

In The Matter Of:

*Application from Eversource Energy for a Certificate
of Environmental Compatibility*

*Hearing Docket 461
October 6, 2015*

*BCT Reporting LLC
PO Box 1774
Bristol, CT 06010
860.302.1876*

Original File 06Oct2015 CT Siting.txt

Min-U-Script® with Word Index

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Docket No. 461

Application from Eversource Energy for a Certificate of Environmental Compatibility and Public Need for the Construction, Maintenance, and Operation of a 115-kilovolt Bulk Substation Located at 290 Railroad Avenue, Greenwich, Connecticut and Two 115-kilovolt Underground Transmission Circuits Extending Approximately 2.3 Miles Between the Proposed Substation and the Existing Cos Cob Substation, Greenwich, Connecticut, and Related Substation Improvements

Council Hearing held at the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut, on October 6, 2015, beginning at 11:00 a.m.

H e l d B e f o r e :

ROBIN STEIN, Chairman

1 A p p e a r a n c e s :

2 Council Members:

3 SENATOR JAMES J. MURPHY, JR.,

4 Vice Chairman

5 COMM. MICHAEL CARON, PURA Designee

6 ROBERT HANNON, DEEP Designee

7 PHILIP T. ASHTON

8 DANIEL P. LYNCH, JR.

9 DR. MICHAEL W. KLEMENS

10

11 Council Staff:

12 MELANIE BACHMAN, ESQ.,

13 Executive Director and

14 Staff Attorney

15 ROBERT MERCIER

16 Siting Analyst

17

18

19

20

21

22

23

24

25

1 A p p e a r a n c e s : (c o n t ' d)

2

3 F o r E V E R S O U R C E E N E R G Y :

4 C A R M O D Y T O R R A N C E S A N D A K &

5 H E N N E S S E Y , L L P

6 5 0 L e a v e n w o r t h S t r e e t

7 W a t e r b u r y , C o n n e c t i c u t 0 6 7 0 2

8 B y : M A R I A N N E B . D U B U Q U E , E S Q .

9

10 F o r T H E O F F I C E O F C O N S U M E R C O U N S E L :

11 L A U R E N B I D R A , E S Q .

12 M A R G A R E T B A I N

13

14 F o r P A R K E R S T A C Y (I n t e r v e n o r) :

15 S e l f

16

17 F o r P E T P A N T R Y S U P E R D I S C O U N T S T O R E S ,

18 L L C :

19 T H E M A R C U S L A W F I R M

20 2 7 5 B r a n f o r d R o a d

21 N o r t h B r a n f o r d , C o n n e c t i c u t 0 6 4 7 1

22 B y : E D W A R D L . M A R C U S , E S Q .

23 M A R K L . B E R G A M O , E S Q .

24

25

1 THE CHAIRMAN: Good morning,
2 ladies and gentlemen. I'd like to call to
3 order this meeting of the Connecticut Siting
4 Council, today Tuesday October 6, 2015,
5 11 a.m.

6 A VOICE: Excuse me. Could it
7 be louder, please? I can't hear at all.

8 THE CHAIRMAN: For some reason
9 this brilliant new arrangement, they put you
10 between mics instead of at the mics.

11 COMM. CARON: Mr. Chairman, if
12 I could?

13 The mics are designed with a
14 30-degree angle on both sides. You don't
15 have to move them back and forth. It should
16 pick you up and the mics will adjust to
17 anybody who is soft talker or a loud talker.
18 It might take a second, but the mics will
19 adjust and the acoustics in the room should
20 work pretty well.

21 And as you can see, I'm
22 speaking very normally. It's picking me up
23 so I don't have to play with the microphone.
24 So --

25 SEN. MURPHY: So the pamphlet

1 says.

2 THE CHAIRMAN: And here is our
3 engineer who designed this. So --

4 COMM. CARON: I have a flair
5 for interior decorating.

6 THE CHAIRMAN: I guess at my
7 age I should learn how to talk so people can
8 hear me.

9 Okay. This hearing is a
10 continuation of a hearing held on
11 September 1, 2015, at the Greenwich Library
12 in Greenwich, Connecticut. It was held
13 pursuant to provisions of Title 16 of the
14 Connecticut General Statutes and of the
15 Uniform Administrative Procedure Act upon an
16 application from Eversource Energy for a
17 certificate of environmental compatibility
18 and public need for the construction,
19 maintenance and operation of a 115-kilovolt
20 bulk substation located at 290 Railroad
21 Avenue, Greenwich, and two 115-kilovolt
22 underground transmission circuits extending
23 approximately 2.3 miles between the proposed
24 substation and the existing Cos Cob
25 substation in Greenwich, Connecticut, and

1 related substation improvements.

2 This application was received
3 by the Council on June 26, 2015. A verbatim
4 transcript will be made of this hearing and
5 deposited with the town clerk's office in the
6 Greenwich Town Hall for the convenience of
7 the public. And we'll now proceed in
8 accordance with the prepared agenda, copies
9 of which are available on the table near the
10 door.

11 I'll begin with the appearance
12 of the applicant, Eversource Energy, to
13 verify new exhibits marked as Roman numeral
14 two, items B 20 through 29 on the hearing
15 program.

16 And I don't know if there are
17 any more witnesses that have to be sworn in.

18 MS. DUBUQUE: Yes, thank you.
19 Mr. Chairman, I'm Marianne Barbino Dubuque.
20 I'm an attorney with Carmody, Torrance,
21 Sandak & Hennessey, and I represent CL&P
22 doing business as Eversource Energy.

23 First, I thought I would just
24 reintroduce our witness panel. Each was
25 already sworn in on September 1st. We have

1 Mr. Ken Bowes to my left, far left, Vice
2 President of Engineering. To my near left,
3 Mr. Ray Gagnon, Director of Transmission
4 Projects. To my right Ms. Jacqui Gardell,
5 Project Manager, and to her right Mike
6 Libertine of All-Points.

7 And at this point I
8 respectfully request that we swear in two
9 additional witnesses, Mr. John Case and
10 Ms. Lisa Cooper.

11 K E N N E T H B. B O W E S ,
12 R A Y M O N D G A G N O N ,
13 J A C Q U E L I N E A. G A R D E L L ,
14 M I C H A E L L I B E R T I N E ,
15 G A B O R M E Z E I ,

16 recalled as witnesses, having been
17 previously sworn, were examined and
18 testified on their oaths as follows:

19
20
21
22
23
24
25

1 JOHN C. CASE,

2 LISA COOPER,

3 called as witnesses, being first duly
4 sworn by the Executive Director, were
5 examined and testified on their oaths as
6 follows:

7 MS. DUBUQUE: Mr. Chairman,
8 may I begin with their resumes, because they
9 were listed -- Mr. Case's resume is listed as
10 item 10-D for Eversource's exhibits. That
11 was previously submitted.

