CHAIRMAN: Okay. Thank you.
Middlebury Land Trust?
(No response.)
THE CHAIRMAN: CL&P?
MR. COCHRAN: Mr. Chairman, we have no questions.
THE CHAIRMAN: Thank you.
Town of Oxford?
(No response.)

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THE CHAIRMAN: Naugatuck Valley Chapter Trout Unlimited?
(No response.)
THE CHAIRMAN: A little cold for everybody to be out fishing.
Pomperaug River Watershed Coalition?
MR. DeJONG: Mr. Chairman, we have no questions.
THE CHAIRMAN: Naugatuck River Revival Group?
MR. ZAK: Mr. Chairman, we have no questions.
THE CHAIRMAN: Lake Quassapaug Association?
(No response.)
THE CHAIRMAN: Middlebury Bridle Land Association?
(No response.)
THE CHAIRMAN: Dennis Kocyla?
(No response.)
THE CHAIRMAN: Naugatuck Valley Audubon?
MR. RUHLOFF: Mr. Chairman, we have no questions.

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THE CHAIRMAN: Town of Southbury?
(No response.)
THE CHAIRMAN: GE Energy Financial Services?
(No response.)
THE CHAIRMAN: Borough of Naugatuck Water Pollution Control Authority?
(No response.)
THE CHAIRMAN: Wayne McCormack?
MR. McCORMACK: Mr. Chairman, I have no questions.
THE CHAIRMAN: Westover School?
(No response.)
THE CHAIRMAN: Westover Hills Subdivision Homeowners?
MR. CORNACCHIA: Mr. Chairman, Chester Cornacchia for Westover Hills Subdivision. If I may, I have no questions for Mr. Stevens.
The last hearing I was here, and I got called to a family issue I had to deal with, so I was apparently called in my

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absence. If I may have the opportunity for cross-exam of the Applicant at this time?
THE CHAIRMAN: You will at some point. I have to confer. As you can see, when you have 15 different intervenors and parties scheduling, so we'll let you know.
MR. CORNACCHIA: Thank you. I appreciate that.
THE CHAIRMAN: Marian Larkin and Greenfields, LLC?
(No response.)
THE CHAIRMAN: Quassy Amusement Park?
Mr. Stevens, you can go and enjoy your vacation.
THE WITNESS (Stevens): Thank you, Mr. Stein.
THE CHAIRMAN: Thank you, sir.
(Witness excused.)
THE CHAIRMAN: Okay.
Mr. Perrone, could you move back to your seat now?
And additional questions by staff to the certificate holder, please?

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MR. PERRONE: Thank you, Mr. Chairman.
Mr. Davison, at the last hearing Mr. Gustafson testified that a wildlife study 15 years old would likely require updating; do you agree with that?
THE WITNESS (Davison): Yes. If you're referring to the Tetra Tech study, specifically Section 3, existing environment, Section 3.7.2, as far as I'm aware, that's the only discussion of wildlife. And based on that, yes, I would agree with that, it's a bit cursory.
MR. PERRONE: Generally speaking, about how old would a report have to be where it would require an update in your experience?
THE WITNESS (Davison): I would say anything that's exceeding a decade warrants taking a close look at whether it should be updated. I think what's most important is how the land use has changed. If the conditions on the property hadn't changed, the habitat types, the way the property is being managed, whether it's being

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managed at all, alterations to the vegetation forest, whether it's been farmed, any real land use changes would probably be a more important trigger that would warrant doing a new study as opposed to the time frame, but anything over a decade, even without any significant changes, probably warrants doing some updating.
MR. PERRONE: Thank you.
As far as the USLD storage tank, what measures would you have in place to protect against fuel spillage when the tank is being refilled?
THE WITNESS (Donovan): This is specific to unloading; is that correct?
MR. PERRONE: Yes.
THE WITNESS (Donovan): So there's typically a curbing, like the equivalent of curbing on the sides and a speed bump for containment in case of an incidental spill.
MR. PERRONE: Could an updated fuel storage and handling plan be provided in the D&M phase?
THE WITNESS (Bazinet): Yes.

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MR. PERRONE: Before there was some discussion about fuel consumption compared to the previous project with the new project. I understand we have heat rates in the filing based on 59 degrees. Would you have the heat rates for say zero and 90 degrees or other temperatures?
THE WITNESS (Donovan): We have -- I think we've provided the heat rates, the efficiencies, in a table for wet winter which is 20 degrees and 90 degrees.
MR. PERRONE: Also related to that, what is the Btu content of natural gas per cubic foot?
THE WITNESS (Donovan): It's usually about 20,000 and change, 20,000 Btu's per pound for about I think it's about 900 Btu's per standard cubic foot.
MR. PERRONE: And for the distillate fuel oil how many Btu's per gallon?
THE WITNESS (Donovan): For fuel oil for distillate it's usually about 18 or 19,000 Btu's per pound. It's on a per pound basis.

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MR. PERRONE: Now, going back to natural gas, what line pressure in pounds per square inch gauge do you require at the plant?
THE WITNESS (Donovan): Approximately 500 PSI, 500 to 525 PSIG.
MR. PERRONE: And what's the line pressure of the existing line you're going to connect to, ballpark?
THE WITNESS (Donovan): There's two individual lines that we'll be tying into, but the max pressure is on the order of over 600 PSI.
MR. PERRONE: Could you generally describe the natural gas connection and the underground route it will follow?
THE WITNESS (Bazinet): So we're actually working through those details with Spectra currently, and we're contemplating one of two routes. One would be going directly north on the site and tapping both lines directly to the adjacent northern boundary of the site. A second routing -- and this one is a little more speculative, but it would involve crossing

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Spectra property and tapping -- running the line north and tapping both lines on the northern end of Spectra's property.
MR. PERRONE: And that would be an interruptible rather than a firm gas service. Correct?
THE WITNESS (Bazinet): That's correct.
MR. PERRONE: Also, at the last hearing, there was some mention of safety concerns, especially as related to the explosion at Kleen Energy. Is it correct to say that the primary risk that contributed to that accident, natural gas blows, would be eliminated with this project?
THE WITNESS (Donovan): That's correct.
MR. PERRONE: What type of cleaning media would you use to clear the lines?
THE WITNESS (Donovan): It's envisioned that it would be compressed air.
MR. LYNCH: That microphone doesn't seem to be working. Could you speak up a little louder?

