



Transcript of the Hearing of

**Date:** February 24, 2015

**Volume:** 5

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

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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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1     A p p e a r a n c e s :  
2         C o u n c i l   M e m b e r s :  
3             S E N A T O R   J A M E S   J .   M U R P H Y ,   J R . ,  
4             V i c e   C h a i r m a n  
5             L A R R Y   L E V E S Q U E ,   P U R A  
6             D e s i g n e e  
7             D A N I E L   P .   L Y N C H ,   J R .  
8  
9         C o u n c i l   S t a f f :  
10            M E L A N I E   B A C H M A N ,   E S Q .  
11            E x e c u t i v e   D i r e c t o r   a n d  
12            S t a f f   A t t o r n e y  
13  
14            M I C H A E L   P E R R O N E ,  
15            S i t i n g   A n a l y s t  
16  
17            F R E D   C U N L I F F E ,  
18            S u p e r v i s i n g   S i t i n g   A n a l y s t  
19  
20         F o r   C P V   T o w a n t i c ,   L L C :  
21            B R O W N   R U D N I C K ,   L L P  
22            1 8 5   A s y l u m   S t r e e t  
23            H a r t f o r d ,   C o n n e c t i c u t   0 6 1 0 3  
24            B Y :   P H I L I P   M .   S M A L L ,   E S Q .  
25            F R A N C A   L .   D e R O S A ,   E S Q .

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1     A p p e a r a n c e s   ( C o n t ' d . ) :  
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3             L A W   F I R M   O F   S T E P H E N   L .   S A V A R E S E  
4             1 0 3   S o u t h   M a i n   S t r e e t  
5             M i d d l e b u r y ,   C o n n e c t i c u t   0 6 4 7 0  
6             B y :   S T E P H E N   S A V A R E S E ,   E S Q .  
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8         A l s o   p r e s e n t   f o r   t h e   T o w n   o f  
9         M i d d l e b u r y :  
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12         F o r   t h e   C o n n e c t i c u t   L i g h t   a n d   P o w e r  
13         C o m p a n y :  
14            E V E R S O U R C E   E N E R G Y  
15            1 0 7   S e l d e n   S t r e e t  
16            B e r l i n ,   C o n n e c t i c u t   0 6 0 3 7  
17            B Y :   J E F F R E Y   D .   C O C H R A N ,   E S Q .  
18  
19         A l s o   p r e s e n t   f o r   t h e   O x f o r d   F l y i n g  
20         C l u b :  
21            B U R T   S T E V E N S  
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1     A p p e a r a n c e s   ( C o n t ' d . ) :  
2         A l s o   p r e s e n t   f o r   t h e   P o m p e r a u g   R i v e r  
3         W a t e r s h e d   C o a l i t i o n :  
4             L E N   D e J O N G  
5  
6         A l s o   p r e s e n t   f o r   N a u g a t u c k   R i v e r  
7         R e v i v a l   G r o u p ,   I n c :  
8             K E V I N   R .   Z A K  
9  
10        A l s o   p r e s e n t   f o r   N a u g a t u c k   V a l l e y  
11        A u d u b o n   S o c i e t y :  
12            J E F F   R U H L O F F  
13  
14        A l s o   p r e s e n t :  
15            W A Y N E   M c C O R M A C K  
16  
17        A l s o   p r e s e n t   f o r   W e s t o v e r   H i l l s  
18        S u b d i v i s i o n   H o m e o w n e r s :  
19            C H E S T E R   C O R N A C C H I A ,   E S Q .  
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1                    T H E   V I C E   C H A I R M A N :   G o o d  
2     m o r n i n g ,   l a d i e s   a n d   g e n t l e m e n .   T h i s   m e e t i n g  
3     i s   c a l l e d   t o   o r d e r   t h i s   T u e s d a y ,   F e b r u a r y   t h e  
4     2 4 t h ,   2 0 1 5 ,   a t   a p p r o x i m a t e l y   a t   1 1 : 0 1   a . m .   M y  
5     n a m e   i s   J e r r y   M u r p h y ,   I ' m   t h e   V i c e   C h a i r m a n  
6     o f   t h e   C o u n c i l   a n d   o p e n i n g   t h e   m e e t i n g   t h i s  
7     m o r n i n g .   O u r   C h a i r m a n   w i l l   b e   a l o n g   v e r y  
8     s h o r t l y ,   b u t   w e ' l l   s t a r t   o n   t i m e .  
9                    T h i s   h e a r i n g   i s   h e l d   p u r s u a n t  
10    t o   t h e   p r o v i s i o n s   o f   T i t l e   1 6   o f   t h e  
11    C o n n e c t i c u t   G e n e r a l   S t a t u t e s   a n d   o f   t h e  
12    U n i f o r m   A d m i n i s t r a t i v e   P r o c e d u r e s   A c t   u p o n   a  
13    m o t i o n   t o   r e o p e n   t h e   f i n a l   d e c i s i o n   o n   t h e  
14    C e r t i f i c a t e   o f   E n v i r o n m e n t a l   C o m p a t i b i l i t y  
15    a n d   P u b l i c   N e e d   h e l d   b y   C P V   T o w a n t i c ,   L L C   f o r  
16    t h e   c o n s t r u c t i o n ,   m a i n t e n a n c e   a n d   o p e r a t i o n  
17    o f   a   7 8 5   m e g a w a t t   d u a l - f u e l   c o m b i n e d   c y c l e  
18    e l e c t r i c   g e n e r a t i n g   f a c i l i t y   l o c a t e d   n o r t h   o f  
19    t h e   P r o k o p   R o a d   a n d   T o w a n t i c   H i l l   R o a d  
20    i n t e r s e c t i o n   i n   t h e   T o w n   o f   O x f o r d ,  
21    C o n n e c t i c u t .  
22                    O n   N o v e m b e r   1 3 ,   2 0 1 4 ,   t h e  
23    C o u n c i l ,   p u r s u a n t   t o   a   r e q u e s t   f i l e d   b y   C P V  
24    T o w a n t i c ,   L L C ,   a n d   t h e   p r o v i s i o n s   o f  
25    C o n n e c t i c u t   G e n e r a l   S t a t u t e s   4 - 1 8 1 a ( b ) ,

1 reopened the final decision rendered in this  
2 docket.  
3 On June 23, 1999, the Council  
4 considered and approved granting a  
5 certificate to CPV Towantic, LLC's  
6 predecessor for the construction, maintenance  
7 and operation of a 512 megawatt natural  
8 gas-fired combined cycle facility located  
9 north of the Prokop Road and Towantic Hill  
10 Road intersection in the Town of Oxford,  
11 Connecticut.  
12 On March 1, 2001, the Council  
13 considered and approved final site plans for  
14 this facility. The certificate for this  
15 facility is scheduled to expire June the 1st,  
16 2016.  
17 A verbatim transcript will be  
18 made of this hearing and deposited with the  
19 town clerk's office in Oxford and Middlebury  
20 for the convenience of the public.  
21 We'll proceed in accordance  
22 with the prepared agenda, copies of which are  
23 available, if one has not already made  
24 themselves available to them.  
25 The Council added one item to

1 its administrative notice list which is  
2 listed as Roman numeral I, D, Item 46, Docket  
3 Number 438, Cello Partnership, d/b/a Verizon  
4 Certificate of Environmental Compatibility  
5 and Public Need for the construction,  
6 maintenance and operation of a  
7 telecommunications facility located at 53  
8 Gallup Road, Voluntown, Connecticut. Record  
9 and final decision.  
10 Does any party or any  
11 intervenor have an objection to this being  
12 listed in the administrative notice list?  
13 MR. SMALL: No objection,  
14 Mr. Chairman.  
15 THE VICE CHAIRMAN: Attorney  
16 Small indicates no.  
17 Anyone else?  
18 (No response.)  
19 THE VICE CHAIRMAN: If not, so  
20 be it.  
21 The certificate holder filed  
22 an objection to the request of Mr. Burton  
23 Stevens of the Oxford Flying Club to  
24 cross-examine the certificate holder and  
25 present his direct case during this public

1 hearing due to his unavailability from  
2 February 25, 2015, through March the 20th,  
3 2015.  
4 Attorney Bachman may wish to  
5 comment.  
6 MS. BACHMAN: Thank you,  
7 Mr. Chairman.  
8 THE VICE CHAIRMAN: Are you  
9 going to continue with that objection?  
10 MR. SMALL: Mr. Stevens did  
11 file something late yesterday. We've had a  
12 preliminary look at it. I think we may  
13 cross-examine him on this today, if that's  
14 his direct case, as long as there's no direct  
15 oral testimony, but we reserve the right when  
16 we have a chance to look at it in more  
17 detail, to cross-examine him when he's back  
18 the latter two days of hearing, which I  
19 believe are at the end of March. We may not  
20 need to. I just don't want to give up that  
21 right.  
22 THE VICE CHAIRMAN: The plan  
23 today is to have -- Mr. Stevens of the Oxford  
24 Flying Club is here?  
25 MR. STEVENS: Yes, sir, I am.

1 THE VICE CHAIRMAN: The plan  
2 today is to have him cross-examine the panel.  
3 And because he's here and he has filed this  
4 one page, as I understand it --  
5 MR. SMALL: Yes.  
6 THE VICE CHAIRMAN: -- that  
7 the cross-examination of his case will be at  
8 that time, and then we will move to staff  
9 cross-examination of your panel.  
10 MR. SMALL: We have no  
11 objection to that procedure, Mr. Chairman.  
12 THE VICE CHAIRMAN: Then  
13 that's the way we're going to proceed today.  
14 I think you have Eric Davison.  
15 MR. SMALL: Yes, we have one  
16 additional witness, Mr. Eric Davison. So, if  
17 we could have him sworn.  
18 THE VICE CHAIRMAN: Before we  
19 get to you, I take it that -- I'm told I  
20 didn't rule on your objection. I assumed you  
21 withdraw it for now, at least.  
22 MR. SMALL: Yes. Based on  
23 your --  
24 THE VICE CHAIRMAN: On our  
25 conversation.

1 MR. SMALL: Right.  
2 THE VICE CHAIRMAN: You have  
3 the right at a future time, of course.  
4 MR. SMALL: Okay. We withdraw  
5 it on that basis.  
6 THE VICE CHAIRMAN: Fine.  
7 MR. SMALL: Mr. Davison is  
8 available to be sworn in.  
9 THE VICE CHAIRMAN: Sorry to  
10 interrupt.  
11 ERIC RICHARD DAVISON,  
12 called as a witness, being first duly  
13 sworn by Ms. Bachman, was examined and  
14 testified on his oath as follows:  
15 MR. SMALL: Mr. Davison, would  
16 you please state your full name and your  
17 occupation?  
18 THE WITNESS: Eric Richard  
19 Davison. I'm a biologist.  
20 MR. SMALL: And the company  
21 filed a document which is entitled -- as your  
22 resume. Was that document prepared by you or  
23 under your direction?  
24 THE WITNESS (Davison): It  
25 was.

1 MR. SMALL: And is it true and  
2 correct to the best of your knowledge and  
3 belief?  
4 THE WITNESS (Davison): It is.  
5 MR. SMALL: Thank you.  
6 Mr. Chairman, we can go and  
7 adopt all of the interrogatory -- all the  
8 other documents along with this and then ask  
9 that it all become full exhibits, if we may?  
10 THE VICE CHAIRMAN: Go ahead.  
11 FREDERICK SELLARS,  
12 LYNN GRESOCK,  
13 ANDREW BAZINET,  
14 JON DONOVAN,  
15 DEAN GUSTAFSON,  
16 DANIELLE POWERS,  
17 TANYA BODELL,  
18 having been previously duly sworn, were  
19 examined and testified further on their  
20 oaths as follows:  
21 MR. SMALL: I think each  
22 witness on this witness panel is listed as a  
23 responsible witness for one or more of the  
24 documents listed as Exhibits 14 through 22 in  
25 the Council's hearing program today. Those

1 documents consist of responses to Council  
2 interrogatories, Late-Filed exhibits,  
3 responses to Westover interrogatories, and  
4 responses and objections to Jay Halpern  
5 interrogatories.  
6 Were each of those responses  
7 prepared by you or under your direction with  
8 respect to the ones that you're listed as a  
9 responsible witness?  
10 THE WITNESS (Sellars): Yes.  
11 THE WITNESS (Gresock): Yes.  
12 THE WITNESS (Bazinet): Yes.  
13 THE WITNESS (Donovan): Yes.  
14 THE WITNESS (Gustafson): Yes.  
15 THE WITNESS (Powers): Yes.  
16 THE WITNESS (Bodell): Yes.  
17 MR. SMALL: Do any of you have  
18 any changes or corrections to any of those  
19 responses?  
20 THE WITNESS (Sellars): No.  
21 THE WITNESS (Gresock): No.  
22 THE WITNESS (Bazinet): No.  
23 THE WITNESS (Donovan): No.  
24 THE WITNESS (Gustafson): No.  
25 THE WITNESS (Powers): No.

1 THE WITNESS (Bodell): No.  
2 MR. SMALL: And are they true  
3 and correct, those responses true and correct  
4 to the best of your knowledge and belief?  
5 THE WITNESS (Sellars): Yes.  
6 THE WITNESS (Gresock): Yes.  
7 THE WITNESS (Bazinet): Yes.  
8 THE WITNESS (Bonovan): Yes.  
9 THE WITNESS (Gustafson): Yes.  
10 THE WITNESS (Powers): Yes.  
11 THE WITNESS (Bodell): Yes.  
12 MR. SMALL: With that, I would  
13 request that the document designated as CPV  
14 exhibits for identification 14 through 22 be  
15 admitted as full exhibits for the record?  
16 THE VICE CHAIRMAN: Is there  
17 any objection to the admission of these  
18 documents?  
19 Hearing none, they're so  
20 admitted, Attorney Small.  
21 (Exhibits II-B-14 through  
22 Exhibits II-B-22: Received in evidence -  
23 described in index.)  
24 MR. SMALL: With that, our  
25 witnesses are available for

1 cross-examination, Mr. Chairman.  
2 THE VICE CHAIRMAN: Okay.  
3 Mr. Stevens, I guess you're  
4 on. What we're going to do is you weren't  
5 here the other day when the opportunity for  
6 the Oxford Flying Club to cross-examine came  
7 up, but you're here today, and you're going  
8 to do it now.  
9 MR. STEVENS: Yes, sir.  
10 THE VICE CHAIRMAN: And  
11 whenever the cross-examination of the Oxford  
12 Flying Club is concluded, then you can put on  
13 your case, which I believe is this letter  
14 that's been prepared by you?  
15 MR. STEVENS: Sir, I was told  
16 by Ms. Bachman that I would not be able to  
17 present direct testimony today, so I'm not  
18 prepared to present direct testimony today.  
19 That letter was a copy to Mr. Stein, as chair  
20 of this, in response to the FAA 7460  
21 circulation.  
22 THE VICE CHAIRMAN: Okay. Let  
23 me just -- you can sit down.  
24 MR. STEVENS: Thank you.  
25 THE VICE CHAIRMAN: Let me

1 explain that in these proceedings it's not  
2 like in court. Direct testimony is not  
3 presented. It's presented in the form of  
4 written testimony in advance, which the  
5 parties have an opportunity to review. And  
6 then you adopt it just as Attorney Small had  
7 his witnesses adopt their written testimony,  
8 which recently was presented today, and then  
9 they were cross-examined on them. It was my  
10 assumption that your testimony was going to  
11 be basically this letter that was submitted.  
12 MR. STEVENS: I understand  
13 that I will not have an opportunity, other  
14 than today, to present direct testimony. If  
15 that is the case, then you may -- I would  
16 like to offer that letter as my direct  
17 testimony.  
18 THE VICE CHAIRMAN: Fine.  
19 Okay. That's what we'll do after the  
20 cross-examination is through.  
21 MR. STEVENS: Sure.  
22 THE VICE CHAIRMAN: And then  
23 the parties, including the Applicant, will  
24 have an opportunity to cross-examine you on  
25 the contents of this letter.