12 And Ms. Cooper's resume is
13 listed as item 10-K. That is part of a
14 supplemental prefiled testimony that we will
15 also be authenticating in a minute, but I
16 thought I would begin with their resumes
17 first.

18 THE CHAIRMAN: Okay.

19 MS. DUBUQUE: Thank you. So
20 beginning with Exhibit 10-D the resume of
21 Mr. John Case, I'd like to ask Mr. Case if
22 his resume is true and accurate and if there
23 are any changes?

24 THE WITNESS (Case): It is
25 true and accurate and there are no changes.

1 MS. DUBUQUE: And do you adopt
2 your resume today as an exhibit?

3 THE WITNESS (Case): Yes, I
4 do.

5 MS. DUBUQUE: Thank you,
6 Mr. Case.

7 Ms. Cooper, as to Exhibit
8 10-K, is your resume true and accurate and
9 are there any changes?

10 THE WITNESS (Cooper): Yes, my
11 resumes true and accurate. And no, there are
12 no changes.

13 MS. DUBUQUE: And do you adopt
14 your resume today as an exhibit?

15 THE WITNESS (Cooper): I do.

16 MS. DUBUQUE: Thank you. Now
17 turning to exhibits 20 through 29 and -- but
18 we're going to exclude 26, because that's
19 Dr. Gabor Mezei, and he will do that
20 separately.

21 So I'm going to ask Mr. Bowes,
22 Mr. Gagnon and Ms. Gardell as to Exhibits 20,
23 Eversource responses to Council
24 interrogatories set two, dated September 25,
25 2015; and Exhibit 21, Eversource responses to

1 Bella Nonna Restaurant and Pizzeria,
2 interrogatories dated September 29, 2015;
3 exhibit 22, Eversource responses to Greenwich
4 Chiropractic and Nutrition interrogatories
5 dated September 29, 2015; Exhibit 23,
6 Eversource's responses to Field Point Estate
7 Townhouses interrogatories, dated
8 September 29, 2015; Exhibit 24, Eversource
9 response to Office of Consumer Counsel
10 Interrogatories set two, dated September 29,
11 2015; Exhibit 25, Eversource supplemental
12 direct testimony of Kenneth Bowes, Raymond
13 Gagnon and Jaqueline Gardell with attachments
14 dated September 29th, 2015; Exhibit 27,
15 Eversource responses to Pet Pantry Super
16 Discount Stores, LLC, interrogatories, 1 to
17 30, 33 to 37, 39 to 43, 45 to 46, 48 to 49,
18 51, 53, 56 to 57, 59, 61, dated September 29,
19 2015; Exhibit 28, Eversource response to
20 Office of Consumer Counsel interrogatories
21 set two, revise number 25, dated September
22 30, 2015; and Exhibit 29, Eversource
23 responses to Pet Pantry Super Discount
24 Stores, LLC, interrogatories 31, 32, 38, 44,
25 47, 50, 54 to 55, 58, 60, 62, 63, and revised

1 25, dated September 30, 2015.

2 So once again, referring to
3 exhibits 20 to 25, 27 to 29, I'll ask Mr.
4 Bowes, Mr. Gagnon and Ms. Gardell, did you
5 prepare or oversee preparation of these
6 exhibits?

7 THE WITNESS (Gagnon): Yes, I
8 did.

9 THE WITNESS (Gardell): Yes, I
10 did.

11 THE WITNESS (Bowes): Yes, I
12 did.

13 MS. DUBUQUE: Are there any
14 corrections or clarifications or additions?

15 THE WITNESS (Gagnon): No.

16 THE WITNESS (Bowes): There
17 are none.

18 THE WITNESS (Gardell): No,
19 there are none.

20 MS. DUBUQUE: To the best of
21 your knowledge is the information in these
22 exhibits true and accurate?

23 THE WITNESS (Bowes): Yes, it
24 is.

25 THE WITNESS (Gagnon): Yes, it

1 is.

2 THE WITNESS (Gardell): Yes,
3 it is.

4 MS. DUBUQUE: And do adopt the
5 written testimony in Exhibits 20 to 25, 27 to
6 29 as your sworn testimony and you adopt
7 these documents as exhibits?

8 THE WITNESS (Gagnon): Yes, I
9 do.

10 THE WITNESS (Gardell): Yes, I
11 do.

12 THE WITNESS (Bowes): Yes, I
13 do.

14 MS. DUBUQUE: Thank you.

15 Now turning to Exhibit 26,
16 Eversource direct testimony of Dr. Gabor
17 Mezei, dated September 29, 2015, and
18 Dr. Mezei was also sworn in on September 1st.

19 Dr. Mezei, did you prepare or
20 oversee the preparation of Exhibit 26?

21 THE WITNESS (Mezei): Yes, I
22 did.

23 MS. DUBUQUE: Are there any
24 corrections, clarifications or additions?

25 THE WITNESS (Mezei): No.

1 MS. DUBUQUE: To the best of
2 your knowledge, is the information in
3 Exhibit 26 true and accurate?

4 THE WITNESS (Mezei): Yes, it
5 is.

6 MS. DUBUQUE: Do you adopt the
7 written testimony in Exhibit 26 as your sworn
8 testimony?

9 THE WITNESS (Mezei): Yes, I
10 do.

11 MS. DUBUQUE: Thank you.

12 Mr. Chairman, I respectfully
13 request that the Council admit into evidence
14 Exhibits 20 to 29 as full exhibits, subject
15 to the Council's September 1 protective
16 order, as well as Exhibits 10-K and 10-D, the
17 resumes of Ms. Cooper and Mr. Case, and
18 Exhibit A, Eversource's request for
19 administrative notice items 1 to 32 on pages
20 6 to 8 of the hearing program, which I
21 believe I did not properly request on the
22 record on September 1st.

23 THE CHAIRMAN: Thank you.

24 Does any party or intervener
25 object to the admission of the applicant's

1 new exhibits?

2 (No response.)

3 THE CHAIRMAN: Hearing and
4 seeing none, the exhibits are admitted.

5 We'll now resume with the
6 cross-examination by our staff, Mr. Mercier.

7 MR. MERCIER: Thank you.

8 Most of my questions were
9 answered in the Council interrogatory
10 responses set two, but I do have a couple of
11 follow-ups based on that document. The first
12 question has to do with the cofferdams.
13 There was a very detailed response in
14 question number one.

15 I was wondering what, if
16 anybody knows, what is the maximum length
17 that a cofferdam could be installed?

18 THE WITNESS (Gagnon): I don't
19 know, but we had one that went across the
20 Naugatuck River as part of the Yankee Gas
21 project that was probably close to 200,
22 250 feet.

23 MR. MERCIER: Have you ever
24 seen one up to 800 feet? Is that possible?

25 THE WITNESS (Gagnon): I think

1 the technique is -- is able to go as far as,
2 I would assume. It's just the amount of
3 water that's moving back and forth that has
4 to go around the cofferdams. If it's a
5 stiller area it's a lot easier to install,
6 pump out the water and to work in that area,
7 than in something that is moving.