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THE WITNESS (Donovan): Sure. It's envisioned that compressed air will be used to clean the pipeline.
MR. PERRONE: So would you truck in a large compressor or a --
THE WITNESS (Donovan): That's correct or possibly use the permanent air compressors on site, but probably mobile.
MR. PERRONE: But such measures would ultimately be in compliance with the findings and recommendations in the executive report issued by the Thomas Commission?
THE WITNESS (Donovan): That's correct.
MR. PERRONE: Also, regarding natural gas safety, what type of safety features would the plant have itself, any gas sensors, et cetera, emergency shut-offs, in general?
THE WITNESS (Donovan): There definitely would be emergency shut-off valves.
(Pause.)
THE WITNESS (Donovan): So,

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there is -- it's not limited to gas detectors. I believe there will be gas detectors incorporated in the design of the plant, but there's other instrumentation that will be used for safety purposes as well, such as pressure sensors to, you know, quickly react in the event of a loss of pressure.
MR. PERRONE: And would ammonia be stored at the site?
THE WITNESS (Donovan): Yes.
MR. PERRONE: And that would be used for?
THE WITNESS (Donovan): That would be used as a reagent in the SER system to control NOx, and it would be 19 percent aqueous ammonia, so 19 percent solution, mostly water.
MR. PERRONE: And hydrogen would also be stored?
THE WITNESS (Donovan): That's correct.
MR. PERRONE: And that would be used for?
THE WITNESS (Donovan): That's

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used as a cooling medium within the generators, but it's usually a small volume.
MR. PERRONE: Turning to the comments from the Connecticut Airport Authority, what type of consultations has CPV had with the CAA in addition to those related to the balloon float?
THE WITNESS (Bazinet): I apologize. I'm going to track down a date for you, but I'll describe. So we met with the Connecticut Airport Authority on January 6th, and the purpose of that visit was to describe to the Connecticut Airport Authority the proposal, in general, but also the changes relative to the certificated project and get any feedback that they might have for us at that point in time.
MR. PERRONE: Because in their comments they mention a need to file a document with the FAA, the FAA forms 7460. What's the status of that?
THE WITNESS (Bazinet): So, the 7460 process is in its circularization and seeking public comment phase. That window closes in the pretty near term here,

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at which point the FAA will take and consider all that information in their analysis and their final determination.
MR. PERRONE: Has the FAA asked for a plume analysis?
THE WITNESS (Bazinet): No.
MR. PERRONE: Has one been performed?
THE WITNESS (Gresock): We've done some of the calculations in response to the questions that have been asked. We have been looking at the MITRE modeling results and looking at the most recent MITRE model. It has not proven very easy to work with. We've noticed some output errors that we're not really sure how they might reflect on results. And so, at this point in time, we have no updated modeling done in that regard, which is why we reverted to using the Casa because it was providing a more direct answer to the questions that were asked.
MR. PERRONE: In response to the CAA comments, have the data from that analysis been provided to the CAA?
THE WITNESS (Gresock): We

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haven't provided any updated information to the CAA on that at this point in time. We did provide a package of information update, as a result of the meeting on January 26th, that provided the FAA filings, some historical information about the project, et cetera.
MR. SMALL: And just for the record, that was in Late-Filed Exhibit 2B filed on January 22nd, I believe.
MR. PERRONE: Moving on --
MR. SMALL: Yes, Late-File Exhibit 2B filed on January 22nd.
MR. PERRONE: Turning to --
MR. SMALL: It was a big thick document provided, the whole group of materials that was provided to the airport authority.
MR. PERRONE: Regarding the forward capacity auction, I understand Towantic's numbers for that was 725 megawatt. So do you basically just go by a summer rating because it's based on the peak season, the peak load conditions?
THE WITNESS (Bazinet): Yes.

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I mean, I would imagine that's the logic that ISO New England employs, but their specific ambient data point is 90 degrees Fahrenheit, which you submit your qualification package and subsequent capacity supply applications --
MR. PERRONE: In the first set of Late-File exhibits, CPV was asked about the possibility of black start capability. I know that's something CPV was going to look into and consult with the ISO. Do you have any updates on that at this time?
THE WITNESS (Bazinet): No updates with regard to ISO consultation.
MR. PERRONE: Could that issue be addressed in the D&M phase?
THE WITNESS (Bazinet): Sure. Absolutely.
MR. PERRONE: But ultimately, black start capability, whether it's economic or not, would depend a lot on ISO determining if it would benefit the system; is that correct?
THE WITNESS (Bazinet): That's part of it. This particular site has a more

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practical constraint relative to real estate. We did do quite a bit of analysis to understand sort of what the equipment would look like and the type of real estate that would consume on our site, and without a -- it's kind of a -- I don't think there's enough land on the site to actually accommodate black start at this point, so it would require some other land acquisition or something to that effect.
MR. PERRONE: But generally speaking, economics aside, if the entire grid is down, a complete blackout situation, the black start units are the ones that are started first?
THE WITNESS (Bazinet): Yes, that's correct.
MR. PERRONE: Any updates on the status of the FAA circularization review process?
THE WITNESS (Bazinet): Just what I mentioned a few moments ago. That window is closing, and I suspect -- and I think the notices that they provided on November 17th mentioned a period of up to 120

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days prior to final decision so --
MR. PERRONE: And regarding the Set I interrogatories, Question 11, what's the status of CPV addressing DEEP's comments regarding the stormwater management system?
THE WITNESS (Gustafson): Those comments are going to be submitted to DEEP tomorrow.
MR. SMALL: We can provide a copy of those for the Council. We'll file those as a Late-Filed exhibit once we submit it so you have that for your record.
MR. PERRONE: In Set II, CSC Question 33, it gets into average daily stream flow for Pomperaug River, 82 cubic feet per second. How many million gallons per day would that be?
THE WITNESS (Bazinet): Fifty-three million gallons a day.
MR. PERRONE: And for your one-in-one-hundred conditions, the 7.3 cubic feet per second, does that work out to about 4.7 million gallons per day?
THE WITNESS (Bazinet): Seven

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point three cubic feet per second, is that what you said?
MR. PERRONE: Yes, 7.3.
THE WITNESS (Bazinet): Yes, 4.7 million gallons.
MR. PERRONE: Okay. And my last question with the calculation. So based on that scenario, the 67,000 gallons per day, would that be about 1.4 percent of the stream flow?
THE WITNESS (Bazinet): I can confirm your math, but I trust that. I think we reflected 1.3 percent in our response, but 1.35 is what we calculated.
MR. PERRONE: Okay. Regarding CSC, Set III, Question 2, the demineralized water would be made at a rate of 131,000 gallons per day, is that based on one trailer or two?
THE WITNESS (Bazinet): One trailer can support that.
MR. PERRONE: Okay. Regarding the breaker-and-a-half switchyard design and overhead transmission connection, that design was provided to CPV from ISO?