1 MR. STEVENS: Sure.  
2 THE VICE CHAIRMAN: I guess we  
3 understand now where we're going.  
4 So proceed to cross-examine.  
5 CROSS-EXAMINATION  
6 MR. STEVENS: Thank you, sir.  
7 I would like to thank the  
8 Council and the parties for allowing me to  
9 proceed out of order and to accommodate my  
10 needs, so thank you very much to all parties  
11 involved.  
12 Mr. Small, I'll address these  
13 to you and you can --  
14 MR. SMALL: No. Mr. Bazinet  
15 is the lead witness so --  
16 THE VICE CHAIRMAN: Just  
17 address the questions, and whoever they feel  
18 is the most fit or responsible to respond  
19 will do so.  
20 MR. STEVENS: Sure.  
21 Are your plume calculations  
22 based on the prior duration of approximately  
23 512 megawatts or the latest 798 or 805  
24 megawatt plant?  
25 THE WITNESS (Gresock): The

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

1 MR. STEVENS: No. That's  
2 fine. You've answered my question.  
3 MR. SMALL: Just so there's no  
4 confusion about numbering, that was in our  
5 Set II responses.  
6 THE WITNESS (Gresock): And  
7 then, in Set III, there's a response to  
8 CSC-10 that provides further information  
9 related to the same question with regard to  
10 ULSD fire.  
11 MR. STEVENS: Thank you.  
12 Are these discharge plume  
13 calculations based on firing natural gas or  
14 ultra low sulphur distillate?  
15 THE WITNESS (Gresock): The  
16 first were based upon natural gas, and the  
17 response in the CSC-3 question, response to  
18 CSC-10, is ULSD, the distillate.  
19 MR. STEVENS: Are the exit  
20 velocities and temperatures the same for gas  
21 and low sulphur distillate?  
22 THE WITNESS (Gresock): They  
23 do differ.  
24 MR. STEVENS: And you  
25 indicated that the exit velocity was 62

1 and faster.  
2 MR. STEVENS: Thank you.  
3 According to some response to  
4 the CSC's request on water management, I  
5 believe you indicate that you're going to  
6 have a roughly the same amount of water as  
7 fuel when you're burning fuel oil, is that  
8 correct, you require about the same amount of  
9 water as fuel oil or distillate?  
10 THE WITNESS (Bazinet): In  
11 gallons per hour that's roughly equivalent.  
12 MR. STEVENS: And this water  
13 will exit the stacks as water vapor?  
14 THE WITNESS (Bazinet): No.  
15 The water is used in a number of different  
16 ways, so, no, that's --  
17 MR. STEVENS: So what will  
18 happen with this water?  
19 THE WITNESS (Donovan): So,  
20 the water is consumed in a number of  
21 different places in the cycle. Some of it is  
22 used for NOx control following ULSD firing,  
23 but other uses include make-up to the cycle  
24 to replace the blow down.  
25 MR. STEVENS: So what will

1 point -- correction, 56.2 feet per second  
2 with the current project, and the exhaust  
3 temperature was 183.29. Is that with natural  
4 gas or with distillate?  
5 THE WITNESS (Gresock): That's  
6 natural gas, which is what the MITRE 2012  
7 model looked at.  
8 MR. STEVENS: So what you're  
9 doing is you're comparing the current with  
10 the MITRE 2012?  
11 THE WITNESS (Gresock):  
12 Correct.  
13 MR. STEVENS: And what would  
14 be the temperature and exit velocity with  
15 distillate?  
16 THE WITNESS (Gresock): So,  
17 under ULSD firing, the stack exit exhaust  
18 temperature is 294.5 degrees Fahrenheit, and  
19 the stack exit velocity is 68.8 feet per  
20 second.  
21 MR. STEVENS: Okay. So thank  
22 you.  
23 So, 110 degrees hotter and 12  
24 feet per second faster?  
25 THE WITNESS (Gresock): Hotter

1 happen with that water, and what percentage  
2 is used for NOx control?  
3 THE WITNESS (Bazinet): So  
4 the answer is going to differ depending on  
5 ambient temperature. The water balances that  
6 -- I mean, I could --  
7 MR. STEVENS: Just give me a  
8 range at, say, 25 degrees, a day like today.  
9 THE WITNESS (Bazinet): So,  
10 how about 20 degrees?  
11 MR. STEVENS: Sure.  
12 THE WITNESS (Bazinet): All  
13 right. So at 20 degrees about 90 percent of  
14 the water.  
15 MR. STEVENS: About 90 percent  
16 of the water will be used for NOx control?  
17 THE WITNESS (Bazinet): That's  
18 correct.  
19 MR. STEVENS: And what will  
20 happen to that water after it's used for NOx  
21 control?  
22 THE WITNESS (Bazinet): It  
23 will evaporate.  
24 MR. STEVENS: And where will  
25 it go? It will evaporate into --

1 THE WITNESS (Bazinet): The  
2 atmosphere.  
3 MR. STEVENS: Into the  
4 atmosphere through the stacks?  
5 THE WITNESS (Donovan): That's  
6 correct.  
7 MR. STEVENS: And the other 10  
8 percent, what will happen to that?  
9 THE WITNESS (Donovan): That  
10 goes into the cycle into the boiler for  
11 make-up.  
12 MR. STEVENS: Back into the  
13 boiler.  
14 THE WITNESS (Donovan): Yes.  
15 MR. STEVENS: So approximately  
16 90 percent of the water that is being used.  
17 And how much water per hour  
18 will be being used when you're using  
19 distillate?  
20 THE WITNESS (Donovan): About  
21 45,000 gallons per hour.  
22 MR. STEVENS: About 45,000  
23 gallons an hour. So --  
24 THE WITNESS (Donovan): That  
25 would be the 100 percent.

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

1 they're rare to not occur unless the  
2 temperature is below 40 degrees, so they're  
3 more prevalent when it is cold or it is very  
4 humid.  
5 MR. STEVENS: So, if the  
6 temperature like on a day like today if  
7 you're firing distillate, you'll have a  
8 visible plume?  
9 THE WITNESS (Sellars): Under  
10 either condition on a day as cold as today,  
11 like your car or your house or every stack  
12 you pass between your house and here, there  
13 will be a visible plume.  
14 (In the presence of Chairman  
15 Stein.)  
16 MR. STEVENS: Okay. Thank  
17 you.  
18 On a still day -- well, first  
19 of all, we're assuming that you have two  
20 turbines here, that both of these turbines  
21 are firing, and the numbers that you've given  
22 me are for both turbines firing?  
23 THE WITNESS (Donovan): Those  
24 are total numbers.  
25 MR. STEVENS: So thank you.

1 So, when the temperature is  
2 under 40, we'll have a visible plume. How  
3 big will that plume be?  
4 THE WITNESS (Sellars): Again,  
5 it's highly variable on a number of factors,  
6 the temperature --  
7 MR. STEVENS: On a still day?  
8 THE WITNESS (Sellars): The  
9 temperature, the humidity on that day, you  
10 know, what the temperature is that day.  
11 MR. STEVENS: On a day like  
12 today, 20 degrees, no wind?  
13 THE WITNESS (Sellars): Based  
14 on information from the 2012 MITRE Report --  
15 MR. STEVENS: The 2012 MITRE  
16 Report is on the older, smaller unit. Right?  
17 THE WITNESS (Sellars): That  
18 is correct, but the exhaust temperature and  
19 actually the exhaust velocity is fairly  
20 similar.  
21 MR. STEVENS: I'm sorry. You  
22 just indicated on distillate it's 294 degrees  
23 versus 201 degree --  
24 THE WITNESS (Sellars): Okay.  
25 I don't have that plume -- how tall a visible



1 plume would be on oil.  
2 MR. STEVENS: How tall is it  
3 on gas for the smaller unit that you're  
4 quoting there?  
5 THE WITNESS (Sellars): It  
6 would probably be a couple hundred feet above  
7 the stack would probably be the maximum  
8 length. On the absolute most coldest day and  
9 stillest day, it would be several hundred  
10 feet.  
11 MR. STEVENS: Several hundred  
12 feet. And that's for the older, smaller unit  
13 while on gas?  
14 THE WITNESS (Sellars): Even  
15 under oil it would be several hundred feet.  
16 MR. STEVENS: Okay. So this  
17 plume, on a day like today when you're firing  
18 distillate, will be several hundred feet?  
19 THE WITNESS (Sellars):  
20 Correct.  
21 MR. STEVENS: How about the  
22 volume, the size? I mean, I know how tall.  
23 How wide?  
24 THE WITNESS (Sellars): Again,  
25 I haven't modeled the actual visible plume

1 THE WITNESS (Donovan): What  
2 temperature? It's variable on ambient  
3 temperature reading and percent load.  
4 MR. STEVENS: At 20 degrees  
5 and at 70 degrees?  
6 THE WITNESS (Bazinet): So you  
7 want 20 degree relative fuel burn?  
8 MR. STEVENS: No, 100 -- a 20  
9 degree temperature -- I'm just -- basically  
10 what I'm looking for is how much more fuel  
11 this will burn and if it differs with  
12 temperature and relative humidity, and so  
13 forth and so on. You can choose your best  
14 answer and choose your worst answer. Choose  
15 the best conditions and choose the worst  
16 conditions. I'm looking for a range.  
17 THE WITNESS (Bazinet): Sure.  
18 So I'm going to just restate your question  
19 just to make sure that we're on the same  
20 page.  
21 MR. STEVENS: Sure.  
22 THE WITNESS (Bazinet): So, at  
23 20 degrees Fahrenheit, we're going to give  
24 you the fuel burn for the old configuration  
25 as well as the new configuration, assuming

1 dimensions.  
2 MR. STEVENS: These are very  
3 important questions for pilots.  
4 THE WITNESS (Sellars):  
5 Understood. And I think it's pretty typical  
6 if you're a pilot you've seen plumes, and  
7 you've seen plumes on cold days. It would be  
8 very, very similar to what you see from other  
9 facilities.  
10 MR. STEVENS: I would like an  
11 answer to that question, the size of the  
12 plumes on a 20-degree day, on a still  
13 20-degree day.  
14 How much more fuel will this  
15 plant burn per hour at 100 percent input  
16 rating over the previous 512 megawatt unit?  
17 THE WITNESS (Bazinet): I'm  
18 sorry. Can you repeat the question?  
19 MR. STEVENS: Yes, sure. How  
20 much more fuel will this plant burn than the  
21 older 512 megawatt unit will burn?  
22 THE WITNESS (Bazinet): At  
23 what condition?  
24 MR. STEVENS: At 100 percent.  
25 I'm sorry.

1 100 percent gas turbine load. And I think  
2 that's it. Right?  
3 MR. STEVENS: Sure.  
4 (Pause.)  
5 THE WITNESS (Donovan): So,  
6 the original, the 512 megawatt configuration,  
7 had about 72 percent fuel burn the current  
8 configuration has.  
9 MR. STEVENS: So, in round  
10 numbers, about 30 percent more for the newer  
11 unit, 72 percent maybe --  
12 THE WITNESS (Bazinet): One  
13 divided by .72.  
14 MR. STEVENS: That's at 20  
15 degrees. Would it be greater, would the  
16 difference be greater or less at 70 degrees?  
17 THE WITNESS (Donovan): Just  
18 bear with me a second.  
19 MR. STEVENS: Mr. Bazinet, my  
20 calculation says about 42 percent, one  
21 divided by 70 would be 42 percent. Someone  
22 with better math can challenge me on that.  
23 THE WITNESS (Donovan):  
24 Actually I think 39 percent.  
25 MR. STEVENS: Okay.