8 MR. MERCIER: Okay. So if it
9 was possible I guess my question was, instead
10 of doing a horizontal directional drill
11 through the blue and orange route through
12 Bruce Park, you cofferdam dam that, if that
13 was even examined. I'm not sure.

14 THE WITNESS (Gagnon): It
15 wasn't looked at as part of the application.

16 MR. MERCIER: Okay. With the
17 orange open trench route through the small
18 wood lot in Bruce Park, I understand you have
19 to clear the trees and to create the trench
20 opening. And once you're done it will be
21 reseeded and allowed to revegetate naturally.

22 Would Eversource have to
23 maintain that open trench area as a grassland
24 or shrubby area to prevent trees from growing
25 up above the underground cables?

1 THE WITNESS (Gagnon): Yes, we
2 would want to make sure that we maintain the
3 area above the trench itself to make sure
4 that we can anticipate -- yes, so we would
5 manage that area, that's specifically right
6 above that trench area.

7 MR. MERCIER: In Bruce Park.
8 So that would be Eversource's responsibility
9 to maintain that particular area?

10 THE WITNESS (Gagnon): That is
11 correct.

12 MR. MERCIER: And just
13 flipping to interrogatory response letter 11,
14 that was the photo simulation I asked. Did
15 you try to mimic the existing Pet Pantry
16 building?

17 I see the brick veneer on the
18 north side of the structure that appears to
19 be concrete facing the Field Point Roadside.
20 Is it possible to install brick veneer on the
21 side facing Field Point Road?

22 THE WITNESS (Gagnon): Yes, it
23 is.

24 MR. MERCIER: Okay. I noticed
25 looking at this photograph that there appears

1 to be some kind of bump out as you go to the
2 south end of the building, a slight bump out.
3 Is it also possible to design the building so
4 it's a clean straight line? I'm not sure
5 what the purpose of the bump out is.

6 THE WITNESS (Gardell): The
7 purpose of the bump out is so that we could
8 move the access door from the high visible
9 side of the intersection to the back of the
10 building. And that allows for truck entry
11 and to be able to get over to the crane to
12 lift the equipment. So that's why that is
13 some hardset lines.

14 MR. MERCIER: Okay. Thank
15 you.

16 And looking further south of
17 the building I see a concrete wall. I'm
18 assuming is that the firewall, the proposed
19 firewall for the transformer?

20 THE WITNESS (Gagnon): Yes, it
21 is. The one that you're looking at is
22 approximately 8 feet high.

23 MR. MERCIER: Does that
24 firewall structure also have a roof? I can't
25 tell from this picture.

1 THE WITNESS (Gagnon): No, it
2 would be an open, just an open wall.

3 MR. MERCIER: Okay. Is it
4 constructed of concrete?

5 THE WITNESS (Gagnon):
6 It's concrete or like a
7 cinderblock, like a concrete block.

8 MR. MERCIER: And for that
9 face that faces Field Point Road, is it
10 possible to install a brick veneer on that
11 side of the firewall?

12 THE WITNESS (Gagnon): Yes, it
13 would be.

14 MR. MERCIER: Okay. Thank
15 you.

16 I read in the application
17 there will be low-level lighting installed
18 within the substation area. Could you please
19 explain what the term "low-level lighting"
20 means?

21 THE WITNESS (Gardell): The
22 low-level lighting is for access. It would
23 be near the door entryways, just for the
24 low-level would not go beyond that area.

25 MR. MERCIER: Okay. Is the

1 intent to illuminate the entire substation at
2 night, or just those specific access ways?

3 THE WITNESS (Gardell): No,
4 the low-level lighting would just be for
5 those access ways. We would have other
6 lighting if we had to do work at night at the
7 substation to fix any equipment.

8 MR. MERCIER: For the lights
9 that may be needed during nighttime work
10 hours, are those mounted on independent
11 masts? Or are they mounted on the building,
12 or other available structures?

13 THE WITNESS (Gagnon): We
14 really haven't designed exactly the
15 locations, but we have in the past put them
16 on A-frame structures, some of the structures
17 that are up high so you have a lot of
18 visibility of the work yard.

19 MR. MERCIER: Okay. Thank
20 you.

21 On page L-3 of the application
22 it essentially states the site could be at
23 risk for vehicle impact. So I wasn't sure if
24 there was any particular construction method
25 you're going to use for the -- this pertains

1 to the GIS building, for the GIS building,
2 whether there's extra framing installed or
3 bollards within the concrete or anything of
4 that nature?

5 THE WITNESS (Gardell): The
6 building will be designed for vehicle impact
7 to protect the equipment inside.

8 MR. MERCIER: And how is that
9 accomplished? Is there extra concrete or
10 something?

11 THE WITNESS (Gardell):
12 It's -- it's designed to
13 withstand a certain amount of crash
14 protection, and it would be concrete.

15 MR. MERCIER: Thank you.

16 And staying with the safety
17 issues, regarding potential fires or
18 emergency response issues at the substation,
19 mechanical failures, as such, what type of
20 detection system is in place to detect fires,
21 or other types of malfunctioning equipment?

22 THE WITNESS (Gagnon): For
23 right now we have, specifically for fires
24 itself, we have smoke detection, detection in
25 the GIS building in the switchgear. We do

1 have alarms that go back to the local control
2 center to take -- so that, you know, if
3 something does happen we can notify our
4 personnel to get out to the site.

5 THE WITNESS (Gardell): I'll
6 add. I'd like to add to that our substations
7 are built intrinsically safer for spacing for
8 fire, so that there will be no issues outside
9 of the fenced area.

10 MR. MERCIER: Now you
11 mentioned personnel would have to be
12 dispatched. Is it specific emergency
13 response personnel from Eversource, or just
14 in-general technician?

15 THE WITNESS (Gagnon): Usually
16 our electricians who are nearby get
17 dispatched, are the first to the site.

18 MR. MERCIER: You say, nearby.
19 Is there a certain location, or yard they're
20 based at, or some building?

21 THE WITNESS (Bowes): It would
22 be Glenbrook Road in Stamford.

23 MR. MERCIER: And what will
24 their role be when they're dispatched? To
25 assess the situation?

1 THE WITNESS (Bowes): First
2 would be to make safe. And if in case of a
3 fire, it would be to, under the direction of
4 the system operator, deenergize the necessary
5 equipment to allow the firefighters to
6 extinguish the fire.

7 In the case of in the release
8 of the -- the transformer oil it would be a
9 containment, a spill response, a contractor
10 or group that was brought in to complete the
11 cleanup.

12 MR. MERCIER: Now in regards
13 to the municipal emergency responders that
14 may go to the site if there was some type of
15 issue requiring their assistance, are they
16 specifically trained in responding to
17 transformer fires, say, or other substation
18 fires or issues?