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THE WITNESS (Bazinet): So this project is a little unusual from a normal interconnection with the ISO in that it's been designed more than once, so yes, effectively.
MR. PERRONE: So then would CPV have any reason to consider an underground connection?
THE WITNESS (Bazinet): We haven't contemplated that, no.
MR. PERRONE: I understand that CPV has calculated the proposed plant would run on oil for about 52 hours for winter or slightly more than two days. Have you considered forecasts of more extreme weather? For example, the IRP mentions New England's generation fleet experiences a high probability of critical gas shortages on 20 to 34 days every winter by 2020. Have you considered such extreme conditions?
THE WITNESS (Bazinet): So our analysis was based purely on a backcast of last winter, which I characterized before and has been characterized as one of the worst in -- in the last 25 years. It's one of two of

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the harshest winters on record. We feel it's a pretty representative scenario, and it's unknown at this point whether future expansions of pipeline and, in fact, you know, short-term market influences how they might affect the availability of gas. For instance, the availability of LNG imports out in Boston has precluded the need to switch over to fuel oil on cold days this winter in some instances.
So we could look at that. I'm not sure if it would change the dispatch cycle demonstrably, but it would be dependent on what fuel prices are doing at that point in time, which is driven by a number of different factors, not just weather.
MR. PERRONE: Regarding --
MR. SMALL: Just one second.
(Pause.)
THE WITNESS (Bazinet): Just to clarify, the 52 hours is consecutive hours before we run into a constraint on water, and we were actually able to run up to 720 hours on our --
MR. PERRONE: Regarding the

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plant's ability to ramp up and down in megawatts, is that affected at all, whether you're on oil or gas, how quickly you can ramp up your megawatts? Is that affected by the fuel type?

THE WITNESS (Donovan): The ramp rate is the same after you make the switch after you make the transition.

MR. PERRONE: Also, we have two different numbers in the record regarding the size of the oil tanker truck. There's a mention of 7,000 gallons versus 7,500. Which would be the most up-to-date number?

THE WITNESS (Bazinet): So we've estimated that the tanks would be filled to roughly 7,500 gallons of capacity, but that number is remarkably difficult to track down.

MR. PERRONE: Lastly, going back to visible plumes, I understand it was testified that plumes are likely at temperatures less than 40 degrees, but also under very humid conditions. How much would the relative humidity have to be on a mild day where the plume might be visible?

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THE WITNESS (Sellars): It's a function of both temperature and humidity. So there's, obviously, two variables there. So a relatively mild day, if the relative humidity was near 100, in other words, be a foggy-type of condition, then the plume would also be visible, but generally, if it's not foggy out, then it would have to be cold.

MR. PERRONE: Because under the high humidity conditions the air is largely saturated so it starts to show very quickly?

THE WITNESS (Sellars): There's nothing to dissipate the water; that's correct.

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

THE CHAIRMAN: Okay. Thank you.

Before we go to further questions from the Council, and maybe this is the time for the representative of Westover Hills Subdivision, Attorney Cornacchia, your opportunity.

MR. CORNACCHIA: Thank you, Mr. Chair.

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THE CHAIRMAN: And we'll get you a seat here.

MR. CORNACCHIA: I appreciate the accommodation very much.

And can everybody hear? Okay.

Let's start with some basic questions. And, again, I'm Chester Cornacchia with Westover Hills Subdivision in Naugatuck, Connecticut. We're roughly a subdivision of 62 single-family homes with approximately 212 residents. Approximately 96 of them are between the ages of two and the ages of twelve years old.

So I'm going to start with questions --

THE CHAIRMAN: Excuse me. Could you tell us roughly the distance between your --

MR. CORNACCHIA: We're approximately two miles from the proposed site. We actually straddle the viewshed cutoff that is right at the base of the subdivision on the Late-Filed exhibit.

So this is with regards to

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Late-Filed Exhibit 2A through 2I, which is community outreach activities, and this is to the Applicant. Can you detail any outreach or informational meetings that were held by CPV or made to Naugatuck residents or specifically Westover Hills Subdivision community residents?

THE WITNESS (Bazinet): Are we talking about the original Late-Filed exhibits? I'm sorry, can you --

MR. CORNACCHIA: I'm a little overwhelmed also with the Late-Filed exhibits. This is 2A through 2I.

THE WITNESS (Bazinet): Of which set?

MR. CORNACCHIA: I believe it was the second set. It says community outreach activities. There was a list of, I guess, outreach activities that were performed by CPV. My question was specifically with regards to Naugatuck residents or specifically Westover Hills residents.

MR. SMALL: What specific question in that Set II are you looking at?

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MR. CORNACCHIA: And, again, there was a list of community outreach activities. There were a number of them. There were an Oxford Greens meeting, for example, a Seymour Chamber of Commerce, a listing.

THE WITNESS (Bazinet): So I think your question was what activities were specifically targeted at either Naugatuck residents or Westover Hills subdivision?

MR. CORNACCHIA: Yes.

THE WITNESS (Bazinet): So, typically, we tend to do these things in more of an open format where we will conduct meetings or open houses so that folks are able to attend at their leisure. Specifically, with respect to your question, there were no meetings targeted directly at the Westover Hills Subdivision. Naugatuck -- I'd have to review the list -- I don't recall off the top of my head.

MR. CORNACCHIA: Were there any notifications or solicitations that had gone out to Naugatuck residents? And this would be with regards specifically to there

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was, I believe, one public hearing that was held in Oxford in the summer. I believe it was August 5th. And with regards to that particular meeting.

THE WITNESS (Bazinet): So we publicly noticed that. We sent out mailers to Oxford residents. We posted it on our website. We posted it on the town web site as well, I believe, in actually newspapers of circulation, as well, in the area. I'm not sure if Voices makes its way to Naugatuck, but there are a couple of papers that we also published that in.

MR. CORNACCHIA: But nothing that was specifically targeting Naugatuck residents or nothing held specifically in Naugatuck?

THE WITNESS (Bazinet): It was targeting the residents of Oxford and the surrounding communities, including Naugatuck.

MR. CORNACCHIA: Okay. Are you aware of new informational meetings or information that was requested by Naugatuck residents with regards to PM 2.5 hazards to humans or with regards to ground well

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contamination for Naugatuck residents in the discharge impact area?

THE WITNESS (Bazinet): Are you perhaps referring to interrogatories submitted or --

MR. CORNACCHIA: Did you receive any requests by any Naugatuck residents for further information on any type of hazard to human PM 2.5 particulate exposure or ground well contamination through either runoff or from the particulate effluent discharge to the community?

THE WITNESS (Bazinet): We've received a number of those questions over the past six months, primarily since after the open house on August 5th at Oxford High School. Whether they were from Naugatuck residents or not, I don't specifically remember, but we have received a number of those inquiries.

MR. CORNACCHIA: Is it fair to say that there was no effort made to hold any kind of an informational hearing or seminar, specifically to Naugatuck residents, addressing those concerns over PM 2.5

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contamination or over ground well contamination?

THE WITNESS (Bazinet): No. I don't see why Naugatuck residents are any more entitled to that type of information relative to any of the other surrounding communities or Oxford.

MR. CORNACCHIA: I guess the question I had was with regard to the requests that were made. And if there was no -- there was a meeting held in Oxford that was a broad-based meeting to the surrounding communities, but requests, you had indicated, had come also from Naugatuck residents, if I read you correctly a minute ago, and no effort was made to hold any kind of an informational hearing or any kind of a public informational discourse in Naugatuck as an affected community -- as a neighboring community?