1 THE WITNESS (Sellars):  
2 Thirty-eight point nine.  
3 MR. STEVENS: So we're going  
4 to say about 40 percent more?  
5 THE WITNESS (Bazinet): You  
6 might say that. We'll say about 38  
7 percent --  
8 MR. STEVENS: Thirty-eight  
9 point nine percent, fine.  
10 Is the difference greater or  
11 less at 70 degrees?  
12 THE WITNESS (Bazinet): Yeah,  
13 so it's about the same. It's 41 percent.  
14 MR. STEVENS: So, in round  
15 numbers, about 40 percent. Thank you.  
16 Is this 40 percent increase in  
17 fuel going to create a larger volume of  
18 combustion gases and discharge out of your  
19 smoke pipe?  
20 THE WITNESS (Sellars): Yes.  
21 With a greater amount of fuel burn, there  
22 will be a greater amount of exhaust gas,  
23 correct, proportionately.  
24 MR. STEVENS: So the plume  
25 will volumetrically be larger than the older

1 basically be above the stack, plus any  
2 downwind direction of whatever the prevailing  
3 wind was.  
4 MR. STEVENS: So the stacks  
5 are 22 feet in diameter?  
6 THE WITNESS (Sellars):  
7 Correct.  
8 MR. STEVENS: So the plumes  
9 are going to be 22 feet in diameter blowing  
10 downwind?  
11 THE WITNESS (Sellars): Well,  
12 then they will expand and dissipate.  
13 MR. STEVENS: But my question  
14 is how much will they expand on a still day?  
15 THE WITNESS (Sellars): On a  
16 still day, they will probably expand three to  
17 five times the width of the stack by the time  
18 you get a few hundred feet above the stack,  
19 and then they dissipate. So there's  
20 technically plume, but it's at much lower  
21 velocity and less discernible than the center  
22 line of the plume, which would essentially go  
23 right above the stack and then in any  
24 direction the wind is blowing.  
25 MR. STEVENS: So you're

1 unit?  
2 THE WITNESS (Sellars): The  
3 volume of gas that's emitted will be  
4 proportionately larger.  
5 MR. STEVENS: So it will be 40  
6 percent larger?  
7 THE WITNESS (Sellars): Plume  
8 dimensions vary on a number of different  
9 things but --  
10 MR. STEVENS: Given the same  
11 day, the same relative humidity, the same  
12 temperature, what would be the difference in  
13 the volume of the plume?  
14 THE WITNESS (Sellars): It  
15 would be roughly proportionate.  
16 MR. STEVENS: About 40 percent  
17 larger?  
18 THE WITNESS (Sellars): Yes.  
19 MR. STEVENS: Thank you.  
20 How would a pilot know the  
21 area of these plumes if it's above roughly 40  
22 degrees and the relative humidity is low  
23 enough such that these plumes are invisible?  
24 THE WITNESS (Sellars): They  
25 would generally emanate from the stack and

1 saying, on a still day, these plumes are  
2 going to be 22 feet wide times maybe 3 or 4,  
3 so less than 100 feet wide going up to a  
4 couple hundred feet and then dissipating?  
5 THE WITNESS (Sellars): No.  
6 They dissipate right from the time that  
7 they're emitted from the stack, but by the  
8 time that the plume gets a couple hundred  
9 feet above the stack, it's probably a couple,  
10 3 or 400 feet wide.  
11 MR. STEVENS: Three or four,  
12 that's more than two or three times the  
13 diameter of the stack.  
14 THE WITNESS (Sellars): Each  
15 stack, there's two stacks next to each other,  
16 and if you look at the total area above  
17 there, it dissipates in three dimensions  
18 around the stack as it is emitted. The plume  
19 has a --  
20 MR. STEVENS: Excuse me, sir.  
21 When you say "dissipate" -- I'm sorry. I  
22 want to make sure I understand this. When  
23 you say "dissipate," do you mean that the  
24 visible plume will not be visible anymore?  
25 THE WITNESS (Sellars): You

1 were talking about a nonvisible plume, I  
2 believe.  
3 So what I'm saying is as you  
4 move from the center line of the plume as it  
5 goes up in the atmosphere, as you move  
6 further and further away from it, the  
7 velocity and turbulence associated with it  
8 that would make it discernible as a plume as  
9 opposed to just ambient air, it's less and  
10 less.  
11 MR. STEVENS: Sure. I do  
12 apologize if I confused you about the  
13 difference between visible and nonvisible  
14 plumes. Both are of concern to pilots for  
15 different reasons.  
16 So, if I could ask you this  
17 question about a visible plume, so we're  
18 discussing when the relative humidity is such  
19 or the temperature is such that we're going  
20 to have a visible plume, so under 40 degrees,  
21 so a day like today. How wide -- you know,  
22 when you say it dissipates, are you  
23 suggesting that when it would normally be  
24 visible, are you suggesting that it will no  
25 longer be visible?

1 THE WITNESS (Sellars): When  
2 you get far enough away from the center line  
3 of the plume and the concentration of water  
4 vapor gets to below the condensation point,  
5 then the water vapor would no longer be  
6 condensed and no longer visible.  
7 MR. STEVENS: And I'm really  
8 asking for, on a still day like today, how  
9 big is that plume going to be, so if you said  
10 it was going to dissipate when it gets to a  
11 couple hundred feet above the stack.  
12 THE WITNESS (Sellars): As  
13 I've testified earlier, the vertical extent  
14 of the plume being visible would be several  
15 hundred feet. And as you've witnessed other  
16 plumes -- this is not the only plume, I'm  
17 sure, that you've seen flying -- they are  
18 much longer than they are wide.  
19 MR. STEVENS: Okay. So --  
20 MR. SMALL: Excuse me one  
21 second.  
22 THE WITNESS (Bazinet): So,  
23 just with respect to exhaust flow, I think  
24 that answer we gave earlier was that it's  
25 roughly proportional. It is roughly

1 proportional, but we had the ability to do  
2 forensic calculations while you were talking,  
3 and it's approximately 27 percent higher for  
4 the new configuration.  
5 MR. STEVENS: So, at 20  
6 degrees it's 25, and at 70 degrees it would  
7 be 30?  
8 THE WITNESS (Donovan): That  
9 27 percent is at an annual average of 50  
10 degree case.  
11 MR. STEVENS: That's at 50  
12 degrees?  
13 THE WITNESS (Donovan): That's  
14 correct.  
15 MR. STEVENS: So the fuel burn  
16 is approximately 27 percent more at 50  
17 degrees?  
18 THE WITNESS (Bazinet): The  
19 fuel burn is 40 percent, but the exhaust flow  
20 is 27 percent. So it's proportional but  
21 less.  
22 MR. STEVENS: So you're  
23 running more efficiently?  
24 THE WITNESS (Bazinet): That's  
25 correct.

1 MR. STEVENS: But it's,  
2 nonetheless, 25 percent greater discharge  
3 than --  
4 THE WITNESS (Donovan): On the  
5 flow?  
6 MR. STEVENS: On the flow.  
7 THE WITNESS (Donovan): That's  
8 roughly 25, 27 percent.  
9 MR. STEVENS: Okay. I'm glad  
10 you'll agree with me at 25 but not at 40.  
11 THE WITNESS (Donovan): Well,  
12 you recognize that it's variable with ambient  
13 temperatures, loads. There's a lot of  
14 variables that go into the calculation.  
15 MR. STEVENS: I do recognize  
16 that. Thank you.  
17 Are these plumes generally  
18 going to be greater at night or less at night  
19 than during the day and why?  
20 THE WITNESS (Sellars): The  
21 plumes or -- the plumes would be  
22 approximately the same at night or day. They  
23 vary with temperature, of course, but being  
24 diurnal or nocturnal has no particular  
25 effect.

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

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

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

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

1 MR. STEVENS: What is the  
2 standard recommended VFR approach for the  
3 three different aircraft types that you  
4 reference when you referenced the MITRE  
5 Report that you reference in your  
6 Question 10, CSC-10. I believe it's CSC-2,  
7 10.

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

11 MR. STEVENS: VFR conditions.

12 THE WITNESS (Gresock): We've  
13 provided information in response to  
14 Interrogatory CSC-2, in response to Question  
15 CSC-14, and also as part of a Late-Filed  
16 Exhibit 2H that provide an illustration of  
17 the various patterns. But as can be shown on  
18 one of those, the lowest recommended flight  
19 altitude when preparing to land, according to  
20 VFR traffic pattern airspace is at 1,700 feet  
21 above mean sea level. There are aircraft  
22 configurations like what I was just referring  
23 to, the circling minimum descent altitude,  
24 within the expanded Category A circling area  
25

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

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

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

15 MR. STEVENS: Is he here  
16 today?

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

20 MR. STEVENS: Is that expert  
21 here today?

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

25 MR. STEVENS: Sure. I'm

1 sorry.

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

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

9 THE WITNESS (Gresock): It's  
10 0.59 nautical miles from the edge of the  
11 pavement for the runway.

12 THE CHAIRMAN: Can you  
13 translate that into feet?

14 THE WITNESS (Gresock): I can,  
15 3,563 feet.

16 THE CHAIRMAN: Thank you.

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

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

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

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

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

7 MR. STEVENS: So you agree  
8 with it?

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

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

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

1 THE WITNESS (Gresock): It's  
2 our understanding that Category A aircraft,  
3 which those aircraft would be, do have the  
4 shortest turning radius. They do have a  
5 maneuver area that could result in them  
6 flying in the vicinity of the project, yes.  
7 MR. STEVENS: Over the  
8 project?  
9 THE WITNESS (Gresock): They  
10 could. And that's what we have reflected in  
11 the heights that we've shown in those other  
12 graphics.  
13 MR. STEVENS: Are the types of  
14 aircraft that were used in the MITRE Report  
15 representative of the types of aircraft that  
16 are being flown into and out of Oxford in  
17 2015?  
18 THE WITNESS (Gresock): We  
19 don't have information about specifically the  
20 aircraft being flown in 2015, but we do know  
21 that, for example, in 2012, there were 128  
22 single-engine, 8 multi-engine, 31 jet  
23 aircraft based at the airport, plus one  
24 helicopter. Certainly MITRE considers a  
25 range of aircraft types in a number of

1 different categories, including light  
2 aircraft.  
3 MR. STEVENS: Did MITRE  
4 include light aircraft, LSA aircraft, in  
5 their report?  
6 THE WITNESS (Gresock): In the  
7 2012 report the Navion GA, the Lockheed  
8 Jetstar and the Convair CV-ADM jet are the  
9 three types.  
10 MR. STEVENS: Are any of those  
11 types representative of light sport aircraft,  
12 LSA aircraft?  
13 THE WITNESS (Gresock): The  
14 report describes the Navion GA as in that  
15 category and representative of that category.  
16 MR. STEVENS: Of light sport  
17 aircraft, LSA aircraft, as defined by the  
18 FAA?  
19 (Pause.)  
20 MR. SMALL: Mr. Chairman,  
21 rather than take time on whether or not this  
22 particular aircraft is a light sports  
23 aircraft, let us -- either we do a Read-In  
24 after the lunch break, if we can find it  
25 easily, or we can provide a Late-Filed. It's

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

1 I ask about the Navion aircraft, generally,  
2 if an aircraft flies through this plume, is  
3 it more dangerous to be in a large heavy  
4 aircraft or a small light aircraft; which is  
5 more dangerous?  
6 THE WITNESS (Gresock):  
7 Clearly the lighter aircraft have more  
8 vulnerabilities to turbulence, in general, in  
9 the atmosphere.  
10 MR. STEVENS: And what is the  
11 weight of the Navion aircraft that MITRE  
12 used? It's in the MITRE Report.  
13 MR. SMALL: We'll add that to  
14 our Read-In.  
15 MR. STEVENS: I think that  
16 their record will show that light aircraft is  
17 half the weight of the smallest aircraft that  
18 MITRE used in their report and --  
19 MR. SMALL: You're not  
20 testifying now, Mr. Stevens, you're  
21 cross-examining, so please confine  
22 yourself --  
23 MR. STEVENS: If you can  
24 answer these questions, I wouldn't have to be  
25 testifying.

1 MR. SMALL: These questions go  
2 at the periphery of the Siting Council's  
3 jurisdiction.

4 MR. STEVENS: Excuse me, sir.  
5 They go right to the heart of the matter.  
6 They go right to the heart of the matter  
7 because as a flight instructor, I'm afraid  
8 for pilots. They go right to the heart of  
9 the matter.

10 MR. SMALL: Let's not have  
11 testimony.

12 THE CHAIRMAN: I mean, the  
13 Applicant has said they're going to research  
14 this and get us the information, and we'll  
15 have to leave it at that. They don't have  
16 anything else to add at this point.

17 MR. STEVENS: What is the FAA  
18 requirement for a VFR pilot to remain apart  
19 from clouds?

20 THE WITNESS (Gresock): I  
21 don't know.

22 MR. STEVENS: How do you  
23 propose -- when you don't know that answer,  
24 how do you propose a pilot maintain legal  
25 separation of 2,000 feet from a cloud

1 Cessna 172 -- I don't know if they still even  
2 make them anymore but --

3 MR. STEVENS: A small training  
4 plane.

5 THE CHAIRMAN: -- you know,  
6 how a pilot would be properly aware and  
7 therefore avoid the turbulence and stay in  
8 the pattern, I think, without getting into  
9 all the detail you've been asking for, that  
10 is a legitimate question.

11 THE WITNESS (Gresock): You  
12 know, and we've certainly provided  
13 information that we have available relative  
14 to how the temperature and the exhaust  
15 velocity dissipates as it leaves the stack.  
16 We know that there is the possibility that  
17 lighter aircraft could fly in this vicinity,  
18 but we also know that there is considerable  
19 additional space in that area to allow them  
20 to fly in that area without flying directly  
21 over the stacks as well.

22 THE CHAIRMAN: Could I ask  
23 maybe a follow-up where there are similar  
24 situations elsewhere, and is there some way,  
25 the markings on the stack or something, that

1 produced by your plant and still remain in  
2 the traffic pattern at Oxford for a left  
3 downwind for 18? These are not peripheral  
4 questions.

5 MR. SMALL: Mr. Chairman,  
6 these are really questions for the FAA to  
7 deal with, not the Council. We suggest that  
8 -- we've all given Mr. Stevens a lot of  
9 latitude, as we do in these proceedings all  
10 the time, but at some point we're getting  
11 into intricate FAA-related details that are  
12 extremely complex and, frankly, beyond the  
13 jurisdiction or competence of any of us.

14 MR. STEVENS: Mr. Chairman --  
15 THE CHAIRMAN: Can the  
16 Chairman say something?

17 MR. STEVENS: Sure.

18 THE CHAIRMAN: Thank you.  
19 While I tend to agree with you, Attorney  
20 Small, I mean, there is something I think  
21 that the Council has to be concerned about.  
22 If the plume is right, potentially right in  
23 the middle of the down -- what is it -- the  
24 downwind flight path, and if one is flying in  
25 a -- I don't know what planes you use, like a

1 can alert pilots that at least a zone of  
2 something?

3 THE WITNESS (Gresock):  
4 Obviously, any structure like this would be  
5 indicated as an obstruction, and pilots would  
6 be aware that it existed. It also, under  
7 good visibility conditions, would be clearly  
8 able to be seen. And there are many airports  
9 that have similar facilities in very close  
10 proximity without any records of accidents or  
11 incident.

12 MR. STEVENS: You just  
13 indicated that there are many facilities in  
14 proximity to airports. Are there any that  
15 are over the downwind leg of the only runway  
16 to an airport, to a publicly-owned airport?

17 THE WITNESS (Gresock): That  
18 would require a more detailed scrutiny of  
19 that specific issue, so I don't know the  
20 specific answer to that question. But I  
21 certainly know there are airports where not  
22 only stack exhaust, but cooling tower plumes  
23 emanate from power plants very, very close to  
24 airports, for example, up in Londonderry, New  
25 Hampshire next to the Manchester Airport.

1 MR. STEVENS: But you answered  
2 my question that you didn't know of any power  
3 plants that are over the downwind leg of the  
4 only runway --  
5 THE WITNESS (Gresock): I have  
6 not specifically researched that individual  
7 question.  
8 MR. STEVENS: Does CPV plan to  
9 keep the Oxford tower appraised of times when  
10 the unit is being fired?  
11 THE WITNESS (Bazinet): When  
12 the plant is operating?  
13 MR. STEVENS: Yes.  
14 THE WITNESS (Bazinet): We  
15 would have certainly no objection to doing  
16 that.  
17 MR. STEVENS: And how would  
18 you -- so you don't have any objection to  
19 notifying the Oxford tower when the Oxford  
20 tower is open. How would you notify pilots  
21 when the tower is closed?  
22 THE WITNESS (Bazinet): So I  
23 think the operating -- or the presumption  
24 based on our forecasts and the market data,  
25 et cetera, is that the plant will be

1 question was asking about how we would notify  
2 a pilot of --  
3 MR. STEVENS: Yes.  
4 THE WITNESS (Bazinet): -- of  
5 when we were operating. Correct?  
6 MR. STEVENS: Yes.  
7 THE WITNESS (Bazinet): Okay.  
8 That's a decision that's made on a daily  
9 basis. So, if the NOTAM you're referring to  
10 is an on-line system that can be updated on a  
11 daily basis or even an hourly basis for that  
12 matter, well then, sure, by all means, we'd  
13 be happy to notify people.  
14 MR. STEVENS: On CSC-2, 11  
15 question, 2, 11, you state that the 90th  
16 percentile value for turbulent plumes is at  
17 133 feet above the stack top.  
18 THE WITNESS (Gresock): Is  
19 that a question?  
20 MR. STEVENS: No. I just  
21 wanted to get --  
22 THE WITNESS (Gresock): Yes,  
23 found it.  
24 MR. STEVENS: Thank you. No,  
25 just to prep for a question.