19 THE WITNESS (Bowes): They are
20 specifically trained to wait for Eversource
21 employees to make the scene safe, and that
22 goes whether it's a pole-top transformer on
23 the side of the road, or whether it's a
24 substation transformer.

25 Remember there have been

1 substations in Greenwich, several of them for
2 more than a hundred years. It's not a new
3 situation to have a new additional substation
4 in the town of Greenwich.

5 MR. MERCIER: Okay. So they
6 can't act as the municipal emergency
7 responder until they get direction from
8 Eversource personnel that's dispatched?

9 THE WITNESS (Bowes): Correct.
10 They stand by and ensure public safety, but
11 will not enter a substation until directed by
12 Eversource personnel.

13 MR. MERCIER: Thank you.

14 I just had one other question
15 actually in regards to the Cos Cob
16 substation. Does Metro-North own and
17 maintain their own equipment within that
18 substation?

19 THE WITNESS (Bowes):

20 Metro-North? Well, there are
21 two substations on the Cos Cob facility. One
22 of them adjacent to the Eversource substation
23 is owned by Metro-North and there's a second
24 Metro-North substation closer to the tracks.
25 Eversource operates and maintains under

1 contract the one adjacent to the Eversource
2 substation and we provide services for that
3 operation and maintenance.

4 MR. MERCIER: Thank you. I
5 have no other questions at this time. Thank
6 you.

7 THE CHAIRMAN: Thank you.
8 We'll now continue with questions by members
9 of the Council starting with Mr. Ashton.

10 MR. ASHTON: Thank you,
11 Mr. Chairman.

12 I apologize for not attending
13 the September 1st hearing. I had other
14 problems to address. I have read the
15 transcript however, and so a few of my
16 questions are going to come out of that.

17 In the transcript it was
18 mentioned that there was a fire at Cos Cob
19 substation. Can someone tell me what that
20 nature of that fire was?

21 THE WITNESS (Bowes): Yes, I
22 can. The middle phase service station
23 transformer 11-S1, it's a 27-kV overhead
24 transformer that feeds the station service,
25 apparently was damaged previously.

1 It caught fire and tripped the
2 necessary circuits and buses inside the
3 substation. And it did burn for a period of
4 time until Eversource arrived, escorted the
5 local fire department in, made the scene safe
6 and the fire was extinguished.

7 MR. ASHTON: And Eversource's
8 nearest facility is out of Stamford. Is that
9 correct?

10 THE WITNESS (Bowes): It is
11 today. That's not where the person was
12 dispatched from. We went through the normal
13 protocol and there were no -- no responders
14 from the Stamford work center. So we went to
15 a supervisor that I think actually dispatched
16 from the town of Milford.

17 MR. ASHTON: Okay. And that
18 transformer is a distribution type
19 transformer, a pole-top type transformer?

20 THE WITNESS (Bowes): It was,
21 yes.

22 MR. ASHTON: Okay. What are
23 the transformer ratings of the Cos Cob
24 transformers, and tell me how that rating is
25 determined?

1 THE WITNESS (Bowes): You're
2 talking now about the substation power
3 transformer?

4 MR. ASHTON: Yes, the
5 substation load transformers. There's three
6 of them and what are they rated at? And
7 under what circumstance?

8 THE WITNESS (Bowes): There
9 are three transformers rated at 27 -- 27.6 kV
10 on the low side.

11 MR. ASHTON: No, I'm thinking
12 of the MVA transformer capacity?

13 THE WITNESS (Bowes): Correct.
14 The three 27 kV are rated at 47 MVA for the
15 2X transformer, 47 MVA for the 3X
16 transformer, and 25 MVA for the 5X
17 transformer.

18 MR. ASHTON: Are those FOA
19 ratings? Forced oil and air or what?

20 THE WITNESS (Bowes): Forced
21 air ratings.

22 MR. ASHTON: They're not
23 forced oil. Does it have FOA capability?

24 THE WITNESS (Bowes): It does
25 not.

1 MR. ASHTON: So none of the
2 three have that capability?

3 THE WITNESS (Bowes): I stand
4 corrected -- Mr. Gagnon. The top rating does
5 have forced air and forced oil.

6 MR. ASHTON: On the 47 MVA, is
7 FOA in ratings?

8 THE WITNESS (Bowes): Yes, it
9 is.

10 THE WITNESS (Gagnon): That's
11 correct.

12 MR. ASHTON: And how about the
13 smaller one?

14 THE WITNESS (Gagnon): We've
15 got 27, 37.3 and 48.7.

16 THE WITNESS (Bowes): And I
17 apologize for that. I gave you the rating
18 for the 5X transformer, which is the 13.2 kV.
19 The rating of the 1X transformer is 50.4 MVA.

20 MR. ASHTON: 50.4?

21 THE WITNESS (Bowes): And that
22 is a forced oil, forced air.

23 MR. ASHTON: Okay. Now back
24 in the bad old I seem to recall that they
25 were doubled rating. You had a self-cooled

1 rating, an FOA rating and then another FOA
2 rating were everything came on. Which rating
3 are we using here?

4 THE WITNESS (Bowes): The
5 highest rating.

6 MR. ASHTON: I'm sorry?

7 THE WITNESS (Bowes): The
8 highest rating, for example --

9 MR. ASHTON: It's all pumps
10 and fans are on?

11 THE WITNESS (Bowes): For the
12 example, the 11R 1X rating is 30.2/40.3/50.4
13 MVA.

14 MR. ASHTON: Wonderful. Okay.
15 that helps me considerably. And that rating
16 is continuous rating or short-term, or
17 long-term emergency?

18 THE WITNESS (Bowes): That's
19 continuous rating.

20 MR. ASHTON: Okay. Good. So
21 that a transformer could take an even higher
22 loading on a short-term basis. Is that not
23 fair to say?

24 THE WITNESS (Bowes): Yes, it
25 can. And we do use contingency ratings on

1 all equipment.

2 MR. ASHTON: As I recall, the
3 docket before us you used a rating of 135, I
4 think, combined for the three transformers.
5 And that is based on an FOA, FOA rating
6 continuous. Ya vol?

7 THE WITNESS (Gagnon): That's
8 based on, yes, continuous, but it also
9 includes that the largest transformer is out
10 of service for that first contingency. So
11 you have two of the smaller units active.

12 MR. ASHTON: Okay.

13 THE WITNESS (Bowes): So for
14 example, if you took the two smaller units at
15 47 MVA each, that obviously does not equate
16 to 135 MVA.

17 MR. ASHTON: Right. That's a
18 long-term emergency rating then, the 135?

19 THE WITNESS (Bowes): Yes, it
20 is.

21 MR. ASHTON: And long-term
22 emergency is defined as what?

23 THE WITNESS (Bowes): Up to 24
24 hours.

25 MR. ASHTON: Okay. One cycle?

1 Multiple cycles?

2 THE WITNESS (Bowes): One
3 cycle with a cooldown period between.

4 MR. ASHTON: Okay. Let me
5 tell you where I'm going here. As I recall,
6 the numbers this project cost is
7 \$140 million, which if my memory is correct
8 using some rough numbers, equates to about
9 \$30 million a year in carrying charges. Is
10 that a fair guess for an order of magnitude?
11 Anybody want to pick on me?