THE WITNESS (Bazinet): So, we've responded to virtually every question we've received, and if there have been some that have gotten lost in the shuffle, that's perhaps the case. I didn't indicate that

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those questions were received from Naugatuck residents specifically. If they came from Naugatuck residents, I'm unaware of that at this point. And I'd also offer up that this entire proceeding is being documented and is available to the entire state 1Of Connecticut as well as any other folks that want to jump on the Connecticut Siting Council website. There are a number of different issues, some of which you've mentioned, that have been addressed in various interrogatories, Late-Filed exhibits, and we're not making any effort that would unreasonably preclude one citizen's group from another.

MR. CORNACCHIA: Are you still prepared to offer any kind of an informational gathering for the residents in Naugatuck so they can better inform themselves over the pros and the cons of the project?

THE WITNESS (Bazinet): I believe we've offered that up a number of different times to a number of different people.

MR. CORNACCHIA: But not in

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Naugatuck, though.

THE CHAIRMAN: I think we have sort of the answers. And really we have our own proceedings. Obviously, if an applicant wants to do their own outreach additional, that's fine too.

MR. CORNACCHIA: I understand, Mr. Chairman, and I appreciate that.

Let's move on to Section 2.1.3, which was under another Late-Filing entitled "Increased Output."

MR. SMALL: Sorry, 2.1.3 of what document, sir?

MR. CORNACCHIA: It should have been filing number 2, and it was under "Increased Output," and it was a Late-Filing. This is with regards to the F Series and the H Series turbines.

MR. SMALL: I believe you're looking at the so-called "Tetra Tech report." It was Exhibit 1 to our petition.

MR. CORNACCHIA: Exhibit 1. I stand corrected.

You detailed that the General Electric H Series turbines offer a corrected

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5.4 percent improvement in efficiency over the General Electric F Series turbine previously contemplated in the 512 megawatt configuration. And that, coupled with additional energy output, provides economies of scale that, quote, benefit project economics as a result -- and as a result to the ratepayers.

Is it accurate to say that the actual savings realized and contemplated in the year 2024 as being approximately $2.84 per month and projected savings to the ratepayers by having Towantic added as an 800 megawatt facility, is it accurate to say that these are nameplate designations and the nominal output would likely be lower?

THE WITNESS (Bazinet): The values that you see in Table 2.1 are net, not nominal or nameplate.

MR. CORNACCHIA: So they would be at the expected daily rate of whatever it may be then?

THE WITNESS (Bazinet): That's correct.

MR. CORNACCHIA: Are they

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provided in the table, though? It was not clear to me. Is it 600 megawatts, is it 500, is it less than that, or is it more than that?

THE WITNESS (Bazinet): Are you asking about Table 2.1 in the Exhibit 1 or -- I'm not sure.

MR. CORNACCHIA: I guess what I'm looking at is I'm really asking about the increased efficiency between the H Series and the F Series, and you've got it corrected in a Late-Filing as 5.4 percent; is that correct?

THE WITNESS (Bazinet): That's correct.

MR. CORNACCHIA: Okay. So, my question, I guess, is wouldn't it be better overall for local impact and regional emissions if the greater efficiency H turbine were used on, say, a smaller footprint plant, as previously applied for, say the 512 megawatt facility?

THE WITNESS (Bazinet): So the megawatts are going to be needed. And if you don't get the megawatts from this one site,

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you're going to get them from two sites. And by definition, the economies of scale is not -- is not realized as a result of that. So I would answer your question no that it's not. It's more beneficial to ratepayers to have it consolidated in one location and provide that economies of scale.

MR. CORNACCHIA: The question was whether or not it was more advantageous to have less emissions locally. And I guess the question is: At a 512 megawatt configuration, it would be less emissions based upon even today's earlier testimony that your plant would operate at approximately a 40 percent increase?

THE WITNESS (Sellars): I guess I would refer you to Table 4-4 of that same document that shows that, for example, for particulate emissions, the higher efficiency but larger H technology would actually emit 43.3 tons per year less of particulate emissions than the F size machine even though it is smaller.

MR. CORNACCHIA: Is that a comparable megawattage?

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THE WITNESS (Sellars): No. That's total. That is not adjusted for megawatt output. That is at 800 or so megawatts of the H machine, there would be 43.3 tons per year less particulate than the 512 megawatts from the F machine because of the improved efficiency.

MR. CORNACCHIA: And then in the other categories, again, they're not lower, though?

THE WITNESS (Sellars): Some are lower; some are slightly higher. For example, NOx would be a little bit higher, 56 tons per year, and VOC would be a little bit higher, about 20 tons per year, but CO would be less, say 43 tons per year, and the particulate would be less, 43.3 tons per year.

MR. CORNACCHIA: And again, I guess the question I'm trying to ask is wouldn't it be better to use the more efficient turbine, the H Series turbine, in a smaller nameplate capacity plant that was previously applied for?

THE WITNESS (Bazinet): So I

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think I've answered that question. So whether it comes from one site or two sites, the megawatts are going to come in some form. So, having, for example, this efficiency generating at 785 megawatts is better than having a 500 megawatt plant and a couple of simple cycle units to make up the difference.

THE WITNESS (Bodell): So say you have to consider the emissions that are being displaced throughout the rest of the region in Connecticut because of the larger configuration. Because the larger configuration is more efficient, it will displace more than a less efficient set of two or three units. So you're looking at the local impacts is one thing, but many of these pollutants are regional, and they have an impact regardless of where they are emitted. So the more efficient, the better for the environment.

MR. CORNACCHIA: I know that. And the more efficient is the 5.4 percent corrected higher efficiency of the H versus the F. My question again was couldn't we use an H on a 512 megawatt plant? I mean, we

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were previously approved at 512 with an F Series, and it's been pretty clear that the F Series is older technology and it's less efficient by 5.4 percent. My question again was using the H Series at the increased efficiency with a smaller nameplate capacity would reduce local emissions and regional emissions just exponentially by the output and the decrease in emissions?

THE WITNESS (Bodell): That is not true because what I just said. I understand what you're saying, which is break apart the configuration that's set up to be very efficient, but once you break it apart, you're no longer getting the economies of scale, and as a result, you're not going to get as much displacement throughout the rest of the region from what I just said.

MR. CORNACCHIA: I'm not clear on that. And I'm going to pause on that for now, but again, it was my understanding and still is my understanding that the H Series is a more efficient turbine than the F, and at a lower megawattage, whether instead of being two smoke stacks, hypothetically one

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smoke stack producing X amount of output is going to reduce the environmental strain on the local area and, as a result, also on the region.