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

1 What is the FAA targeted level  
2 of safety? Does that 90th percentile fall  
3 into the FAA's targeted level of safety?  
4 THE WITNESS (Gresock): Well,  
5 the FAA has not issued any target, and the  
6 FAA has fairly consistently stated that the  
7 risks associated with turbulence associated  
8 with such plumes is minimal.  
9 MR. STEVENS: Would you look  
10 in the MITRE Report, page 4.3, and read the  
11 first sentence, please?  
12 MR. SMALL: Are you in Section  
13 4.3.1.1, sir?  
14 MR. STEVENS: Just page 4.3.  
15 It's just below Table 4.2.  
16 MR. SMALL: Okay.  
17 MR. STEVENS: And TLS is  
18 targeted level of safety.  
19 THE WITNESS (Gresock): It  
20 says, "To be consistent with the 2006 FAA  
21 study on exhaust plumes, a TLS of one times  
22 ten to the minus seventh was used to  
23 ultimately determine the likelihood of an  
24 event."  
25 MR. STEVENS: Right.



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1 THE WITNESS (Gresock): It  
2 doesn't state that that's any kind of  
3 standard or target. It's simply a study  
4 method.  
5 MR. STEVENS: It's a targeted  
6 level of safety.  
7 THE WITNESS (Gresock): And  
8 the standard to which it's referring is a  
9 standard that is really associated with the  
10 consequences of an aircraft colliding with a  
11 physical obstacle.  
12 MR. STEVENS: It is actually  
13 the likelihood provided by the ATOS manual,  
14 and it's --  
15 MR. SMALL: Okay. Can you ask  
16 questions?  
17 MR. STEVENS: Yes. Would you  
18 go to 7.7.  
19 MR. SMALL: Of the MITRE  
20 Report?  
21 MR. STEVENS: Of the MITRE  
22 Report, yes.  
23 MR. SMALL: Okay, we're there.  
24 MR. STEVENS: And would you  
25 read the first and second sentence?

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

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1 Connecticut.  
2 MR. STEVENS: You indicated --  
3 you stated before that a circle-to-land  
4 approach an aircraft would be 300 feet above  
5 the stack. Would you explain the  
6 circle-to-land approach, an IFR  
7 circle-to-land approach, for the Council?  
8 THE WITNESS (Gresock): So,  
9 under IFR conditions, the circling minimum  
10 descent altitude is defined as a minimum  
11 height, and the aircraft would be circling to  
12 determine their next move to determine  
13 whether they're going to land. In order to  
14 circle-to-land at the airport, as a circling  
15 aircraft would go over our stack, it would  
16 have to fly straight and wouldn't be able to  
17 turn until it was quite some distance past  
18 where our stacks would be located if it were  
19 to angle in and decide to land at that point  
20 in time.  
21 MR. STEVENS: So, in a  
22 circle-to-land -- and IFR stands for?  
23 THE WITNESS (Gresock):  
24 Instrument flight rule.  
25 MR. STEVENS: So that's when

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1 there are clouds and visibility issues, and  
2 so forth?  
3 THE WITNESS (Gresock): There  
4 could be.  
5 (In the presence of Councilor  
6 Lynch.)  
7 MR. STEVENS: Okay. So it is  
8 not when it's clear out and you can see for 5  
9 or 10 miles?  
10 THE WITNESS (Gresock): Sorry?  
11 MR. STEVENS: I'm sorry. So,  
12 it is not when it's clear out and you can see  
13 for 5 or 10 miles?  
14 THE WITNESS (Gresock): Under  
15 IFR conditions, not necessarily, right, yes.  
16 MR. STEVENS: So under 3 miles  
17 visibility and 1,000 feet of cloud cover?  
18 THE WITNESS (Gresock):  
19 (Nodding.)  
20 MR. STEVENS: And you  
21 indicated before, I believe, that the  
22 standard VFR traffic pattern was 1,000 feet  
23 above the runway -- 1,700 feet?  
24 THE WITNESS (Gresock):  
25 Seventeen hundred feet above mean sea level

1 which is -- yes.  
2 MR. STEVENS: A thousand feet  
3 above the runway. And how much above the top  
4 of the smoke stack?  
5 THE WITNESS (Gresock): And  
6 that would be 720 feet above the stack.  
7 MR. STEVENS: So, on an IFR  
8 flight where the weather is worse and the  
9 conditions are worse, the plane could likely  
10 be not at 720 feet over the stack, but at 300  
11 feet over the stack?  
12 THE WITNESS (Gresock): That  
13 is the minimum altitude, yes.  
14 MR. STEVENS: And you consider  
15 that safe?  
16 THE WITNESS (Gresock): Yes, I  
17 do.  
18 MR. STEVENS: I have no  
19 further questions. Thank you.  
20 THE CHAIRMAN: We're now going  
21 to start the process with you, so we have to  
22 swear you in, unless you have other  
23 witnesses. I don't know.  
24 MR. STEVENS: I do not.  
25 THE CHAIRMAN: Please stand.

1 sir.  
2 THE CHAIRMAN: Do you adopt  
3 these exhibits as your testimony?  
4 THE WITNESS (Stevens): Yes,  
5 sir.  
6 THE CHAIRMAN: We'll now start  
7 the cross-examination with staff.  
8 MR. PERRONE: Thank you,  
9 Mr. Chairman.  
10 MR. PERRONE: How long have  
11 you been a flight instructor, sir?  
12 THE WITNESS (Stevens): I've  
13 been a flight instructor for approximately 11  
14 years.  
15 MR. PERRONE: And what types  
16 of aircraft have you flown in and out of the  
17 airport?  
18 THE WITNESS (Stevens): I've  
19 flown everything from light sport aircraft,  
20 which are aircraft 1,400 pounds or less, up  
21 to and including twin engine piston planes.  
22 MR. PERRONE: Could you  
23 explain in detail your concerns about the  
24 impact on aircraft from exhaust plumes. Is  
25 it primarily turbulence and wind shear or

1 BURT STEVENS,  
2 called as a witness, being first duly  
3 sworn by Ms. Bachman, was examined and  
4 testified on his oath as follows:  
5 THE CHAIRMAN: Did you prepare  
6 exhibits listed under 16-B-1 and 2?  
7 THE WITNESS (Stevens): I'd  
8 have to be shown those, sir. I don't know.  
9 THE CHAIRMAN: One of them,  
10 it's a letter from you to Specialist Clipper,  
11 dated February 23, 2015.  
12 THE WITNESS (Stevens): Yes,  
13 sir, I did prepare that.  
14 THE CHAIRMAN: And the other  
15 one was a request for intervenor status.  
16 THE WITNESS (Stevens): Yes, I  
17 did prepare that too.  
18 THE CHAIRMAN: Thank you.  
19 Are these exhibits true and  
20 accurate to the best of your knowledge?  
21 THE WITNESS (Stevens): Yes,  
22 sir.  
23 THE CHAIRMAN: Do you have any  
24 corrections or modifications to the exhibits?  
25 THE WITNESS (Stevens): No,

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

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

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

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

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

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

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

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

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

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

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

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

9 I'm talking about a small,  
10 1,400 pound aircraft with a young fellow,  
11 maybe your age, who has ten hours, and he's  
12 flying up from Groton flying into Oxford to  
13 have lunch there, and he flies over this, and  
14 he doesn't have the time or the ability to,  
15 you know, recover from a stall spin because  
16 he's only going to have 700 feet or 800 feet  
17 to recover.

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

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

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

6 THE WITNESS (Stevens): Thank  
7 you, sir.

8 THE CHAIRMAN: We'll now  
9 continue questions from the Council.  
10 Senator Murphy?

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

20 THE WITNESS (Stevens):  
21 There --

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

25 THE WITNESS (Stevens): Sir,

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

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

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

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

25 THE WITNESS (Stevens): Yes,

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

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

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

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

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

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

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

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

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

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

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

12 THE CHAIRMAN: Thank you.  
13 Mr. Levesque?

14 MR. LEVESQUE: No questions.

15 THE CHAIRMAN: Mr. Lynch?

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

1 THE WITNESS (Stevens): Sure.  
2 The smoke stack that -- and I'll remain with  
3 Brainard Airport in Hartford.  
4 MR. LYNCH: That's the one I'm  
5 most familiar with, so go ahead.  
6 THE WITNESS (Stevens): Okay.  
7 So that stack, the red and white stack, is  
8 northwest of runway two zero. Two zero is a  
9 heading of two zero zero, which is almost  
10 south. So, for instance, when I fly from  
11 Oxford to Brainard, I'm coming in from the  
12 southwest, and I'll report to the tower to  
13 enter the right downwind with their landing  
14 to the south, I'll report right downwind, and  
15 I will fly north toward Bradley. And then I  
16 will turn east toward East Hartford and then  
17 south and land.  
18 So it's basically like this:  
19 That stack is right here, so I'm flying  
20 around it. In my routine traffic pattern I'm  
21 flying around it, and I have no difficulty  
22 with that at all. If the stack were south  
23 and west of where it is, then I'd have a  
24 great deal of difficulty because my standard  
25 traffic pattern would be flying right over

1 that stack, and that stack would be a problem  
2 to -- and a safety concern to pilots.  
3 MR. LYNCH: Even though it's  
4 marked and lit, it's still a problem?  
5 THE WITNESS (Stevens): It  
6 would still be a problem, yes, sir. It would  
7 be a problem in that it would have to be  
8 avoided. And if I knew it was there by  
9 either the tower telling me or by previous  
10 knowledge, by current knowledge of that  
11 situation, I would fly around it, and I  
12 wouldn't have any difficulty flying around  
13 it.  
14 MR. LYNCH: Then why wouldn't  
15 the tower inform someone flying into Oxford  
16 to fly around the tower?  
17 THE WITNESS (Stevens): When  
18 the tower is open, they would and they  
19 should. And what may happen and what the  
20 Petitioner has suggested could happen is that  
21 they shut down the east side of the airport  
22 so that no traffic can fly on the east side  
23 of the airport. I don't know whether that  
24 would be a taking in the common term of  
25 taking. I don't know what that would -- I

1 haven't researched that issue as to whether  
2 if the FAA made that determination for  
3 safety's sake, but that would be one way to  
4 mitigate this risk, just don't fly on the  
5 east side of the airport.  
6 MR. LYNCH: If there's no fly  
7 on the east side, is that for small planes,  
8 or is that commercial planes also?  
9 THE WITNESS (Stevens): That's  
10 above my pay grade, sir.  
11 MR. LYNCH: Okay. All right,  
12 I'll move on.  
13 Would the air traffic  
14 controllers changing over to more of a GPS  
15 rather than the old, what is it, vector  
16 system or something, is that going to make a  
17 difference? Is that in place at Oxford?  
18 THE WITNESS (Stevens): That  
19 will take place at Oxford in 2019 -- 2020,  
20 actually, but that won't have any bearing on  
21 the two concerns, the circle-to-land that was  
22 discussed earlier where planes come in from  
23 the south from Bridgeport and they line up to  
24 land to the north, but the prevailing winds  
25 suggest that the plane land to the south.

1 That was this IFR circle-to-land discussion.  
2 The next gen will not make that any different  
3 at all. And unfortunately Oxford lies  
4 precisely -- it lies within the New York  
5 TRACON area, but New York cannot see Oxford,  
6 the planes at Oxford, with their radar. That  
7 will change when this happens. But routinely  
8 Bradley can see planes at Oxford.  
9 MR. LYNCH: You say New York.  
10 Is that LaGuardia and Kennedy, or does that  
11 include Westchester?  
12 THE WITNESS (Stevens): It  
13 includes all of greater New York. We are  
14 controlled by New York controllers. And  
15 consequently, even when we're landing to the  
16 south, you'd think that we'd fly up to  
17 Bradley and come down. They don't do that.  
18 They routinely fly down this ILS  
19 circle-to-land, and so it's going to be  
20 placing a lot of -- when you have to land to  
21 the south, we're going to be placing a lot of  
22 planes at 300 feet over the stack, which is  
23 very low.  
24 MR. LYNCH: I'm actually aware  
25 of that. And my last question -- and I don't

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

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

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

14 THE WITNESS (Stevens): Yes,  
15 sir.

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

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

20 One of the issues for the  
21 Council is there is an approved project. It  
22 was approved in 1999, I believe, and at least  
23 on some basis it could go forward.

24 Obviously, the Applicant is proposing --  
25 well, what we have before us today. But do

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

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

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

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

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

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

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

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

1 1950 model Navion to be representative of the  
2 types of planes that I fly, a Cessna 172, a  
3 Cessna 150, or a light sport aircraft. The  
4 Navion is a spinoff of the P-51. It was  
5 designed by North American Aviation who built  
6 the P-51, and it is about as strong as the  
7 P-51. So, unfortunately I can understand why  
8 MITRE chose it, but it isn't representative  
9 of the types of airplanes that are being  
10 flown in 2015.