12 THE WITNESS (Cooper): Yes.

13 MR. ASHTON: That's a
14 reasonable working number?

15 THE WITNESS (Cooper): Yeah.

16 MR. ASHTON: That's \$10 for
17 every man woman and child in Connecticut per
18 year, which I find frankly shocking. I grew
19 up in a era where a breaker cost a hundred
20 thousand bucks a mile of transmission. A 115
21 cost a hundred thousand -- 300,00 for 345.
22 So to see these numbers like 140 million it
23 stretches my imagination to no end.

24 You have -- you could replace
25 the transformers at Cos Cob, could you not,

1 and increase the load carrying capability?

2 THE WITNESS (Gardell): Our
3 distribution engineering folks have said they
4 have had that the largest transformers that
5 they could fit in the location due to the
6 tight workspace.

7 MR. ASHTON: The tight
8 workspace?

9 THE WITNESS (Gardell): Yes.

10 MR. ASHTON: Couldn't we
11 revamp the substation and slip a transformer
12 in? I mean, when I hear someone say, it
13 can't be done, I start wondering.

14 THE WITNESS (Bowes): So if
15 transformer capacity were the sole issue we
16 would certainly look at other alternatives.

17 MR. ASHTON: Okay. But that
18 is an issue, in fact, that's before the House
19 right now. Is it not?

20 THE WITNESS (Bowes): It's one
21 of the issues we have.

22 MR. ASHTON: Okay.

23 THE WITNESS (Bowes): We also
24 have overloads on the 27-kV feeders between
25 Cos Cob and Prospect.

1 MR. ASHTON: One of the things
2 that has happened in the past, has it not, is
3 that where a load growth is anticipated a
4 facility was put in that operated at a lower
5 voltage where it's capable then of being
6 converted to a higher voltage when the need
7 arose? Is that not correct?

8 THE WITNESS (Bowes): Yes.

9 MR. ASHTON: For example, I
10 think we did this between Norwalk and
11 Glenbrook. Am I correct in that?

12 THE WITNESS (Bowes): There's
13 a capability for additional expansion between
14 Norwalk and -- and Glenbrook.

15 MR. ASHTON: And if my memory
16 of history is correct, I think some of the
17 115-kV lines in Eastern Connecticut were
18 built for 345 and were initially operated at
19 115. So that kind of a transition is not out
20 of the question. Is it not?

21 THE WITNESS (Bowes): I don't
22 believe it's applicable in this case, but --

23 MR. ASHTON: Well, let me give
24 you a specific. I recognize that Greenwich
25 is the end of the line. I recognize that

1 it's a difficult area to serve. I recognize
2 that the load there has grown over the years.
3 Nonetheless there are questions, fair ones as
4 to how much more it's going to grow. And
5 it's a hell of a big question, in my opinion,
6 as to the ability and desirability of hitting
7 the rate base with 140-million-dollar charge.
8 Forget the cost sharing. That works both
9 ways. It's a two-edged knife.

10 Insofar as there was a strong
11 case for additional load growth, I want to
12 explore that a little bit later. Would it
13 not be possible to build a 115-kV cable that
14 goes to Prospect Street in that area and
15 operate it at 27 kV for an additional feeder?
16 The answer has got to be yes.

17 THE WITNESS (Bowes): Well,
18 not without a complete rebuild of the
19 Prospect substation.

20 MR. ASHTON: Okay. But is
21 that going to be you're going to spend
22 140 million to complete rebuild. What I'm
23 looking for is what are the alternatives that
24 you looked at here to avoid \$140 million?

25 THE WITNESS (Bowes): So in

1 the application we listed several
2 alternatives, including one distribution
3 alternative which would be to have a
4 substation at a different location.

5 MR. ASHTON: Yeah, but that's
6 the same thing. That's moving the deck
7 chairs around.

8 THE WITNESS (Bowes): The OCC
9 asked us to look at a 27-kV solution from
10 Stamford into Greenwich.

11 MR. ASHTON: But Stamford is
12 all 13, too, isn't it?

13 THE WITNESS (Bowes): Correct.
14 We would have to build a new, and in essence,
15 a new bulk substation.

16 MR. ASHTON: So you have to
17 build a new substation in Stamford to provide
18 276 that reaches into Greenwich. Is that
19 fair to say?

20 THE WITNESS (Bowes): That was
21 the alternative that was asked.

22 MR. ASHTON: And can you
23 transfer any load from Cos Cob to Waterside?

24 THE WITNESS (Bowes): Very
25 minimal at this point.

1 MR. ASHTON: What is minimal?
2 What's that defined as?

3 THE WITNESS (Bowes): I think
4 there are no circuits today that -- that
5 bridge that, those geographic locations. So
6 we would have to build additional --
7 additional distribution circuits.

8 MR. ASHTON: Did anybody look
9 at the cost of that?

10 THE WITNESS (Bowes): So that
11 would serve more load from Cos Cob.

12 MR. ASHTON: Yeah, transfer
13 some of the load off of Cos Cob. You're
14 saying you've got to do something drastic
15 because Cos Cob gets to 135.8 MVA and you're
16 worried about it. And I want to know what
17 you did to try and figure out a way around
18 it?

19 THE WITNESS (Bowes): So as
20 the Siting Council is well aware, we built
21 Tomac several years ago to try to offload
22 some of the load in Greenwich and serve it.
23 It has constrained space as well and we don't
24 have the room to expand Tomac --

25 MR. ASHTON: I know Tomac is a

1 very small site. I do know that.

2 THE WITNESS (Bowes): -- which
3 is between Waterside and Cos Cob
4 geographically. To build distribution
5 circuits for, you know, several miles from
6 Waterside into Greenwich we did not believe
7 was a viable alternative.

8 MR. ASHTON: Did anybody look
9 at it?

10 THE WITNESS (Bowes): Yes, we
11 did.

12 MR. ASHTON: And what was the
13 cost of that?

14 THE WITNESS (Bowes): To have
15 the same equivalency it was nine distribution
16 circuits.

17 MR. ASHTON: Well, you're not
18 going to get the same equivalency because
19 nobody in their right mind would build ten
20 circuits from Waterside into Greenwich. The
21 question is, can you avoid or delay
22 rebuilding the system between Cos Cob and
23 Greenwich by transferring some of it to
24 Waterside, slash, Tomac Avenue?

25 THE WITNESS (Bowes): I don't

1 believe it's a practical alternative.

2 MR. ASHTON: That doesn't
3 answer my questions, and I'm sorry. What
4 kind of costs and load transfer capabilities
5 are there?