And part of this application includes carbon offsets, and in this particular case -- and again, you just testified a little while ago that there's going to be 39 percent more increase, depending on the temperature, whether it's 20 degrees at 39 percent or 41 percent at 70 degrees.

THE WITNESS (Bazinet): And I guess what I'm offering up to you is that that the capacity from this facility is going to be procured whether it's from one site or two sites, and I'm just telling you that the additional sites that would offer up the additional capacity are not going to come at the same efficiency, economies of scale that this site offers. So, by definition, it will be less efficient and less economic, cost ratepayers more, and contribute more to overall emissions in the region and locally.

MR. CORNACCHIA: Okay. Cost

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ratepayers more would be a function of the $2.84 -- $2.80, excuse me?

THE WITNESS (Bazinet): No. It would cost ratepayers more because some new unit would enter the system not yet identified at a higher cost because smaller plants cost more money, and most likely these would be simple cycle generating units which operate at an efficiency or a heat rate of, say, 9 to 10,000 Btu's a kilowatt hour versus the 6,400 Btu's a kilowatt hour that this plant generates at.

MR. CORNACCHIA: Okay. So the H Series turbine in a smaller configuration is not possible then?

THE WITNESS (Donovan): That's correct. If you broke the configuration into a one-on-one, it wouldn't have that same efficiency benefit.

MR. CORNACCHIA: Would it be more or less efficient than the F Series?

THE WITNESS (Donovan): So that I understand your question, are you asking if the H technology is available in a smaller gas turbine? Is that your question?

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MR. CORNACCHIA: Yes.

THE WITNESS (Donovan): The answer is no.

MR. CORNACCHIA: Okay. So it's not available, and it would be less efficient than an F Series configuration?

THE WITNESS (Donovan): So it's not available. The H Series technology is not available in a smaller gas turbine that in the same two-on-one configuration would net a 512 megawatt plant.

MR. CORNACCHIA: Okay. Have CPV's models contemplated the need for grid offset by energy conservation measures? How much has been allotted in 2018 or, say, 2024 calculations?

THE WITNESS (Bazinet): Can you just repeat that question again?

MR. CORNACCHIA: CPV's modeling, has it contemplated energy conservation measures in their calculations?

THE WITNESS (Bodell): The answer is yes it has. And the energy efficiency was contemplated in accordance with the ISO projections.

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MR. CORNACCHIA: Okay. And which methodology was utilized other than the ISO projections? Was there a -- how much was offset from conservation, or do you expect to be offset from conservation in Connecticut and the New England markets? In other words, is there an area inside any of your filings, because I haven't found anything, that depicts that in any of the timely or Late-Filings?

THE WITNESS (Bodell): So, in Exhibit 2 to the petition, there's a section that describes the economic modeling that was performed to calculate the benefits in terms of lower energy costs and lower emittents tied to the dispatch of this plant on the system. And in that section it has a load projection, and it was in the load projection that we incorporated the energy efficiency which, in effect, with respect to the system economics shows itself in the form of a lower load forecast, lower energy demand than what would otherwise be required.

MR. CORNACCHIA: What I'm referring to is like ISO New England, they

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talk about in their forecast, their 2014 forecast, that actions across the region are advancing energy efficiency and developing renewable resources and reducing pollutants from power plants will have a major impact on the region, and this is their quote. And they're talking about the addition of approximately 700 megawatts of wind turbine power which is expected. Are those calculations part of your calculations in the determination of need?

THE WITNESS (Bodell): Yes. If you go to page 40 of Exhibit 2, we describe a summary of our load growth and peak demand forecasts. So there's two aspects. One is the total energy required by the system by end users. The other is what's the peak demand or the highest amount of energy that's required. That's important because that peak demand is, in most part, being met by very inefficient, high polluting combustion turbines or oil-fired units.

So we have both the load growth and the peak demand forecast. We used a combination of NERC data from 2012 to '13

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and the ISO New England report from June 4th of last year. And if you look at page 40 of Exhibit 2, it says the base case analysis assumed 1,900 megawatts of passive demand response in 2018, growing to 2,200 megawatts in 2028. And in addition to that, we assumed active demand response, which is going to be price responsive, of 994 megawatts in 2018, and we kept that constant through 2028. Now, that's how much potential demand response there is, and as a result, we kept that constant. Whether or not it's being used is going to be a function of the demand on the system and the availability of the price point.

MR. CORNACCHIA: Do you expect that to remain constant, or do you expect it to increase or decrease?

THE WITNESS (Bodell): Depending on market conditions, I would expect it to change, and that's what the model incorporates and takes into account, but as far as the 994 megawatts of active demand response, I think these are estimates based on other projections that have been put

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out there.

MR. CORNACCHIA: And again, my concern is from a conservation and load management standpoint. We all know that technology moves faster than the speed of light. I mean, if you look at, say, 1999 when this application was originally approved for 512, your cell phone looked remarkably different than the one you're currently using now, and efficiency measures likely could increase exponentially depending upon the decreased demands of our particular area or the region. I don't see in your modeling anywhere where Exhibit 2 takes into account the Integrated Resource Plan for Connecticut, and this is the 2014 cumulative energy savings that are contemplated.

Is that in there, or again, am I missing something? And I'm talking about the cumulative energy savings which is expected to reach between 309 and 413 megawatts. If you go back since 1999, the energy savings that were incorporated in the conservation and load management programs that Connecticut was very diligent in

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implementing, it negated the need for further generation at the time and actually --

MR. SMALL: Is there a question here?

MR. CORNACCHIA: There is a question, yes.

MR. SMALL: Please state your question.

MR. CORNACCHIA: I'm trying to preface a statement towards the conservation and load management questions that I'm not seeing addressed, and the increased product efficiency standards back then and now resulted in Connecticut going from a net importing to a net exporting state.

So I guess my question is: In your plan does it contemplate the integrated resource plan for Connecticut and their findings?

THE WITNESS (Bodell): So, to address your question, the answer is, yes, it does. The forecast of the active and passive demand response that we incorporate into our model includes the Connecticut projections as projected by NERC and as projected by the ISO

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New England.
And I also think it's important to say we're concerned very much, and the region is very concerned about potential generation capacity between now and 2018. And that is a critical, as the recent capacity market showed, that's a critical need that is needed today. The potential for improved energy efficiency and demand response in the 2020 period, we do take that into account with the numbers that I indicated, and it's listed in the assumptions in our report. It does incorporate Connecticut as well as New Hampshire, Massachusetts, Vermont, the New England systems' projections of demand response and energy efficiency.
So we have taken that into account. It is identified in Exhibit 2. And the load projection that comes from that, which is fairly tepid frankly, to be honest with you, is also part of our projections.
MR. CORNACCHIA: And these are for Connecticut or for all of New England?
THE WITNESS (Bodell): It's