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

15 THE WITNESS (Stevens): The  
16 height.

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

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

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

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

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

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

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

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

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

10 THE WITNESS (Stevens): Yes.

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

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

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

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

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

23 MR. SMALL: Yes.

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

1 MR. SMALL: And is that a  
2 critical infrastructure facility?  
3 THE WITNESS (Stevens): I have  
4 no idea.  
5 MR. SMALL: If it were a  
6 critical infrastructure facility, would the  
7 various guidelines and requirements of the  
8 FAA and these other institutions you  
9 mentioned require that the air space over  
10 that compressor station be avoided?  
11 THE WITNESS (Stevens): Is it  
12 producing a plume?  
13 MR. SMALL: Is this a --  
14 THE WITNESS (Stevens): If  
15 it's producing a plume, yes, it would have to  
16 be avoided. If it isn't producing a plume,  
17 it would not necessarily have to be avoided.  
18 MR. SMALL: But I thought you  
19 spoke at one point that critical  
20 infrastructure facilities need to be avoided  
21 as well; is that correct?  
22 THE WITNESS (Stevens): I  
23 never brought that term up.  
24 MR. SMALL: Under the Homeland  
25 Security -- under Homeland Security

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

1 NOTAM.  
2 MR. SMALL: But the power  
3 plant would. Correct?  
4 THE WITNESS (Stevens): Yes, I  
5 believe it would.  
6 MR. SMALL: And what would the  
7 implications of that be under that NOTAM?  
8 THE WITNESS (Stevens): That  
9 you would have to avoid that airspace.  
10 MR. SMALL: And what diameter  
11 around there, what area around that airspace  
12 would you have to avoid?  
13 THE WITNESS (Stevens): You  
14 would probably want to avoid it by at least a  
15 mile.  
16 MR. SMALL: And so, given that  
17 NOTAM, am I correct that if pilots comply  
18 with that, they would be avoiding the  
19 airspace over the Towantic Power Plant?  
20 THE WITNESS (Stevens): The  
21 power plant, yes. If they complied with that  
22 NOTAM, they would have to fly -- there are  
23 actually two -- there's a NOTAM and  
24 there's -- there are two requirements.  
25 There's that NOTAM, and then there's the AIM,

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



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1 when a plume is visible. When a plume is  
2 visible, we all agree that's cold weather.  
3 Correct?  
4 THE WITNESS (Stevens): I  
5 believe with certain types of relative  
6 humidity, too, that you folks know better  
7 than I.  
8 MR. SMALL: And the plume  
9 would be visible during the day in cold  
10 weather?  
11 THE WITNESS (Stevens): It  
12 will be visible during the day, yes.  
13 MR. SMALL: Would it be  
14 visible at night as well?  
15 THE WITNESS (Stevens): Clouds  
16 are very difficult to discern at night. So  
17 it really depends on the overall visibility  
18 of the evening. I have flown into clouds at  
19 night not knowing that I was flying into  
20 clouds.  
21 MR. SMALL: While flying under  
22 visual flight rules?  
23 THE WITNESS (Stevens): Yes.  
24 MR. SMALL: And, by the way,  
25 the tower at -- are planes allowed to land in

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1 conditions that cause the most severe impacts  
2 are typically cold temperatures, calm winds  
3 and unstable atmospheric stratification"?  
4 THE WITNESS (Stevens): Yes,  
5 sir.  
6 MR. SMALL: And am I correct  
7 that during those conditions a plume would be  
8 fully visible?  
9 THE WITNESS (Stevens): It  
10 depends on the temperature.  
11 MR. SMALL: Well, it says  
12 "typically cold temperatures."  
13 THE WITNESS (Stevens): Well,  
14 I think we discussed if it's less -- if  
15 typically cold is less than 40 degrees, then  
16 your own experts have indicated that it would  
17 be visible.  
18 MR. SMALL: Okay. So the  
19 only, if I'm understanding this section of  
20 the MITRE Report right, the most -- the  
21 riskiest conditions are the ones where you  
22 would have a visible plume; is that correct?  
23 THE WITNESS (Stevens): Yes,  
24 sure.  
25 MR. SMALL: And that plume

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1 the Waterbury Oxford Airport using visual  
2 flight rules when there's no controller?  
3 THE WITNESS (Stevens): Yes,  
4 they are.  
5 MR. SMALL: And that's day or  
6 night?  
7 THE WITNESS (Stevens): Yes.  
8 MR. SMALL: Interesting.  
9 Okay.  
10 One of the concerns you  
11 expressed was an invisible plume and pilots  
12 flying into that; is that correct?  
13 THE WITNESS (Stevens): Yes,  
14 sir.  
15 MR. SMALL: You had mentioned  
16 the 2012 MITRE Report. Do you have that in  
17 front of you? Would you look at page Roman  
18 III, page 3 of the executive summary?  
19 THE WITNESS (Stevens): Sure.  
20 The abstract?  
21 MR. SMALL: Correct. Yes.  
22 THE WITNESS (Stevens): I have  
23 that.  
24 MR. SMALL: Is it correct that  
25 the first sentence of that says that "Weather

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1 would be, at least during the day, would be  
2 visible. Correct? At night you have the  
3 stack is lighted, so the stack would be --  
4 the lighting would be visible to a pilot.  
5 Correct?  
6 THE WITNESS (Stevens): At  
7 night, again, it depends on the weather  
8 conditions.  
9 MR. SMALL: Right. But are  
10 you going to have visual flight rules --  
11 THE WITNESS (Stevens): Oh,  
12 the visual flight rules, yes, the stack  
13 lighting will be visible under visual flight  
14 rules. Yes, sir.  
15 MR. SMALL: Thank you.  
16 This would probably be a good  
17 -- can we pause at this point?  
18 THE CHAIRMAN: Sure. That's  
19 fine. We'll take a 45-minute break, so see  
20 you all back at 1:45.  
21 (Whereupon, the witnesses were  
22 excused, and a recess for lunch was taken at  
23 12:59 p.m.)  
24  
25

24 (Pages 633 to 636)

1 AFTERNOON SESSION  
2 1:47 P.M.  
3  
4 FREDERICK SELLARS,  
5 LYNN GRESOCK,  
6 ANDREW BAZINET,  
7 JON DONOVAN,  
8 DEAN GUSTAFSON,  
9 ERIC DAVISON,  
10 TANYA BODELL,  
11 DANIELLE POWERS,  
12 BURT STEVENS,  
13 having been previously duly sworn were  
14 examined and testified further on their  
15 oaths as follows:  
16 THE CHAIRMAN: Good afternoon.  
17 We'll resume cross-examination by Attorney  
18 Small.  
19 MR. SMALL: Thank you,  
20 Mr. Chairman. Before that, we do have the  
21 Read-Ins from this morning's session  
22 regarding FAA issues, and Ms. Gresock can do  
23 those just to get those on the record.  
24 THE WITNESS (Gresock): I  
25 believe the first one was a question about

1 the weight of the North American Navion GA  
2 aircraft used in the MITRE 2012 Study. On  
3 page 3-3 of that study, Table 3-1, it  
4 specifies that the weight assumed for that  
5 aircraft is 2,750 pounds.  
6 And the second question that  
7 was asked was with regard to FAA rules for  
8 distance from clouds. Federal Aviation  
9 Regulation Part 91, Section 155, provides  
10 some basic BFR weather minimums in that  
11 section. There are a number of different  
12 distances, depending upon a lot of different  
13 circumstances. But focusing on when the  
14 tower is open, there's a requirement to  
15 maintain the 2,000 foot radial horizontal  
16 distance or 500 feet below or 1,000 feet  
17 above. And if the tower is not open, there's  
18 a requirement to maintain a three statute  
19 mile distance. There is, in Part 157, I  
20 believe, also discretion that the tower can  
21 adjust those differences, as appropriate, but  
22 there is a lot of information in that  
23 particular rule.  
24 MR. SMALL: With that, we have  
25 just very brief additional cross-examination.

1 CONTINUED CROSS-EXAMINATION  
2 MR. SMALL: Let me start with  
3 the document we were talking about when we  
4 broke for lunch, which was the 2012 MITRE  
5 Report. Do you have a copy of that?  
6 THE WITNESS (Stevens): Sure.  
7 MR. SMALL: Could you turn to  
8 page 4-7 of that report, Section 4.3.3? I'm  
9 sorry, correction. I have the wrong -- would  
10 you turn to -- sorry -- page 7-7? My  
11 apologies.  
12 THE WITNESS (Stevens): Sure.  
13 MR. SMALL: If you turn back  
14 one page, am I correct that this section,  
15 7.3, deals with the Towantic Energy project?  
16 THE WITNESS (Stevens): Yes,  
17 sir.  
18 MR. SMALL: And there's a  
19 Table 7-4, and underneath -- and that lists  
20 three different types of aircraft and various  
21 heights?  
22 THE WITNESS (Stevens): Yes,  
23 sir.  
24 MR. SMALL: Then there's a  
25 sentence underneath that or there's two

1 sentences. Can you read those sentences,  
2 please?  
3 THE WITNESS (Stevens): Yes,  
4 sir. It's the same sentence that  
5 Ms. Gresock, is it --  
6 MR. SMALL: Gresock.  
7 THE WITNESS (Stevens): --  
8 that she provided in her question to the  
9 Siting Council already. It said, "By  
10 executing the Houbolt roll model over the  
11 three years of environmental data, it was  
12 determined that aircraft upset criteria were  
13 never reached at this proposed power plant.  
14 There is an area above the stack where  
15 elevated temperatures pose a risk for  
16 helicopters, and it was determined that 180  
17 foot above the stack was the maximum height  
18 where temperatures greater than 52 degrees  
19 celsius could be experienced."  
20 MR. SMALL: Okay. And am I  
21 correct that -- I mean, do you accept this  
22 MITRE document as an accurate document?  
23 THE WITNESS (Stevens): To the  
24 extent that it provides a modeling for a  
25 2,750 pound aircraft, yes, but not for a

1 1,400 pound aircraft.  
2 MR. SMALL: And you agree it  
3 says that -- and how do you define the term  
4 "aircraft upset criteria"?  
5 THE WITNESS (Stevens):  
6 Aircraft upset criteria is the FAA  
7 terminology is a roll greater than 45  
8 degrees, a pitch, I believe, up greater than  
9 30, down greater than 10.  
10 MR. SMALL: And what's the  
11 consequences of those sort of upset criteria?  
12 What does that mean in layman's terms?  
13 THE WITNESS (Stevens): In  
14 layman's terms, that's the threshold that a  
15 pilot could experience an upset and be  
16 required to recover.  
17 MR. SMALL: Okay. And it does  
18 say in that sentence that those upset  
19 criteria were never reached for the Towantic  
20 Power Plant that was modeled. Correct?  
21 THE WITNESS (Stevens): Given  
22 a 2,700 pound aircraft, yes.  
23 MR. SMALL: Okay, good. Just  
24 one more item. You mentioned in I think it  
25 was your discussion with either the Chairman

1 or Vice Chairman Murphy, the FAA approval in  
2 1999. Do you recall that discussion?  
3 THE WITNESS (Stevens): Yes.  
4 MR. SMALL: And you're aware  
5 that that was not the last FAA approval of  
6 the stacks for this power plant, correct?  
7 Let me rephrase.  
8 THE WITNESS (Stevens): Sure.  
9 MR. SMALL: Are you aware  
10 whether the FAA approved this plant, this  
11 plant, including the stacks, subsequent to  
12 1999?  
13 THE WITNESS (Stevens): I have  
14 no personal knowledge.  
15 MR. SMALL: Okay. And last,  
16 and I believe I heard you say -- I just want  
17 to make sure I understand this -- that you're  
18 not terribly concerned about the stacks  
19 themselves; your concern is almost  
20 exclusively with respect to the plumes. Did  
21 I hear you correctly?  
22 THE WITNESS (Stevens): Yes,  
23 you did.  
24 MR. SMALL: No further  
25 questions at this time. We do reserve our

1 right to cross-examine later on on the more  
2 technical documents. Thank you.  
3 Thank you, and enjoy your  
4 vacation.  
5 THE WITNESS (Stevens): Thank  
6 you.  
7 THE CHAIRMAN: We'll now  
8 continue with the other parties, intervenors,  
9 and just go down the list.  
10 Mr. Halpern, is he here?  
11 (No response.)  
12 THE CHAIRMAN: Mr. Stevens,  
13 just stay there. Everybody is now going to  
14 get a chance.  
15 THE WITNESS (Stevens): Oh,  
16 I'm sorry. Forgive me.  
17 THE CHAIRMAN: You thought you  
18 had enough, just getting warmed up.  
19 Town of Middlebury?  
20 MR. SAVARESE: Where shall we  
21 sit, Mr. Chair?  
22 THE WITNESS (Stevens):  
23 Forgive me. I'm sorry. I didn't know the  
24 procedure.  
25 THE CHAIRMAN: That's fine.

1 This is rather unique with the number of  
2 parties and intervenors.  
3 MR. SMALL: I have a  
4 clarification or a question. Various parties  
5 were grouped together. I don't recall  
6 whether Mr. Stevens and the Flying Club were  
7 grouped with -- they were not grouped.  
8 MS. BACHMAN: They were not  
9 grouped.  
10 THE CHAIRMAN: No.  
11 MR. SMALL: Okay.  
12 THE CHAIRMAN: Go ahead, sir.  
13 MR. PIETRORAZIO: Thank you.  
14 Mr. Chairman. Good afternoon.  
15 THE COURT REPORTER: Would you  
16 tell me who you are, please, just to refresh  
17 my memory?  
18 MR. PIETRORAZIO: Yes.  
19 Raymond Pietrorazio.  
20 THE COURT REPORTER: Thank  
21 you.  
22 MR. PIETRORAZIO: Mr. Stevens,  
23 are you familiar with -- we had a great  
24 discussion on plumes. Are you familiar with  
25 whether plumes remain the same after the sun

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

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

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

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

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

3 THE WITNESS (Stevens): It's a  
4 significantly different plane. The Navion  
5 that MITRE used is comparable to today's  
6 Beechcraft Baron -- correction, Beechcraft  
7 Bonanza, which is a single engine, 300  
8 horsepower plane with a gross weight of about  
9 3,600 pounds. The weight that they used was  
10 2,750 pounds for the Navion, which is under  
11 the gross weight of 3,160 pounds that the  
12 Navion is certified to fly at.

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

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

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

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

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

13 THE WITNESS (Stevens): Cessna.

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

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

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

1 And that type of plane, of which there are  
2 several at Oxford flying out of Oxford, can  
3 only be flown at a maximum gross weight of  
4 1,400 pounds, which is just over 50 percent  
5 of the weight that the Navion was tested at  
6 in the MITRE report at 2,750 or 2,730, 2,760  
7 pounds -- 2,700 and some odd pounds.

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

11 MR. PIETRORAZIO: Thank you.  
12 And isn't the Cessna 172 the  
13 most popular light aircraft in this country?

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

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

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

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

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

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

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

20 THE WITNESS (Stevens): Well,  
21 there's 39 inches per meter, so 3 feet, 12,  
22 15 feet.

23 MR. PIETRORAZIO: Fifteen feet  
24 roughly?

25 THE WITNESS (Stevens): Yes, I

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

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

11 THE WITNESS (Stevens): Oh,  
12 absolutely.

13 MR. PIETRORAZIO: In the  
14 vicinity of an airport?

15 THE WITNESS (Stevens): Yes,  
16 sir.

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

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

23 MR. PIETRORAZIO: Because of  
24 the traffic?

25 THE WITNESS (Stevens): Yes,

1 would guess.

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

5 THE WITNESS (Stevens): I  
6 believe there were.

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

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

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

17 MR. PIETRORAZIO: Low and  
18 slow?

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

21 MR. PIETRORAZIO: Thank you.  
22 And what in the aviation  
23 community do we mean by "see and avoid"?

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

1 sir.