6 THE WITNESS (Bowes): Well, a
7 new circuit would be approximately 20 MVA.

8 MR. ASHTON: Okay. Twenty MVA
9 is a sixth of almost -- almost a sixth of
10 your 135.8 MVA. It does mean that you can
11 delay spending 140 million dollars at
12 30 million bucks a year. Isn't that true?

13 THE WITNESS (Bowes): If that
14 were the only need, the capacity need at Cos
15 Cob, the answer would be yes.

16 MR. ASHTON: And what else
17 could you do at Cos Cob to help the problem?
18 And I don't buy there's no room at Cos Cob.
19 I know the station.

20 THE WITNESS (Bowes):
21 Additional transformation
22 could be added.

23 MR. ASHTON: Okay. And what
24 kind of costs are we talking about?

25 THE WITNESS (Bowes): Again,

1 there would probably be some acquisition of
2 property.

3 MR. ASHTON: Can I make a
4 suggestion that you come back with an answer
5 a little later?

6 THE WITNESS (Gardell): I have
7 the answer.

8 MR. ASHTON: Okay.

9 THE WITNESS (Gardell): I have
10 the answer. For the site at Cos Cob it would
11 be approximately \$190 million.

12 MR. ASHTON: For doing what?

13 THE WITNESS (Gardell): To --
14 we would have to expand into a property and
15 buy a commercial building that's next to Cos
16 Cob. We would also have to run two new 13-2
17 duct banks from Cos Cob all the way out to
18 the Prospect substation location. That
19 approximate cost is about \$84 million.

20 So that would be more
21 expensive than the transmission 115-cable
22 costs, which right now are at \$72 million.
23 So we did look at this and we think the most
24 efficient way to serve the area is with the
25 transmission solution.

1 MR. ASHTON: Are the gas
2 turbines still operating at Cos Cob?

3 THE WITNESS (Bowes): They are
4 operational, yes.

5 MR. ASHTON: And how old are
6 those gas turbines?

7 THE WITNESS (Gagnon): At Cos
8 Cob, 1969, I think the first --

9 MR. ASHTON: I'm sorry. I
10 can't hear you.

11 THE WITNESS (Gagnon): I think
12 1969 the first set was installed, there was
13 three. And then in 2008 2 additional units
14 were installed.

15 MR. ASHTON: An additional
16 unit or units?

17 THE WITNESS (Gagnon): Units,
18 two.

19 MR. ASHTON: So there's five
20 units at Cos Cob?

21 THE WITNESS (Gagnon): Yes,
22 there are.

23 MR. ASHTON: And the first
24 three are roughly 20 megawatts apiece. Is
25 that correct?

1 THE WITNESS (Gagnon): The
2 first three are roughly -- yeah. All five
3 are roughly 20.

4 MR. ASHTON: They're all five?

5 THE WITNESS (Gagnon): Roughly
6 20.

7 MR. ASHTON: Okay. I don't
8 want to quibble on that. So you've got five
9 gas turbines and that would support the Cos
10 Cob substation on a single circuit. Wouldn't
11 it? If you lost a circuit the five gas
12 turbines and one 115-kV circuit would carry
13 your peak load. Is that fair to say?

14 THE WITNESS (Bowes): Well,
15 one circuit today would cover the peak load,
16 one overhead transmission circuit.

17 MR. ASHTON: Okay. You're not
18 too fat with extra capacity, though, are you?

19 THE WITNESS (Gagnon): Well, I
20 believe for feeding out of Cos Cob is 160
21 MVA, and we're -- that's a hundred with the
22 five.

23 THE WITNESS (Bowes): And
24 those are not must-run units under any
25 situation.

1 MR. ASHTON: No, I understand.
2 They're reserve units, but the 59 units are
3 getting a little bit long in the whiskers.

4 THE WITNESS (Bowes): And
5 again, they solve a capacity deficiency on
6 the transmission system. They do not solve a
7 capacity deficiency or a reliability issue
8 with the distribution.

9 MR. ASHTON: I fully
10 understand that. What I'm troubled by when I
11 hear a 190 million-dollar capacity expansion,
12 that one, I'd really like to know more about
13 that.

14 THE WITNESS (Bowes): And
15 again, that was to look at a like-for-like
16 alternative of the same capability.

17 MR. ASHTON: The same
18 capability at Cos Cob or into Greenwich?

19 THE WITNESS (Bowes): The same
20 capability to serve the 13.2-kV load in
21 Greenwich.

22 MR. ASHTON: Okay. What I'm
23 trying to get at is, is there an increment
24 that you can do that allows the postponement
25 of the 140 million dollars, i.e., 30 million

1 bucks a year that will work for five years
2 and so we can sort this out?

3 THE WITNESS (Bowes): In 2010
4 we initiated a series of projects that did
5 just that. They're listed in the
6 application. They were incremental
7 distribution investments of about \$35 million
8 that got us to the point we are today.
9 There's always something you can do more.

10 MR. ASHTON: Well, I know
11 that.

12 THE WITNESS (Bowes): But at
13 what cost and at what benefit and at what
14 longevity of solution?

15 MR. ASHTON: Been there, done
16 that.

17 THE WITNESS (Bowes): So we're
18 at a point now where we've exhausted all the
19 viable distribution alternatives to serve the
20 13.2-kV load.

21 MR. ASHTON: Let me go on with
22 a few other things. I'm looking at some of
23 the Pet Pantry Discount Store questions and
24 answers. One of them relates to the
25 permissions for construction or laying lines

1 by the I-90 Highway. And you say, no, it
2 hasn't.

3 Has the company ever -- this
4 was question number 01, I guess it would be.
5 Has Eversource, CL&P, whatever the current
6 name is, ever approached the State to see
7 whether they can run longitudinal on highway
8 properties?

9 THE WITNESS (Gardell): Yes,
10 we have.

11 THE WITNESS (Bowes): Yes.

12 MR. ASHTON: And what was the
13 reason that the State said you can't? I
14 assume that's the answer you got.

15 THE WITNESS (Gardell): They
16 are planning to expand I-95 in that area.

17 MR. ASHTON: Okay. So they
18 would only tolerate a transverse crossing and
19 not a longitudinal parallel. Is that fair to
20 say?

21 THE WITNESS (Bowes): For a
22 divided interstate highway, that is correct.

23 MR. ASHTON: Okay.

24 THE WITNESS (Bowes): We build
25 distribution and transmission facilities

1 along normal state roads on a routine basis.

2 MR. ASHTON: Okay. On the
3 same page I made a note that the cost of
4 140 million was based upon what assumptions
5 of the ground that you were going to go
6 through. And let me elaborate on that
7 question a bit.

8 Did the company do any borings
9 or look at any geological studies of the
10 area?

11 THE WITNESS (Gagnon): Yes.
12 Yes, the company did. They did 40 borings
13 along the -- the route and they definitely
14 looked at the geographic -- topology of the
15 area.