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for Connecticut and New England. Our electricity market model has every generating unit, every transmission line, basically every transmission line that's on the high voltage system, and it has a number. When I say "number," like thousands, hundreds of load nodes. So we use GE MAPS. It's a very, very detailed model. So we have Connecticut modeled. We have every state in New England modeled. And we have assumptions with respect to imports and exports that are part of the analysis.
So, yes, Connecticut is modeled. The Connecticut projections for energy efficiency demand response are incorporated as with the rest of New England.
MR. CORNACCHIA: Okay. So each individual New England state is also contemplated with regards to energy conservation and load management and that impact on the demand --
THE WITNESS (Bodell): As well as, you had mentioned before, the renewables. We have a very aggressive renewable build-out plan that we've incorporated into this model,

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and part of looking at the reality of how much can get built versus how much has been announced, we look at what's been announced, and on top of that we include additional build-out to reflect the emissions and renewable energy targets that the different states have declared as part of their policy.
THE WITNESS (Bazinet): And I would add to that, in that regard, our forecasts are extremely conservative in the benefits that Towantic can provide in the state because the reality is it's not likely that the build-out of renewables is going to happen in accordance with renewable portfolio standards just because there's not enough out there today, and if they don't get started today, they're just never going to -- or they're never going to happen in the time frame that this plant will be commercial.
So you could argue that beginning with 2018 the benefits that this plant will generate are far in excess of what we've projected, however, we've taken a conservative --
THE WITNESS (Bodell): And you

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mentioned the IRP. Once the IRP did come out, we looked at the assumptions in the IRP. For the most part the conclusions and the assumptions are very consistent with what we've used. There are some things on the edges, but I think CPV is going to provide comments, apparently, on that.
THE WITNESS (Bazinet): Yes, we did. The final thing that I'd like to mention is that we haven't at all quantified the benefits of our plant clearing the capacity market. So, as you know or as you may know, the wholesale power markets are divided into three segments, capacity, energy, and ancillary services. This plant will provide all three. We've only quantified the energy benefits associated with this power plant. The capacity market benefits are a lot more nebulous and much tougher to quantify, but there are benefits.
By virtue of this project clearing in FCA-9, we've, by definition, avoided the next most expensive 725 megawatts. So we've saved the region money by -- because of that, but we just don't know

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what the cost model of the next 725 megawatts is.

MR. CORNACCHIA: I guess the modeling I'm having the difficulty reconciling is that locally, we are polluting Naugatuck, we are polluting Middlebury, we are polluting Oxford and Southbury at a much more disproportionate rate than, say, Boston or Rhode Island but are the actual consumers that are the ones demanding the need that is so compelling outside of the state of Connecticut. And I'm trying to reconcile that with the fact that we went from 512, which was, again, an F Series turbine to 800 and change with an H Series turbine that is 5.4 percent more efficient but 40 percent more polluting, per se.

So is there a balance or is there a test that is employed by applicants such as yourself, in terms of the trade-off? Is it a matter of, well, are we trading off $2.84 for PM 2.5 discharge at a rate that is higher than the DEEP would like to see, or is it a situation where the economies of scale don't favor a smaller microgeneration type of

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facility?

THE WITNESS (Bodell): I would also add there's another important consideration, which is timing. This is a site that's ready to go, and it can be built within the time frame of the need for the region.

MR. CORNACCHIA: It's been ready since 1999, quite frankly, and conservation measures have largely negated that need is an argument that could be made also.

THE WITNESS (Bodell): That's not true.

THE CHAIRMAN: Let's get to questions. We've gone back and forth --

MR. SMALL: We can respond to the prior question by Mr. Sellars.

THE WITNESS (Sellars): As far as the prior assertion that there's significant adverse air pollution impact, I think our modeling has demonstrated quite the contrary that the facility, the maximum impacts are a tiny fraction of the ambient air quality standards that have been

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established to protect very, very sensitive individuals.

But beyond that, in a direct comparison you mentioned PM 2.5 and asthma. That's one that's mentioned a lot. The most recent modeling of the prior smaller unit had pretty close to twice the PM 2.5 impact on an ambient air quality basis than this facility would have.

MR. CORNACCHIA: And, again, that's F Series turbine. Is there a --

MR. SMALL: We didn't quite finish our response to that question. Let us finish.

MR. CORNACCHIA: I apologize.

MR. SMALL: I'm sorry. We did. My apologies. Please go forward.

MR. CORNACCHIA: We're even now.

Is there a happy medium where we can say, okay, we are willing to sacrifice Naugatuck, Southbury, Middlebury and Oxford's air quality and result in PM 2.5 discharge levels that -- I guess the first question is will they be increased from any plant at 512

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with an increased output over, say, 805?

With that kind of megawattage increase of 53 percent or so, will the pollutants and the particulate matter and the greenhouse gases, will they exponentially rise with that taking into account the 5.4 percent increased efficiency of the turbine?

THE WITNESS (Sellars): And I guess my point is that if you compared, as we did in the application, the smaller F Series turbine, in many instances, and particularly with respect to PM 2.5, the approved efficiency and environmental performance of the larger turbine overwhelms the increased size of the larger turbine. So, in the case of PM 2.5 ambient air quality impacts, for example, a smaller 512 megawatt facility, as has been previously proved and is approved right now, would have twice the annual PM 2.5 ambient air quality impact than this facility, even though it's larger would have because of a number of factors: It's more efficient, its environmental performance is superior, and it has different exhaust characteristics.

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MR. CORNACCHIA: So the 805 megawatt plant using the H Series turbine will pollute less than the 512 megawatt configuration?

THE CHAIRMAN: Excuse me. I think this has been answered more than once, and I believe, and you correct me, that some of the pollutants, particularly the particulates, because of what we just heard are going to be less, and there are others that are going to be more. So this is all a balancing, but there is no -- but I think you asked the question, and I think you got the answer. So I would ask you not to continue to repeat.

MR. CORNACCHIA: I'm trying to lean on it, and I appreciate it, Mr. Chairman. I'm just -- with the increase in capacity from 512 to 805, turbine type aside, would there be an increase in discharge and pollutants exponentially?

THE WITNESS (Sellars): You can't increase from 512 to 800 megawatts turbine aside. To increase from 512 megawatts to 800 megawatts, you need a

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different turbine, a larger turbine. And so it's a different model, and because the larger turbine is more advanced in its technology, GE has been able to incorporate into the design significant improvements in both efficiency as well as environmental performance.

So, even though the turbine is larger, even not taking any credit for any of the emissions displacement, which is just substantial and brought about by the efficiency of the turbine, if you just looked at ambient air quality of one versus the other, this facility fits within the envelope of what was previously approved, well within the envelope. In fact, for many pollutants, the one that was raised as having the most concern in the area actually has half the impact.