2 MR. PIETRORAZIO: Thank you.

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

11 THE CHAIRMAN: Is this a  
12 question or a statement?

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

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

1 feet over the top of the stack. When a  
2 person is flying an instrument approach in  
3 the Runway 36 with a circle-to-land into  
4 Runway 18, he is probably under the most  
5 incredible pressure when the weather is bad  
6 that a pilot can possibly imagine, and  
7 circle-to-land landings are probably the most  
8 dangerous landing that a pilot can  
9 experience.  
10 We had the misfortune of  
11 losing an airplane down in New Haven two  
12 years ago when he was approaching Runway 2 to  
13 the north and he had to -- the controller  
14 required him to circle-to-land, and  
15 unfortunately we lost a former Microsoft  
16 executive and his son who were coming from  
17 Seattle to visit Yale. We lost them in a  
18 crash in a circle-to-land.  
19 I had the privilege and the  
20 honor of going to Sun 'n Fun, which is one of  
21 the two major aviation exhibitions of the  
22 year, and I went there last April, and I was  
23 one of three master flight instructors that  
24 offered scenarios to pilots who were visiting  
25 Sun 'n Fun in a full motion simulator. One

1 of the scenarios allowed the pilot to choose  
2 whether he was going to land downwind or  
3 whether he was going to circle-to-land. My  
4 personal experience with the 20 participants  
5 that I had, the ten that chose landing with a  
6 tail wind landed safely; the ten that circled  
7 to land at a reduced altitude of  
8 approximately 500 feet over the runway  
9 crashed the simulator.  
10 So circle-to-land -- landing  
11 is the most dangerous portion of flying.  
12 Whenever you're slow and whenever you're  
13 close to the ground is the most dangerous  
14 phase of flying.  
15 MR. PIETRORAZIO: Thank you.  
16 And when we had the loss of  
17 life pilot at Waterbury Oxford Airport just a  
18 few years ago --  
19 THE WITNESS (Stevens): Yes,  
20 sir.  
21 MR. PIETRORAZIO: -- that  
22 airplane caught the electrical -- one of the  
23 most outward portions of the steel lattice  
24 towers, and flipped him over, and he impacted  
25 the electrical generating -- the electrical

1 substation.  
2 THE WITNESS (Stevens): Yes,  
3 sir.  
4 MR. PIETRORAZIO: Is that  
5 correct?  
6 THE WITNESS (Stevens): Yes,  
7 sir.  
8 MR. PIETRORAZIO: And isn't it  
9 true that -- well, I think the investigation  
10 showed that no one could say why he was that  
11 low; is that correct?  
12 THE WITNESS (Stevens): I  
13 think he -- I'm not -- I haven't -- I don't  
14 recall the NTSB report, so I can't comment on  
15 what happened. I don't recall.  
16 THE CHAIRMAN: Excuse me. I'm  
17 trying to figure out the relevance of this  
18 accident. Because somebody flew low into  
19 wires, I don't understand how that --  
20 MR. PIETRORAZIO: I'm sorry,  
21 Mr. Chairman, I'll clarify that now.  
22 The point I'm driving at here  
23 is -- and I'm not a pilot, but I have studied  
24 the issue for a number of years. And is it  
25 not true that flying is not a perfect science

1 and you get into -- pilots have to handle  
2 conditions as they present themselves when  
3 they present themselves at that time at that  
4 moment and make decisions kind of from the  
5 holster. It's not -- everything doesn't work  
6 out perfectly, is that true, when flying?  
7 THE CHAIRMAN: Again, I'm  
8 not -- I just don't understand the relevance.  
9 I think that's a given. Everybody  
10 understands flying, like other activities,  
11 is -- under certain conditions, the workload  
12 is greater -- we all understand that -- when  
13 you're landing. I'm still trying to figure  
14 out your point, and I wish you'd get to it.  
15 MR. PIETRORAZIO: Well, I  
16 guess I was drawing a relationship between  
17 the accident that took place where the pilot  
18 should not have been that low, but he was,  
19 and the --  
20 THE CHAIRMAN: Well, but  
21 again --  
22 MR. PIETRORAZIO: -- same  
23 thing can happen with these stacks, and  
24 that's the point I'm trying to make.  
25 THE CHAIRMAN: Okay. That's

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1 the point. Well, I'm glad you got to the  
2 point.  
3 MR. PIETRORAZIO: Thank you.  
4 With regard to the NOTAM that  
5 was mentioned that you responded to, that  
6 NOTAM was issued after 9/11; is that correct?  
7 THE WITNESS (Stevens): Yes,  
8 sir.  
9 MR. PIETRORAZIO: And the  
10 purpose of that NOTAM was to try to have a  
11 handle on aircraft hanging around certain  
12 facilities and the threat that that might  
13 present --  
14 THE WITNESS (Stevens): I  
15 believe that's correct.  
16 MR. PIETRORAZIO: -- from the  
17 standpoint of terrorism?  
18 THE WITNESS (Stevens): Yes, I  
19 believe that's correct.  
20 MR. PIETRORAZIO: Thank you.  
21 And that NOTAM is still in  
22 effect?  
23 THE WITNESS (Stevens): Yes,  
24 sir, it is.  
25 MR. PIETRORAZIO: And that

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1 NOTAM was brought up by CPV?  
2 THE WITNESS (Stevens): It was  
3 brought up in my line of questioning, and  
4 they did respond and discuss -- we did  
5 discuss that NOTAM during my line of  
6 questioning, yes, sir.  
7 MR. PIETRORAZIO: Well, am I  
8 mistaken?  
9 THE WITNESS (Stevens): I  
10 believe that's correct. I may be wrong. I  
11 may have discussed it in response to  
12 questioning from the parties. I don't recall  
13 specifically.  
14 MR. PIETRORAZIO: Okay. Thank  
15 you.  
16 And the point here is wouldn't  
17 it be advantageous for -- wouldn't it serve  
18 Waterbury Oxford Airport well concerning  
19 that, when you consider this NOTAM that  
20 applies to it and the fact that a power plant  
21 would be sitting under the left downwind leg,  
22 wouldn't it be so much better if there were  
23 no power plant under the left downwind leg?  
24 MR. SMALL: Objection.  
25 Mr. Stevens can't speak for Waterbury Oxford

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

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

1 MR. PIETRORAZIO: I  
2 understand. Thank you, Mr. Chairman.  
3 Are you aware that cooling  
4 tower thermal plumes can have an effect on  
5 aviation as well as --  
6 MR. SMALL: I'm going to  
7 object because this plant does not have a  
8 cooling tower, so the question is irrelevant.  
9 THE CHAIRMAN: So is there  
10 relevancy to the question since it does not  
11 have cooling tower?  
12 MR. PIETRORAZIO: Absolutely.  
13 The relevancy is plume and its effect on  
14 aviation.  
15 THE CHAIRMAN: But you talked  
16 specifically about a cooling tower in your  
17 question. Rephrase the question, please, to  
18 make it relevant to, you know, the  
19 application before us.  
20 MR. PIETRORAZIO: Isn't it  
21 true that the plumes emanating from a cooling  
22 tower --  
23 THE CHAIRMAN: If there's no  
24 cooling tower associated with the project,  
25 why the question? There are plumes

1 associated with other --  
2 MR. PIETRORAZIO: The MITRE  
3 report, Mr. Chairman, and the previous  
4 report, the SAIC report, do not necessarily  
5 relegate themselves to plumes from power  
6 plants. It's all thermal plumes.  
7 THE CHAIRMAN: Right, but the  
8 application before us is specific. So the  
9 questions that you're asking Mr. Stevens  
10 should relate to facilities that are going to  
11 be part of this power plant, and my  
12 understanding, and correct me if I'm wrong,  
13 is a cooling tower is not part of this  
14 facility.  
15 MR. PIETRORAZIO: I  
16 understand.  
17 THE CHAIRMAN: There are --  
18 MR. PIETRORAZIO: Maybe I'll  
19 ask that question at the brief -- I'll  
20 rephrase it for a later cross.  
21 THE CHAIRMAN: No. Rephrase  
22 it now, please, because Mr. Stevens is not  
23 going to be here. He, I believe, is going to  
24 be away, so this is your opportunity to  
25 cross-examine him.

1 MR. PIETRORAZIO: Well,  
2 without mentioning cooling tower, I don't see  
3 how I can do that, so I'll go on to the next  
4 question.  
5 The upset criteria -- and that  
6 was discussed with CPV -- they do ask whether  
7 the findings that were -- that supported  
8 their response from the modeling, did you not  
9 ask if those results were for the 512  
10 megawatt plant and not the new plant?  
11 THE WITNESS (Stevens): I did,  
12 and I believe their response was that the  
13 2012 MITRE report referenced the 512 megawatt  
14 plant, but the calculations that they  
15 provided were for a distillate plant that was  
16 for the proposed present plant of 798 or 805  
17 megawatts.  
18 MR. PIETRORAZIO: Thank you.  
19 Are you familiar with the SAIC  
20 report that preceded the MITRE report?  
21 THE WITNESS (Stevens): Again,  
22 I believe that was referenced in the MITRE  
23 report as well.  
24 MR. PIETRORAZIO: Thank you.  
25 Are you familiar with the

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



1 are you familiar with it? We may not need  
2 to --  
3 THE WITNESS (Stevens): Yes,  
4 sir, I am.  
5 THE CHAIRMAN: Then respond as  
6 to why, in light of the objection, that I  
7 should overrule the objection.  
8 MR. PIETRORAZIO: So you don't  
9 overrule the objection?  
10 THE CHAIRMAN: I'm asking you  
11 to give me some guidance as to --  
12 MR. PIETRORAZIO: Okay. Sure.  
13 Okay. First, the FAA did not endorse the  
14 SAIC report, and I have verbiage from FAA  
15 personnel that the SAIC report is not  
16 rejected in any way, shape or form, that the  
17 FAA had the latitude to endorse or not  
18 endorse, but I have the flat statement from  
19 the FAA that in no way do they diminish the  
20 accuracy, and so on, of the SAIC Report. So  
21 it's not a rejection.  
22 THE CHAIRMAN: Well, okay.  
23 I'm going to -- we'll have to have that. I  
24 mean, it's just your word, unless you have  
25 something in writing, but I'll allow this

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

1 THE WITNESS (Stevens): Yes,  
2 sir, it was referenced. I believe it was  
3 referenced in the MITRE Report.  
4 MR. PIETRORAZIO: Thank you.  
5 And are you familiar with the  
6 findings from both reports that multiple  
7 plumes complement the effect of turbulence in  
8 an adverse manner; in other words, when you  
9 have multiple plumes merging that even more  
10 dangerous eddies are produced that have to be  
11 considered?  
12 THE CHAIRMAN: So I  
13 understand, you talk about multiple plumes.  
14 Are you stating, therefore, that this project  
15 will produce multiple plumes because,  
16 otherwise, I don't see the relevance?  
17 MR. PIETRORAZIO: Yes,  
18 multiple plumes, and that those plumes,  
19 Mr. Chairman, will merge, and it's that  
20 merging of the plumes that creates an  
21 additional risk. There are two stacks.  
22 THE CHAIRMAN: There are two  
23 stacks, right. They talked about two stacks.  
24 Okay, you're talking about the plume from the  
25 two stacks and talked about what that would,

1 in your previous examination, but if there's  
2 anything else you want to add to that in  
3 response to what, I guess, is a question.  
4 THE WITNESS (Stevens): I  
5 believe that when the, in this particular  
6 case -- and we discussed my line of  
7 questioning with the Applicant -- was that  
8 these numbers they were providing were when  
9 both turbines were operating and exhaust  
10 plumes were emanating from the two stacks  
11 that they would merge and at some point  
12 become one, and the merger of those two  
13 exhaust plumes would create one larger plume,  
14 yes, that was my understanding of my  
15 questioning.  
16 MR. PIETRORAZIO: And do you  
17 know if, in the MITRE Report, the findings  
18 that underscored the plume rise and  
19 turbulence effects of the plumes, do you know  
20 whether that was reported as a single plume  
21 or merged plumes?  
22 THE WITNESS (Stevens): I  
23 believe the MITRE Report reported it as a  
24 merged plume.  
25 MR. PIETRORAZIO: Okay. Thank

1 you. That's all I have, Mr. Chairman.  
2 THE CHAIRMAN: Thank you.  
3 Yes, we have a follow-up question from  
4 Mr. Lynch.  
5 MR. LYNCH: Mr. Stevens, you  
6 referenced earlier a simulator test?  
7 THE WITNESS (Stevens): Yes,  
8 sir.  
9 MR. LYNCH: Of which ten  
10 pilots took the tailwind landing and --  
11 THE WITNESS (Stevens): Yes.  
12 MR. LYNCH: -- they all landed  
13 safely. Then you said there was a circular  
14 pattern and they crashed. All ten crashed?  
15 THE WITNESS (Stevens): Yes,  
16 sir.  
17 MR. LYNCH: Okay. That's all  
18 I wanted to know. Thanks.  
19 THE WITNESS (Stevens): This  
20 was a full motion simulator. It was a  
21 Redbird Full Motion Simulator. And yes, it  
22 was shocking to me as well.  
23 MR. LYNCH: Well, you just  
24 left it there, so I wanted to make sure it  
25 was all ten.

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

1 THE WITNESS (Stevens): Yes.  
2 MR. LYNCH: Thank you.  
3 THE CHAIRMAN: Okay. Now  
4 we'll continue with the Town of Middlebury.  
5 MR. SAVARESE: For the record,  
6 Attorney Stephen Savarese for the Town of  
7 Middlebury.  
8 Mr. Stevens, you suggested a  
9 scenario in trying to satisfy the AIM and  
10 this NOTAM that a pilot may have to travel  
11 further away from the runway to make that  
12 pattern. Would that bring the flight in  
13 approaching the landing further into the Town  
14 of Middlebury if he widened his  
15 circle-to-land?  
16 THE WITNESS (Stevens): It  
17 would -- yes, it would actually. In either  
18 instrument conditions, you know, cloud  
19 conditions or visual flight rule conditions,  
20 it would increase the flight path over  
21 Middlebury and over Naugatuck.  
22 MR. SAVARESE: You're familiar  
23 with the density of the population around the  
24 Oxford Airport?  
25 THE WITNESS (Stevens):

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

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1 THE WITNESS (Stevens): It  
2 would almost be -- what we would have to do  
3 is we'd have to fly around, come back out,  
4 and we'd have to do a dog leg around the  
5 power plant.  
6 MR. SAVARESE: Which maneuver  
7 is entirely over the neighborhoods of  
8 Middlebury?  
9 THE WITNESS (Stevens): Well,  
10 it would. The placement of this power plant  
11 would, whether you fly upwind or downwind of  
12 the power plant, would create more aircraft  
13 flight over the Town of Middlebury.  
14 MR. SAVARESE: Thank you. I  
15 have no further questions.  
16 THE CHAIRMAN: Okay. Thank  
17 you.  
18 Middlebury Land Trust?  
19 (No response.)  
20 THE CHAIRMAN: CL&P?  
21 MR. COCHRAN: Mr. Chairman, we  
22 have no questions.  
23 THE CHAIRMAN: Thank you.  
24 Town of Oxford?  
25 (No response.)