16 MS. BAIN: Excuse me. Could
17 we ask the witness to pull that microphone
18 toward him? We can't hear him.

19 MR. ASHTON: Supposedly it's
20 not going to help, but if he raises his voice
21 it will help I'm sure.

22 THE WITNESS (Gagnon): I'll
23 try to raise my voice.

24 MR. ASHTON: I'm a great
25 believer in the voice before the electronics.

1 THE WITNESS (Gagnon): Maybe
2 I'll sit up.

3 MR. ASHTON: Would it be
4 reasonable to say that it's fairly well known
5 Greenwich is an awfully bony area, a lot of
6 ledge?

7 THE WITNESS (Gagnon): A lot
8 of ledge that is exposed. That is correct.

9 MR. ASHTON: Did that fact
10 come into the assumption of cost?

11 THE WITNESS (Gagnon): Yes, it
12 did.

13 MR. ASHTON: Bear with me a
14 minute. On question 06, in the sentence, the
15 middle -- the second sentence says, the
16 company has completed some investigation in
17 that area to help quantify those factors and
18 adjust estimated construction duration.

19 What investigations broadly
20 did you look into? It's a three-line answer.

21 THE WITNESS (Gagnon): Can you
22 ask your question again. I just want to make
23 sure I got it.

24 MR. ASHTON: Well, it uses the
25 term, "the company has completed some

1 investigations," and I'm just inquiring as to
2 what those investigations were and how
3 competent they were. And competent in the
4 sense of thorough.

5 THE WITNESS (Gagnon): Yeah,
6 there were site surveys performed -- site
7 surveys performed and the borings that we
8 took.

9 MR. ASHTON: You did take
10 borings?

11 THE WITNESS (Gagnon): Yeah.
12 There were 40 borings.

13 MR. ASHTON: Okay. I knew you
14 did 40, but I didn't catch the "boring" term.

15 THE WITNESS (Gagnon): Oh,
16 sorry.

17 MR. ASHTON: Okay. So that
18 should give you a fair indication of the
19 subsurface conditions. Is that reasonable?

20 THE WITNESS (Gagnon): It
21 gives us a good start.

22 MR. ASHTON: Okay. In the
23 next one it says you've taken 40 soil and
24 water samples. Is that the reference to
25 borings?

1 THE WITNESS (Gagnon): Yes,
2 that is.

3 MR. ASHTON: Now which is it?
4 Borings, which I find defined as drilling a
5 hole down to find out what the heck is there?
6 Or water and soil samples, which ain't
7 borings in my book?

8 THE WITNESS (Gagnon): Well,
9 we took the borings themselves and in the
10 borings you can identify where the water
11 table is.

12 MR. ASHTON: Okay. And you
13 answer in the question 45, it talks about the
14 area of the substation and the magnitude of
15 the floods that are going to be experienced
16 across the street and so forth. Apparently
17 the preferred site is above the 500-year
18 storm. Is that fair to say?

19 THE WITNESS (Gagnon): That is
20 correct.

21 MR. ASHTON: Nonetheless, a
22 500-year storm has been exceeded this last
23 weekend in South Carolina. And having had
24 some personal experience with floods,
25 magnitudes, does the company use in its

1 design a maximum probable flood or something
2 of that like so that your connections, your
3 protective schemes and so forth are well
4 above anything you're likely to get in the
5 way of floods?

6 THE WITNESS (Bowes): "Likely"
7 is the keyword in that question.

8 MR. ASHTON: I know it is, and
9 that's what I'm waiting to hear with bated
10 breath.

11 THE WITNESS (Bowes): So we
12 use a base flood elevation which is dictated
13 by the 500-year flood for a category three
14 storm surge. And then add a design basis on
15 top of that of one foot plus one foot.

16 MR. ASHTON: One foot plus
17 what?

18 THE WITNESS (Bowes): Plus one
19 foot.

20 MR. ASHTON: So two feet?

21 THE WITNESS (Bowes): So an
22 equivalency of two feet above the 500-year
23 flood mark.

24 MR. ASHTON: And isn't it fair
25 to say that the incremental cost of doing

1 that does not break the bank at all? It's
2 where you put your connections, where you put
3 your junction boxes and so forth?

4 THE WITNESS (Bowes): For a
5 new substation that is very accurate.

6 MR. ASHTON: Right. Now we're
7 talking a new substation?

8 THE WITNESS (Bowes): To
9 retrofit an existing fleet of substations, it
10 is --

11 MR. ASHTON: It's a horse of
12 another color?

13 THE WITNESS (Bowes): It is
14 very different, yes.

15 MR. ASHTON: Yeah, I
16 understand that. Okay. The next question in
17 order, 46 talked about the outages that
18 occurred in Storm Sandy where Greenwich Road
19 got hit badly, 80 percent -- 87 percent in
20 Storm Sandy and then 99 and a half percent of
21 another storm.

22 That was primarily
23 distribution. Was it not, where the trees
24 came down and cleaned out the house?

25 THE WITNESS (Bowes): For

1 Storm Sandy it was almost entirely
2 distribution. For the second event that
3 occurred in August it was a transmission loss
4 of service, loss of supply.

5 MR. ASHTON: Okay. A loss of
6 transmission line?

7 THE WITNESS (Bowes): Correct.

8 MR. ASHTON: Okay. So the
9 substation before us per se would have no
10 bearing on those numbers. Is that fair to
11 say?

12 THE WITNESS (Bowes): It would
13 have no bearing on the loss of transmission
14 supply.

15 MR. ASHTON: Right.

16 THE WITNESS (Bowes): It
17 probably would have some bearing on the loss
18 of distribution supply from Storm Sandy.

19 MR. ASHTON: Well, if you
20 still have overhead lines how is it going to
21 work? You're not ready to put everything
22 underground. Are you?

23 THE WITNESS (Bowes): Two-part
24 answer. During storm Sandy our distribution
25 automation saved approximately 100,000

1 customers. They were automatically restored
2 with an alternate feed. That would be our
3 intention, is to bring that technology to
4 Greenwich once we have a second source. So
5 we could use the Cos Cob substation and the
6 Greenwich substation and place automation in
7 between them.

8 So the hundred thousand
9 customers was on a base of about 500,000
10 customers that were -- lost service during
11 that event.

12 MR. ASHTON: I'd love to have
13 a nice chat with you about overhead versus
14 underground, but I don't think that the
15 Chairman is going to let me get away with
16 that, so I'll pass on it.

17 THE WITNESS (Bowes): So the
18 second part of your question --

19 THE CHAIRMAN: Actually you
20 may, but I think we have another member
21 that's going to dive into that.

22 THE WITNESS (Bowes): The
23 second part of your question around
24 undergrounding, we have been active with the
25 Town of Greenwich on looking at

1 undergrounding distribution facilities in the
2 town. And there is a project proposed now in
3 one of the low-lying areas that was directly
4 impacted during super Storm Sandy.