MR. CORNACCHIA: Okay. And again, my confusion is over whether or not we're talking about impact to the region or the increase in pollution that would be dispersed by one particular configuration versus another. A simple question. I'm just

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looking for an answer whether or not a 512 --

THE CHAIRMAN: It's not a confusion. You're using the wrong word, but -- and, I mean, I think they've tried to answer. From their standpoint, they've given you an answer. Now, that's their standpoint. Our job, and what you're supposed to be helping us, is to get as many facts. So, I hate to say ultimately, because I know we're not ultimate, but we're going to have to make a decision. They've already made their decision of what they're proposing.

MR. CORNACCHIA: Okay, so noted, Mr. Chairman. I appreciate that.

I'm going to switch to the site visit and focus on the viewshed. This is with regards to the January 15th red balloons that were smoke stack simulations during the site walk, and specifically, again, I'm referring to the Late-Filing with attachments, and they detail six photographs as part of the limited locations that were identified as where the balloons were visible. And I quote, "The overwhelming majority of the area surrounding the project

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had no visibility due to intervening topography, vegetation or structures which impeded the view."

Can you describe the methodology utilized in determining the visibility or the lack thereof and the methods by means the viewshed determination was made and that the overwhelming majority of the area had no visibility?

THE WITNESS (Gresock): The information in that Late-Filed exhibit was intended to be representative information based upon what we were doing at the time, which was flying the two balloons at the height of the stacks.

You can see in the figure one that was filed with that response that we've indicated in yellow roads that were traveled around the site. And we basically drove along those roadways, stopping occasionally to look towards the facility location, tried to find locations where we could see the balloons, and took pictures where we could. And this tried to cover as much ground as possible, and the compass directions are

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around the project site.
At the time, we did it for our own curiosity because we wanted to see. We actually had been quite challenged trying to find open views towards the project site because so many of the surrounding roadways do have intervening trees and vegetation. But driving around the site, looking for the balloons, taking a photograph in the direction of the site is what's reflected here.
MR. CORNACCHIA: Okay. What size were the balloons?
THE WITNESS (Gresock): The balloons were approximately 5 feet in diameter.
MR. CORNACCHIA: And they were floated at a height of?
THE WITNESS (Gresock): At the stack top elevation. So, it would be the finished grade elevation of 150 feet, which is 980 feet.
MR. CORNACCHIA: And was there a tether on the balloons holding them?
THE WITNESS (Gresock): Yes.

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MR. CORNACCHIA: Was it a rope? What was the diameter on the tether?
THE WITNESS (Gresock): I don't recollect the diameter on the tether, but certainly one of the constraints with this particular type of visibility assessment is that the air does move, and so -- but the balloons do not always. They're not always aloft straight up in the air. It's the way that kind of methodology works. And so for that reason we're not representing that these are actual and exact heights of what you would see. These are intended to be representations and the best we can provide.
MR. CORNACCHIA: And they were intended to represent what?
THE WITNESS (Gresock): The photographs or the balloons?
MR. CORNACCHIA: The balloons and the tether.
THE WITNESS (Gresock): The balloons were intended to represent stack top height.
MR. CORNACCHIA: So the two smoke stacks?

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THE WITNESS (Gresock): Correct.
THE WITNESS (Bazinet): No. They were intended to represent stack top height, not the two smoke stacks.
MR. CORNACCHIA: Okay. So, I guess is it accurate to say that the overall visibility would have been much greater than say a hot air balloon being floated, let's say the basket at 150 feet, and say the balloon portion simulating, say, the plume at that standpoint and a greater girth than the smoke stack, which was depicted at 5 foot rather than 22 foot, as is part of the --
THE CHAIRMAN: Actually, a stationary helicopter would have been maybe better. There are limits to --
THE WITNESS (Gresock): I believe for what we were asked to do, this served the purpose.
MR. CORNACCHIA: And the viewshed was modeled based upon the balloons, or was it modeled on an expected view of 22 foot tall smoke stacks only or with the plume or with or without the plume?

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THE WITNESS (Gresock): The viewshed information that is provided on this figure was actually originally provided in response to Interrogatory CSC-1 in response to question CSC-13, and that didn't have anything at all to do with the balloons. It had to do with the elevations of the facility overall as it related to digital elevation models that were used. And there are different colors that are there intended to represent year-round visibility and potential seasonal visibility. All of that uses at the most conservative, a view that is just a digital elevation model of the terrain only, assuming no vegetation, and then overlays information about vegetation to provide some information about how, during seasonal conditions, views may be screened.
MR. CORNACCHIA: And that's of the 220-foot-diameter stacks?
THE WITNESS (Gresock): It's of a height that would be seen. It's not making any judgment about what it is that would be seen. It's indicating that something would be seen.

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THE WITNESS (Bazinet): And for all structures.
THE WITNESS (Gresock): For all structures, but obviously, the stacks are the tallest.
MR. CORNACCHIA: And so it's for the power plant as a whole based upon what is expected for seasonal visibility?
THE WITNESS (Gresock): And it's really based upon the stack top heights, which are the tallest heights.
MR. CORNACCHIA: And these are for the structure only and contemplating no plume from anything coming from the --
THE WITNESS (Gresock): There was not a visibility assessment done with regard to a plume; that's correct.
MR. CORNACCHIA: Is any visibility assessment going to be done? Because you conclude that there was virtually no view based upon the roads that were traversed. And I'm quoting your language in there: "As far as the viewshed, the overwhelming majority of the area surrounding the project had no visibility," and then you

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describe the topography and so on.
This was based upon viewing two 5-foot balloons. And again, my question is: Is there something else that could be more indicative of the size of the structures because each one of the stacks are 22 feet in diameter, not 5, and the stacks themselves are not the girth of a tether, and some of the issues that have been brought up by many residents has been the viewability and the view that they may incur of the power plant. And I'm just trying to --
THE WITNESS (Gresock): We have no plans, at this time, to do anything further. The Council has asked us questions and has required us to fly the balloons to give an indication. The original application had information in it, and this is a modification of that application that was for a project that had stacks that were the same height or actually a little higher.
MR. CORNACCHIA: And if I can just add -- that's all my questions for now -- if I can direct one question to the Council that will they consider some kind of

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a revisiting of a viewshed that is appropriate with the size and the girth of those stacks and taking into account the plume also? Because it is a very large concern for a number of residents in the Naugatuck area and, specifically, the Westover Hills Subdivision. And I thank you very much.
THE CHAIRMAN: Your question is duly noted.
MR. CORNACCHIA: Thank you.
THE CHAIRMAN: Let me see if the Council members have any questions. I had a couple.
On the environmental impacts, if you have, as apparently ISO and particularly the State of Connecticut wants you to be able or have, the ability to use oil for potentially longer periods of time, does that affect, in other words, does oil have more pollution than gas?
THE WITNESS (Sellars): Generally the impacts from oil are a little greater than the impacts for gas, but what was included in our environmental analysis

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was the maximum amount of oil that we are requesting permission from the DEEP in our air permit to use 720 hours. So our impacts, relative to short-term standards, assume worst case oil impacts, and then on -- in fact, even on the annual basis it's based on the numbers that I just quoted for PM 2.5.
Thank you, Mr. Chairman. Further clarification. Even though those impacts were half of what the previous modeling of the smaller turbine were, that impact assessment assumed 8,760 hours of oil burning even though that's not going to be possible. We would never burn more than 720. We just tried to do the analysis based on the maximum hourly impact and assume that that impact occurred for the entire year.
THE CHAIRMAN: Okay. Just -- which I think it's been answered, but on the impacts on what I call global warming, or I guess climate change is probably a better description, given what's been happening --
THE WITNESS (Sellars): It is today, Mr. Chairman.
THE CHAIRMAN: I think you may

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end up modeling this winter as probably the worst case above and beyond, but in any case, is that predominantly CO2?