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1 THE CHAIRMAN: Town of  
2 Southbury?  
3 (No response.)  
4 THE CHAIRMAN: GE Energy  
5 Financial Services?  
6 (No response.)  
7 THE CHAIRMAN: Borough of  
8 Naugatuck Water Pollution Control Authority?  
9 (No response.)  
10 THE CHAIRMAN: Wayne  
11 McCormack?  
12 MR. McCORMACK: Mr. Chairman,  
13 I have no questions.  
14 THE CHAIRMAN: Westover  
15 School?  
16 (No response.)  
17 THE CHAIRMAN: Westover Hills  
18 Subdivision Homeowners?  
19 MR. CORNACCHIA: Mr. Chairman,  
20 Chester Cornacchia for Westover Hills  
21 Subdivision. If I may, I have no questions  
22 for Mr. Stevens.  
23 The last hearing I was here,  
24 and I got called to a family issue I had to  
25 deal with, so I was apparently called in my

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1 THE CHAIRMAN: Naugatuck  
2 Valley Chapter Trout Unlimited?  
3 (No response.)  
4 THE CHAIRMAN: A little cold  
5 for everybody to be out fishing.  
6 Pomperaug River Watershed  
7 Coalition?  
8 MR. DeJONG: Mr. Chairman, we  
9 have no questions.  
10 THE CHAIRMAN: Naugatuck River  
11 Revival Group?  
12 MR. ZAK: Mr. Chairman, we  
13 have no questions.  
14 THE CHAIRMAN: Lake Quassapaug  
15 Association?  
16 (No response.)  
17 THE CHAIRMAN: Middlebury  
18 Bridle Land Association?  
19 (No response.)  
20 THE CHAIRMAN: Dennis Kocyla?  
21 (No response.)  
22 THE CHAIRMAN: Naugatuck  
23 Valley Audubon?  
24 MR. RUHLOFF: Mr. Chairman, we  
25 have no questions.

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1 absence. If I may have the opportunity for  
2 cross-exam of the Applicant at this time?  
3 THE CHAIRMAN: You will at  
4 some point. I have to confer. As you can  
5 see, when you have 15 different intervenors  
6 and parties scheduling, so we'll let you  
7 know.  
8 MR. CORNACCHIA: Thank you. I  
9 appreciate that.  
10 THE CHAIRMAN: Marian Larkin  
11 and Greenfields, LLC?  
12 (No response.)  
13 THE CHAIRMAN: Quassy  
14 Amusement Park?  
15 Mr. Stevens, you can go and  
16 enjoy your vacation.  
17 THE WITNESS (Stevens): Thank  
18 you, Mr. Stein.  
19 THE CHAIRMAN: Thank you, sir.  
20 (Witness excused.)  
21 THE CHAIRMAN: Okay.  
22 Mr. Perrone, could you move  
23 back to your seat now?  
24 And additional questions by  
25 staff to the certificate holder, please?

34 (Pages 673 to 676)

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

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

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

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

1 Spectra property and tapping -- running the  
2 line north and tapping both lines on the  
3 northern end of Spectra's property.  
4 MR. PERRONE: And that would  
5 be an interruptible rather than a firm gas  
6 service. Correct?  
7 THE WITNESS (Bazinet): That's  
8 correct.  
9 MR. PERRONE: Also, at the  
10 last hearing, there was some mention of  
11 safety concerns, especially as related to the  
12 explosion at Kleen Energy. Is it correct to  
13 say that the primary risk that contributed to  
14 that accident, natural gas blows, would be  
15 eliminated with this project?  
16 THE WITNESS (Donovan): That's  
17 correct.  
18 MR. PERRONE: What type of  
19 cleaning media would you use to clear the  
20 lines?  
21 THE WITNESS (Donovan): It's  
22 envisioned that it would be compressed air.  
23 MR. LYNCH: That microphone  
24 doesn't seem to be working. Could you speak  
25 up a little louder?

1 THE WITNESS (Donovan): Sure.  
2 It's envisioned that compressed air will be  
3 used to clean the pipeline.  
4 MR. PERRONE: So would you  
5 truck in a large compressor or a --  
6 THE WITNESS (Donovan): That's  
7 correct or possibly use the permanent air  
8 compressors on site, but probably mobile.  
9 MR. PERRONE: But such  
10 measures would ultimately be in compliance  
11 with the findings and recommendations in the  
12 executive report issued by the Thomas  
13 Commission?  
14 THE WITNESS (Donovan): That's  
15 correct.  
16 MR. PERRONE: Also, regarding  
17 natural gas safety, what type of safety  
18 features would the plant have itself, any gas  
19 sensors, et cetera, emergency shut-offs, in  
20 general?  
21 THE WITNESS (Donovan): There  
22 definitely would be emergency shut-off  
23 valves.  
24 (Pause.)  
25 THE WITNESS (Donovan): So,

1 there is -- it's not limited to gas  
2 detectors. I believe there will be gas  
3 detectors incorporated in the design of the  
4 plant, but there's other instrumentation that  
5 will be used for safety purposes as well,  
6 such as pressure sensors to, you know,  
7 quickly react in the event of a loss of  
8 pressure.  
9 MR. PERRONE: And would  
10 ammonia be stored at the site?  
11 THE WITNESS (Donovan): Yes.  
12 MR. PERRONE: And that would  
13 be used for?  
14 THE WITNESS (Donovan): That  
15 would be used as a reagent in the SER system  
16 to control NOx, and it would be 19 percent  
17 aqueous ammonia, so 19 percent solution,  
18 mostly water.  
19 MR. PERRONE: And hydrogen  
20 would also be stored?  
21 THE WITNESS (Donovan): That's  
22 correct.  
23 MR. PERRONE: And that would  
24 be used for?  
25 THE WITNESS (Donovan): That's

1 used as a cooling medium within the  
2 generators, but it's usually a small volume.  
3 MR. PERRONE: Turning to the  
4 comments from the Connecticut Airport  
5 Authority, what type of consultations has CPV  
6 had with the CAA in addition to those related  
7 to the balloon float?  
8 THE WITNESS (Bazinet): I  
9 apologize. I'm going to track down a date  
10 for you, but I'll describe. So we met with  
11 the Connecticut Airport Authority on January  
12 6th, and the purpose of that visit was to  
13 describe to the Connecticut Airport Authority  
14 the proposal, in general, but also the  
15 changes relative to the certificated project  
16 and get any feedback that they might have for  
17 us at that point in time.  
18 MR. PERRONE: Because in their  
19 comments they mention a need to file a  
20 document with the FAA, the FAA forms 7460.  
21 What's the status of that?  
22 THE WITNESS (Bazinet): So,  
23 the 7460 process is in its circularization  
24 and seeking public comment phase. That  
25 window closes in the pretty near term here,

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

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

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

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

1 days prior to final decision so --  
2 MR. PERRONE: And regarding  
3 the Set I interrogatories, Question 11,  
4 what's the status of CPV addressing DEEP's  
5 comments regarding the stormwater management  
6 system?  
7 THE WITNESS (Gustafson):  
8 Those comments are going to be submitted to  
9 DEEP tomorrow.  
10 MR. SMALL: We can provide a  
11 copy of those for the Council. We'll file  
12 those as a Late-Filed exhibit once we submit  
13 it so you have that for your record.  
14 MR. PERRONE: In Set II, CSC  
15 Question 33, it gets into average daily  
16 stream flow for Pomperaug River, 82 cubic  
17 feet per second. How many million gallons  
18 per day would that be?  
19 THE WITNESS (Bazinet): Fifty-  
20 three million gallons a day.  
21 MR. PERRONE: And for your  
22 one-in-one-hundred conditions, the 7.3 cubic  
23 feet per second, does that work out to about  
24 4.7 million gallons per day?  
25 THE WITNESS (Bazinet): Seven

1 point three cubic feet per second, is that  
2 what you said?  
3 MR. PERRONE: Yes, 7.3.  
4 THE WITNESS (Bazinet): Yes,  
5 4.7 million gallons.  
6 MR. PERRONE: Okay. And my  
7 last question with the calculation. So based  
8 on that scenario, the 67,000 gallons per day,  
9 would that be about 1.4 percent of the stream  
10 flow?  
11 THE WITNESS (Bazinet): I can  
12 confirm your math, but I trust that. I think  
13 we reflected 1.3 percent in our response, but  
14 1.35 is what we calculated.  
15 MR. PERRONE: Okay. Regarding  
16 CSC, Set III, Question 2, the demineralized  
17 water would be made at a rate of 131,000  
18 gallons per day, is that based on one trailer  
19 or two?  
20 THE WITNESS (Bazinet): One  
21 trailer can support that.  
22 MR. PERRONE: Okay. Regarding  
23 the breaker-and-a-half switchyard design and  
24 overhead transmission connection, that design  
25 was provided to CPV from ISO?

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

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

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

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

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

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

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

1 Mr. Chair.

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

4 MR. CORNACCHIA: I appreciate  
5 the accommodation very much.

6 And can everybody hear? Okay.

7 Let's start with some basic  
8 questions. And, again, I'm Chester  
9 Cornacchia with Westover Hills Subdivision in  
10 Naugatuck, Connecticut. We're roughly a  
11 subdivision of 62 single-family homes with  
12 approximately 212 residents. Approximately  
13 96 of them are between the ages of two and  
14 the ages of twelve years old.

15 So I'm going to start with  
16 questions --

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

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

25 So this is with regards to

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

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

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

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

18 THE CHAIRMAN: Okay. Thank  
19 you.

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

25 MR. CORNACCHIA: Thank you,

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

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

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

14 THE WITNESS (Bazinet): Of  
15 which set?

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

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



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

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

11 MR. CORNACCHIA: Yes.

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

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

1 contamination for Naugatuck residents in the  
2 discharge impact area?

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

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

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

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

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

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

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

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

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

1 contamination or over ground well  
2 contamination?

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

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

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

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

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

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

25 MR. CORNACCHIA: But not in

1 5.4 percent improvement in efficiency over  
2 the General Electric F Series turbine  
3 previously contemplated in the 512 megawatt  
4 configuration. And that, coupled with  
5 additional energy output, provides economies  
6 of scale that, quote, benefit project  
7 economics as a result -- and as a result to  
8 the ratepayers.

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

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

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

23 THE WITNESS (Bazinet): That's  
24 correct.

25 MR. CORNACCHIA: Are they

1 Naugatuck, though.

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

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

9 Let's move on to Section  
10 2.1.3, which was under another Late-Filing  
11 entitled "Increased Output."

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

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

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

22 MR. CORNACCHIA: Exhibit 1. I  
23 stand corrected.

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

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

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

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

14 THE WITNESS (Bazinet): That's  
15 correct.

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

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

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

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

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

24 MR. CORNACCHIA: Is that a  
25 comparable megawattage?

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

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

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

1 THE WITNESS (Sellars): No.  
2 That's total. That is not adjusted for  
3 megawatt output. That is at 800 or so  
4 megawatts of the H machine, there would be  
5 43.3 tons per year less particulate than the  
6 512 megawatts from the F machine because of  
7 the improved efficiency.

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

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

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

25 THE WITNESS (Bazinet): So I

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

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

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

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

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

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

25 MR. CORNACCHIA: Okay. Cost

1 MR. CORNACCHIA: Yes.  
2 THE WITNESS (Donovan): The  
3 answer is no.

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

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

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

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

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

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

1 ratepayers more would be a function of the  
2 \$2.84 -- \$2.80, excuse me?

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

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

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

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

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

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

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

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

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

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

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

1 out there.

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

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

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

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

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

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

3 MR. SMALL: Is there a  
4 question here?

5 MR. CORNACCHIA: There is a  
6 question, yes.

7 MR. SMALL: Please state your  
8 question.

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

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

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

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1 New England.  
2 And I also think it's  
3 important to say we're concerned very much,  
4 and the region is very concerned about  
5 potential generation capacity between now and  
6 2018. And that is a critical, as the recent  
7 capacity market showed, that's a critical  
8 need that is needed today. The potential for  
9 improved energy efficiency and demand  
10 response in the 2020 period, we do take that  
11 into account with the numbers that I  
12 indicated, and it's listed in the assumptions  
13 in our report. It does incorporate  
14 Connecticut as well as New Hampshire,  
15 Massachusetts, Vermont, the New England  
16 systems' projections of demand response and  
17 energy efficiency.  
18 So we have taken that into  
19 account. It is identified in Exhibit 2. And  
20 the load projection that comes from that,  
21 which is fairly tepid frankly, to be honest  
22 with you, is also part of our projections.  
23 MR. CORNACCHIA: And these are  
24 for Connecticut or for all of New England?  
25 THE WITNESS (Bodell): It's

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

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

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

1 what the cost model of the next 725 megawatts  
2 is.  
3 MR. CORNACCHIA: I guess the  
4 modeling I'm having the difficulty  
5 reconciling is that locally, we are polluting  
6 Naugatuck, we are polluting Middlebury, we  
7 are polluting Oxford and Southbury at a much  
8 more disproportionate rate than, say, Boston  
9 or Rhode Island but are the actual consumers  
10 that are the ones demanding the need that is  
11 so compelling outside of the state of  
12 Connecticut. And I'm trying to reconcile  
13 that with the fact that we went from 512,  
14 which was, again, an F Series turbine to 800  
15 and change with an H Series turbine that is  
16 5.4 percent more efficient but 40 percent  
17 more polluting, per se.  
18 So is there a balance or is  
19 there a test that is employed by applicants  
20 such as yourself, in terms of the trade-off?  
21 Is it a matter of, well, are we trading off  
22 \$2.84 for PM 2.5 discharge at a rate that is  
23 higher than the DEEP would like to see, or is  
24 it a situation where the economies of scale  
25 don't favor a smaller microgeneration type of

1 facility?  
2 THE WITNESS (Bodell): I would  
3 also add there's another important  
4 consideration, which is timing. This is a  
5 site that's ready to go, and it can be built  
6 within the time frame of the need for the  
7 region.  
8 MR. CORNACCHIA: It's been  
9 ready since 1999, quite frankly, and  
10 conservation measures have largely negated  
11 that need is an argument that could be made  
12 also.  
13 THE WITNESS (Bodell): That's  
14 not true.  
15 THE CHAIRMAN: Let's get to  
16 questions. We've gone back and forth --  
17 MR. SMALL: We can respond to  
18 the prior question by Mr. Sellars.  
19 THE WITNESS (Sellars): As far  
20 as the prior assertion that there's  
21 significant adverse air pollution impact, I  
22 think our modeling has demonstrated quite the  
23 contrary that the facility, the maximum  
24 impacts are a tiny fraction of the ambient  
25 air quality standards that have been

1 established to protect very, very sensitive  
2 individuals.  
3 But beyond that, in a direct  
4 comparison you mentioned PM 2.5 and asthma.  
5 That's one that's mentioned a lot. The most  
6 recent modeling of the prior smaller unit had  
7 pretty close to twice the PM 2.5 impact on an  
8 ambient air quality basis than this facility  
9 would have.  
10 MR. CORNACCHIA: And, again,  
11 that's F Series turbine. Is there a --  
12 MR. SMALL: We didn't quite  
13 finish our response to that question. Let us  
14 finish.  
15 MR. CORNACCHIA: I apologize.  
16 MR. SMALL: I'm sorry. We  
17 did. My apologies. Please go forward.  
18 MR. CORNACCHIA: We're even  
19 now.  
20 Is there a happy medium where  
21 we can say, okay, we are willing to sacrifice  
22 Naugatuck, Southbury, Middlebury and Oxford's  
23 air quality and result in PM 2.5 discharge  
24 levels that -- I guess the first question is  
25 will they be increased from any plant at 512

1 with an increased output over, say, 805?  
2 With that kind of megawattage  
3 increase of 53 percent or so, will the  
4 pollutants and the particulate matter and the  
5 greenhouse gases, will they exponentially  
6 rise with that taking into account the 5.4  
7 percent increased efficiency of the turbine?  
8 THE WITNESS (Sellars): And I  
9 guess my point is that if you compared, as we  
10 did in the application, the smaller F Series  
11 turbine, in many instances, and particularly  
12 with respect to PM 2.5, the approved  
13 efficiency and environmental performance of  
14 the larger turbine overwhelms the increased  
15 size of the larger turbine. So, in the case  
16 of PM 2.5 ambient air quality impacts, for  
17 example, a smaller 512 megawatt facility, as  
18 has been previously proved and is approved  
19 right now, would have twice the annual PM 2.5  
20 ambient air quality impact than this  
21 facility, even though it's larger would have  
22 because of a number of factors: It's more  
23 efficient, its environmental performance is  
24 superior, and it has different exhaust  
25 characteristics.

1 MR. CORNACCHIA: So the 805  
2 megawatt plant using the H Series turbine  
3 will pollute less than the 512 megawatt  
4 configuration?  
5 THE CHAIRMAN: Excuse me. I  
6 think this has been answered more than once,  
7 and I believe, and you correct me, that some  
8 of the pollutants, particularly the  
9 particulates, because of what we just heard  
10 are going to be less, and there are others  
11 that are going to be more. So this is all a  
12 balancing, but there is no -- but I think you  
13 asked the question, and I think you got the  
14 answer. So I would ask you not to continue  
15 to repeat.  
16 MR. CORNACCHIA: I'm trying to  
17 lean on it, and I appreciate it,  
18 Mr. Chairman. I'm just -- with the increase  
19 in capacity from 512 to 805, turbine type  
20 aside, would there be an increase in  
21 discharge and pollutants exponentially?  
22 THE WITNESS (Sellars): You  
23 can't increase from 512 to 800 megawatts  
24 turbine aside. To increase from 512  
25 megawatts to 800 megawatts, you need a

1 different turbine, a larger turbine. And so  
2 it's a different model, and because the  
3 larger turbine is more advanced in its  
4 technology, GE has been able to incorporate  
5 into the design significant improvements in  
6 both efficiency as well as environmental  
7 performance.  
8 So, even though the turbine is  
9 larger, even not taking any credit for any of  
10 the emissions displacement, which is just  
11 substantial and brought about by the  
12 efficiency of the turbine, if you just looked  
13 at ambient air quality of one versus the  
14 other, this facility fits within the envelope  
15 of what was previously approved, well within  
16 the envelope. In fact, for many pollutants,  
17 the one that was raised as having the most  
18 concern in the area actually has half the  
19 impact.  
20 MR. CORNACCHIA: Okay. And  
21 again, my confusion is over whether or not  
22 we're talking about impact to the region or  
23 the increase in pollution that would be  
24 dispersed by one particular configuration  
25 versus another. A simple question. I'm just

1 looking for an answer whether or not a 512 --  
2 THE CHAIRMAN: It's not a  
3 confusion. You're using the wrong word,  
4 but -- and, I mean, I think they've tried to  
5 answer. From their standpoint, they've given  
6 you an answer. Now, that's their standpoint.  
7 Our job, and what you're supposed to be  
8 helping us, is to get as many facts. So, I  
9 hate to say ultimately, because I know we're  
10 not ultimate, but we're going to have to make  
11 a decision. They've already made their  
12 decision of what they're proposing.  
13 MR. CORNACCHIA: Okay, so  
14 noted, Mr. Chairman. I appreciate that.  
15 I'm going to switch to the  
16 site visit and focus on the viewshed. This  
17 is with regards to the January 15th red  
18 balloons that were smoke stack simulations  
19 during the site walk, and specifically,  
20 again, I'm referring to the Late-Filing with  
21 attachments, and they detail six photographs  
22 as part of the limited locations that were  
23 identified as where the balloons were  
24 visible. And I quote, "The overwhelming  
25 majority of the area surrounding the project

1 had no visibility due to intervening  
2 topography, vegetation or structures which  
3 impeded the view."  
4 Can you describe the  
5 methodology utilized in determining the  
6 visibility or the lack thereof and the  
7 methods by means the viewshed determination  
8 was made and that the overwhelming majority  
9 of the area had no visibility?  
10 THE WITNESS (Gresock): The  
11 information in that Late-Filed exhibit was  
12 intended to be representative information  
13 based upon what we were doing at the time,  
14 which was flying the two balloons at the  
15 height of the stacks.  
16 You can see in the figure one  
17 that was filed with that response that we've  
18 indicated in yellow roads that were traveled  
19 around the site. And we basically drove  
20 along those roadways, stopping occasionally  
21 to look towards the facility location, tried  
22 to find locations where we could see the  
23 balloons, and took pictures where we could.  
24 And this tried to cover as much ground as  
25 possible, and the compass directions are



1 around the project site.  
2 At the time, we did it for our  
3 own curiosity because we wanted to see. We  
4 actually had been quite challenged trying to  
5 find open views towards the project site  
6 because so many of the surrounding roadways  
7 do have intervening trees and vegetation.  
8 But driving around the site, looking for the  
9 balloons, taking a photograph in the  
10 direction of the site is what's reflected  
11 here.

12 MR. CORNACCHIA: Okay. What  
13 size were the balloons?

14 THE WITNESS (Gresock): The  
15 balloons were approximately 5 feet in  
16 diameter.

17 MR. CORNACCHIA: And they were  
18 floated at a height of?

19 THE WITNESS (Gresock): At the  
20 stack top elevation. So, it would be the  
21 finished grade elevation of 150 feet, which  
22 is 980 feet.

23 MR. CORNACCHIA: And was there  
24 a tether on the balloons holding them?

25 THE WITNESS (Gresock): Yes.

1 THE WITNESS (Gresock):

2 Correct.

3 THE WITNESS (Bazinet): No.  
4 They were intended to represent stack top  
5 height, not the two smoke stacks.

6 MR. CORNACCHIA: Okay. So, I  
7 guess is it accurate to say that the overall  
8 visibility would have been much greater than  
9 say a hot air balloon being floated, let's  
10 say the basket at 150 feet, and say the  
11 balloon portion simulating, say, the plume at  
12 that standpoint and a greater girth than the  
13 smoke stack, which was depicted at 5 foot  
14 rather than 22 foot, as is part of the --

15 THE CHAIRMAN: Actually, a  
16 stationary helicopter would have been maybe  
17 better. There are limits to --

18 THE WITNESS (Gresock): I  
19 believe for what we were asked to do, this  
20 served the purpose.

21 MR. CORNACCHIA: And the  
22 viewshed was modeled based upon the balloons,  
23 or was it modeled on an expected view of 22  
24 foot tall smoke stacks only or with the plume  
25 or with or without the plume?

1 MR. CORNACCHIA: Was it a  
2 rope? What was the diameter on the tether?

3 THE WITNESS (Gresock): I  
4 don't recollect the diameter on the tether,  
5 but certainly one of the constraints with  
6 this particular type of visibility assessment  
7 is that the air does move, and so -- but the  
8 balloons do not always. They're not always  
9 aloft straight up in the air. It's the way  
10 that kind of methodology works. And so for  
11 that reason we're not representing that these  
12 are actual and exact heights of what you  
13 would see. These are intended to be  
14 representations and the best we can provide.

15 MR. CORNACCHIA: And they were  
16 intended to represent what?

17 THE WITNESS (Gresock): The  
18 photographs or the balloons?

19 MR. CORNACCHIA: The balloons  
20 and the tether.

21 THE WITNESS (Gresock): The  
22 balloons were intended to represent stack top  
23 height.

24 MR. CORNACCHIA: So the two  
25 smoke stacks?

1 THE WITNESS (Gresock): The  
2 viewshed information that is provided on this  
3 figure was actually originally provided in  
4 response to Interrogatory CSC-1 in response  
5 to question CSC-13, and that didn't have  
6 anything at all to do with the balloons. It  
7 had to do with the elevations of the facility  
8 overall as it related to digital elevation  
9 models that were used. And there are  
10 different colors that are there intended to  
11 represent year-round visibility and potential  
12 seasonal visibility. All of that uses at the  
13 most conservative, a view that is just a  
14 digital elevation model of the terrain only,  
15 assuming no vegetation, and then overlays  
16 information about vegetation to provide some  
17 information about how, during seasonal  
18 conditions, views may be screened.

19 MR. CORNACCHIA: And that's of  
20 the 220-foot-diameter stacks?

21 THE WITNESS (Gresock): It's  
22 of a height that would be seen. It's not  
23 making any judgment about what it is that  
24 would be seen. It's indicating that  
25 something would be seen.

1 THE WITNESS (Bazinet): And  
2 for all structures.  
3 THE WITNESS (Gresock): For  
4 all structures, but obviously, the stacks are  
5 the tallest.  
6 MR. CORNACCHIA: And so it's  
7 for the power plant as a whole based upon  
8 what is expected for seasonal visibility?  
9 THE WITNESS (Gresock): And  
10 it's really based upon the stack top heights,  
11 which are the tallest heights.  
12 MR. CORNACCHIA: And these are  
13 for the structure only and contemplating no  
14 plume from anything coming from the --  
15 THE WITNESS (Gresock): There  
16 was not a visibility assessment done with  
17 regard to a plume; that's correct.  
18 MR. CORNACCHIA: Is any  
19 visibility assessment going to be done?  
20 Because you conclude that there was virtually  
21 no view based upon the roads that were  
22 traversed. And I'm quoting your language in  
23 there: "As far as the viewshed, the  
24 overwhelming majority of the area surrounding  
25 the project had no visibility," and then you

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

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

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

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

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

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

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

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

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

25 THE CHAIRMAN: Getting to that

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

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

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

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

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

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

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

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

1 However, it's highly likely that, due to a  
2 number of different factors, including  
3 sliding them further out on the dispatch  
4 stack, the addition of new rules in the  
5 markets that make those units less economic,  
6 that they will go away. Is it due directly,  
7 again, only to us? Absolutely not. And can  
8 we identify them specifically? No.  
9 THE CHAIRMAN: Okay.  
10 Mr. Lynch?  
11 MR. LYNCH: With regards to  
12 the Chairman's last question on retirement,  
13 if renewables in your plant don't come on  
14 line in time, would ISO keep these old fossil  
15 fuel plants on standby in case we are running  
16 in what used to be the old OP3 emergency  
17 situation?  
18 THE WITNESS (Powers): The  
19 short answer is likely yes. You know, the  
20 third rail for the ISO is always reliability.  
21 So to the extent that units didn't come in  
22 and other units went away, they would likely  
23 attempt to put these units, some of the  
24 units, on reliability must-run agreements.  
25 They'd also seek other solutions, but in the

1 short-term, yes, there would be a  
2 cost-of-service based agreement.  
3 MR. LYNCH: Thank you very  
4 much.  
5 Thank you, Mr. Chairman.  
6 THE CHAIRMAN: We're going to  
7 call it for a day, I'm told.  
8 The Council announces that it  
9 will continue the evidentiary portion of this  
10 hearing here on Thursday, March 12th,  
11 obviously, this year, at 11:00 a.m., with  
12 party and intervenor appearances in the order  
13 on the Council's hearing program. So again,  
14 please note that. And at some point, if  
15 you're not here when you're called, you're  
16 not going to get another chance, so just make  
17 sure those parties and intervenors -- and you  
18 all obviously know who you are -- any  
19 prefiled testimony is due on March 3rd.  
20 That's very important for everybody's sake,  
21 so make sure those of you that have any -- if  
22 you haven't already submitted any, just make  
23 sure that that prefile testimony, in writing,  
24 is submitted no later than March 3rd.  
25 And please note that anyone

1 who has not become a party or intervenor but  
2 who desires to make his or her views known to  
3 the Council may continue to file written  
4 statements with the Council until the record  
5 closes.  
6 Copies of the transcript of  
7 this hearing will be filed at the Oxford and  
8 Middlebury Town Clerk's office. I apologize  
9 in advance to Naugatuck, but I think --  
10 hopefully there's a way to cross town lines.  
11 MR. CORNACCHIA: There is.  
12 Thank you.  
13 THE CHAIRMAN: Thank you all  
14 for your participation. Drive home safely.  
15 (Whereupon, the witnesses were  
16 excused, and the above proceedings were  
17 adjourned at 3:58 p.m.)  
18  
19  
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24  
25

1 CERTIFICATE  
2 I hereby certify that the foregoing 200  
3 pages are a complete and accurate  
4 computer-aided transcription of my original  
5 stenotype notes taken of the Continued  
6 Council Meeting in Re: DOCKET NO. 192B,  
7 CPV TOWANTIC, LLC, MOTION TO REOPEN AND  
8 MODIFY THE JUNE 23, 1999, CERTIFICATE OF  
9 ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED  
10 BASED ON CHANGED CONDITIONS PURSUANT TO  
11 CONNECTICUT GENERAL STATUTES 4-181A(B) FOR  
12 THE CONSTRUCTION, MAINTENANCE AND OPERATION  
13 OF A 785 MW DUAL-FUEL COMBINED CYCLE ELECTRIC  
14 GENERATING FACILITY LOCATED NORTH OF THE  
15 PROKOP ROAD AND TOWANTIC HILL ROAD  
16 INTERSECTION IN THE TOWN OF OXFORD,  
17 CONNECTICUT, at the Connecticut Siting  
18 Council, 10 Franklin Square, New Britain,  
19 Connecticut on February 24, 2015.  
20  
21  
22  
23 \_\_\_\_\_  
24 Lisa L. Warner, L.S.R. 061  
25 Court Reporter  
UNITED REPORTERS, INC.  
90 Brainard Road, Suite 103  
Hartford, Connecticut 06114

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