THE WITNESS (Sellars): The greenhouse gases are measured in terms of what they call carbon dioxide equivalents, and for a combustion source like this, it's predominantly CO2, but the facility does emit some other pollutants that are greenhouse gases that, although they're in smaller quantities, much much smaller quantities, they have a higher global warming potential than CO2 does, so you adjust them to be the equivalent of CO2.

So it would include methane and sulphur SF6, sulphur hexafluoride. So they are greenhouse gases that are emitted in very very small quantities, but we adjust them to be CO2 by taking into account their different greenhouse gas warming potential and then convert it all to a CO2 equivalent. But there's not much difference between CO2 and CO2 equivalents.

THE CHAIRMAN: The total with the H Series, what you're proposing of

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greenhouse gases, is that less than it was on the other one or more?

THE WITNESS (Sellars): If you look at it on a per megawatt hour basis, which is how the DEEP likes us to -- and the EPA like us to look at this, because unlike the local pollutants or even the regional air pollutants, a greenhouse gas is a global pollutant.

THE CHAIRMAN: It does affect us locally as well as regionally --

THE WITNESS (Sellars): Yes, but what affects you --

THE CHAIRMAN: -- as well as our children and grandchildren. Sorry. I had to get that statement in.

THE WITNESS (Sellars): Right. And how we are affected is what the global average concentration of CO2 is because that's how the weather patterns are affected, so it's really the global concentration of CO2. So there's not localized effects from CO2 in terms of climate change. It's really on what that 400 parts per billion that we now have which many would argue is too great.

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So, in terms of how much CO2 is emitted from this particular plant, there would be more with a larger plant because it combusts more fuel. But if you look at on a per megawatt hour basis because the difference in that megawatts would have to be made up by some other source, the facility, because of its improved efficiency, will actually emit less CO2 per megawatt hour.

And then if you look further at sort of what happens on a regional basis, which probably in terms of displacement is probably the same as looking at it on a global basis, because it is a more efficient addition into the dispatch stack or the dispatch queue, it's going to displace the operation of older, less efficient units that emit more CO2 per megawatt hour, and the modeling that was done showed that, with the facility in the mix in 2018, there would be in excess of 270,000 tons per year of CO2 less emitted than with the facility, and that number would grow to over 486,000 tons per year by 2020.

THE CHAIRMAN: Getting to that

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question about retirements, and I know there's a list of plants that are either scheduled or, I guess, potentially scheduled, my question may already be answered again with the volume of material, but can you directly -- are there any plants that will -- that you can say directly will be retired because this, if this project were to be approved? I guess I have to say groundbreaking, given the history of the '99, but can we directly say that this will result in plant X and plant Y being or is this just going to help the overall -- I figure there was some reason you came in this afternoon.

THE WITNESS (Bazinet): So just a first stab at this. So the retirements that we reported are either retirements that have been approved and gone away or will be going away prior to this facility going operational on June 1, 2018, which is the projected COD date. To say that any one unit that will exist on June 1, 2018 will directly go away as a result of the addition to this project, we can't point to any one plant and say that will be the case.

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However, it's highly likely that, due to a number of different factors, including sliding them further out on the dispatch stack, the addition of new rules in the markets that make those units less economic, that they will go away. Is it due directly, again, only to us? Absolutely not. And can we identify them specifically? No.

THE CHAIRMAN: Okay.

Mr. Lynch?

MR. LYNCH: With regards to the Chairman's last question on retirement, if renewables in your plant don't come on line in time, would ISO keep these old fossil fuel plants on standby in case we are running in what used to be the old OP3 emergency situation?

THE WITNESS (Powers): The short answer is likely yes. You know, the third rail for the ISO is always reliability. So to the extent that units didn't come in and other units went away, they would likely attempt to put these units, some of the units, on reliability must-run agreements. They'd also seek other solutions, but in the

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short-term, yes, there would be a cost-of-service based agreement.

MR. LYNCH: Thank you very much.

Thank you, Mr. Chairman.

THE CHAIRMAN: We're going to call it for a day, I'm told.

The Council announces that it will continue the evidentiary portion of this hearing here on Thursday, March 12th, obviously, this year, at 11:00 a.m., with party and intervenor appearances in the order on the Council's hearing program. So again, please note that. And at some point, If you're not here when you're called, you're not going to get another chance, so just make sure those parties and intervenors -- and you all obviously know who you are -- any prefiled testimony is due on March 3rd. That's very important for everybody's sake, so make sure those of you that have any -- if you haven't already submitted any, just make sure that that prefile testimony, in writing, is submitted no later than March 3rd.

And please note that anyone

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who has not become a party or intervenor but who desires to make his or her views known to the Council may continue to file written statements with the Council until the record closes.

Copies of the transcript of this hearing will be filed at the Oxford and Middlebury Town Clerk's office. I apologize in advance to Naugatuck, but I think -- hopefully there's a way to cross town lines.

MR. CORNACCHIA: There is. Thank you.

THE CHAIRMAN: Thank you all for your participation. Drive home safely.

(Whereupon, the witnesses were excused, and the above proceedings were adjourned at 3:58 p.m.)

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CERTIFICATE

I hereby certify that the foregoing 200 pages are a complete and accurate computer-aided transcription of my original stenotype notes taken of the Continued Council Meeting in Re: DOCKET NO. 192B, CPV TOWANTIC, LLC, MOTION TO REOPEN AND MODIFY THE JUNE 23, 1999, CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED BASED ON CHANGED CONDITIONS PURSUANT TO CONNECTICUT GENERAL STATUTES 4-181A(B) FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF A 785 MW DUAL-FUEL COMBINED CYCLE ELECTRIC GENERATING FACILITY LOCATED NORTH OF THE PROKOP ROAD AND TOWANTIC HILL ROAD INTERSECTION IN THE TOWN OF OXFORD, CONNECTICUT, at the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut on February 24, 2015.

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Lisa L. Warner, L.S.R. 061
Court Reporter
UNITED REPORTERS, INC.
90 Brainard Road, Suite 103
Hartford, Connecticut 06114

I N D E X



EXHIBITS
(Received in evidence.)





I N D E X (Cont'd.)

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