5 MR. ASHTON: Okay. We talked
6 a bit about the peak load at Cos Cob. I
7 assume that's all weather normalized. Is
8 that fair to say?

9 THE WITNESS (Bowes): Yes, it
10 is.

11 MR. ASHTON: And what are the
12 conditions on when you, quote, weather
13 normalize?

14 THE WITNESS (Bowes): I don't
15 know specifically. I know we use a multiyear
16 average, in this case a three-year average.

17 MR. ASHTON: Something like
18 90 -- 90 degrees or something of that nature?

19 THE WITNESS (Bowes): There's
20 a similar process to what ISO New England
21 does with a 90/10 forecast.

22 MR. ASHTON: Okay. In
23 question 57 there's a little editorial in the
24 answer. It says -- the question was
25 Eversource claims the project increased

1 reliability. And the answer to that was, as
2 set forth this project will greatly improve
3 reliability of electric service.

4 How would you like to talk to
5 me a little bit about why it's greatly
6 improved?

7 THE WITNESS (Bowes): Sure.
8 Probably the nearest example I can give is
9 during July of 2015. We had 27-kV circuit
10 outages from Cos Cob to Prospect and went
11 into emergency ratings on three occasions.

12 MR. ASHTON: Caused by what?

13 THE WITNESS (Bowes): The
14 cable faults themselves, is what was the --

15 MR. ASHTON: Okay. This was
16 cable failure?

17 THE WITNESS (Bowes): Cable
18 failures on the 27-kV system between Cos Cob
19 and Prospect --

20 MR. ASHTON: Okay.

21 THE WITNESS (Bowes):
22 -- forced the remaining
23 three feeders into their emergency ratings
24 for, in one case, more than 24 hours.

25 MR. ASHTON: How old are those

1 cables?

2 THE WITNESS (Bowes): They
3 vary in age. There are sections that are
4 very old and there are sections that are
5 brand-new.

6 MR. ASHTON: They've been in
7 there for 50-odd years. Haven't they?

8 THE WITNESS (Bowes): Prospect
9 substation is now 81 years old.

10 MR. ASHTON: Having a
11 birthday?

12 THE WITNESS (Bowes): So some
13 of the cabling components could be several
14 decades old, yes.

15 MR. ASHTON: I can seem to
16 remember working on and it ain't quite 81
17 years ago, but it's a long time ago.

18 All of these cables, whether
19 regardless of the voltage, have a finite
20 life. And so you do do various preventative
21 maintenance things on them to try and measure
22 what that life is. You do things, bigger
23 than, or what have you, power factor testing
24 and so forth?

25 THE WITNESS (Bowes): Based

1 upon the technology of the cable system
2 design we do a variety of operations and
3 maintenance.

4 For example, if it's a
5 high-pressure fluid filled cable we maintain
6 a cathodic protection system for the steel
7 pipe. We take samples of the oil to look for
8 a dissolved gas or other insulation
9 breakdown. We do do electrical testing for
10 transmission typically only upon repair, but
11 we also have baseline of information from the
12 original installations.

13 MR. ASHTON: And testing the
14 oil you look for things like acetylene in the
15 oil or something like that which might
16 indicate a minimal of arcing?

17 THE WITNESS (Bowes):

18 Yeah, acetylene typically --
19 is typically a more advanced gas indicating,
20 you know, a partial discharge and fault, high
21 temperature. We look for a change in other
22 gases that are more predictors of degradation
23 of the cable insulation. Acetylene usually
24 is a go/no-go type of test.

25 MR. ASHTON: Okay. One thing

1 that caught me by surprise here, and I want
2 to explore it a bit, was the fact that you
3 were proposing to use an HPFF cable here as
4 opposed to a solid dielectric. Help me out
5 as to why you made that choice?

6 THE WITNESS (Bowes): Two
7 reasons. I think one was the ease of
8 construction. It's a much smaller trench,
9 much smaller profile that would have to be
10 excavated, and that leads to the second
11 thing, which is, you know, a vastly reduced
12 cost.

13 MR. ASHTON: The solid
14 dielectric insulation, insulated cable is a
15 much higher cost cable?

16 THE WITNESS (Bowes): It would
17 be based upon the duct bank configuration,
18 yes.

19 MR. ASHTON: Mr. Gagnon has
20 got something he wants to throw in to say.

21 THE WITNESS (Gagnon): Well, I
22 was just twiddling through some numbers here.
23 And you know, we talked about the HDD
24 excavating approximately 10,000 cubic yards
25 as part of the entire line project. Going

1 with an XLPE you're increasing the depth, the
2 trench base. And so that you'll be
3 excavating around 14,000 cubic yards. So
4 that's 40 percent more volume that has been
5 taken out.

6 MR. ASHTON: A hundred bucks a
7 yard?

8 THE WITNESS (Gagnon): For
9 concrete and for flow-able fill, probably,
10 yeah.

11 MR. ASHTON: Why is that so
12 different? What makes the trench so much
13 bigger?

14 THE WITNESS (Bowes): It's the
15 insulating oil.

16 MR. ASHTON: I'm sorry?

17 THE WITNESS (Bowes): It's the
18 insulating fluid, so it's allowed to
19 circulate, in this case, in a passive system
20 so that cools the cables. In the future it
21 could become an active system either by force
22 fluid or by force cooling, which would
23 increase the capacity of those cables and
24 allow for, you know, a potential third
25 interconnection into that substation.

1 MR. ASHTON: Eversource has
2 had a lot of experience with oil-filled
3 cables. Have they not?

4 THE WITNESS (Bowes): Yes, we
5 do.

6 MR. ASHTON: Have you had any
7 failures or dig-ins?

8 THE WITNESS (Bowes): We've
9 had a single dig-in actually in Stamford on
10 the lines from --

11 MR. ASHTON: That was the
12 Cedar Heights cable?

13 THE WITNESS (Bowes): From
14 Glenbrook to Cedar Heights, yes.

15 MR. ASHTON: And that was
16 where a contractor dug where he shouldn't
17 dig?

18 THE WITNESS (Gagnon): That is
19 correct, with an auger.

20 MR. ASHTON: Otherwise the
21 record is perfect?

22 THE WITNESS (Gagnon):
23 Otherwise the records that we
24 found that I'm -- that I'm aware of is
25 perfect for CL&P, that's correct.

1 MR. ASHTON: For a
2 high-voltage cable? Forget the low voltage.

3 THE WITNESS (Gagnon):
4 Correct.

5 MR. ASHTON: Anything 69 and
6 below.

7 THE WITNESS (Bowes): So some
8 of the things we've done since the Cedar
9 Heights experience is -- it's now in a
10 concrete encased fluidized backfill. So
11 there's some physical protection to the
12 pipes.

13 The individual circuit routes
14 for transmission cables are now a separate
15 call-before-you-dig utility, so it's not
16 lumped in with the remaining Eversource
17 distribution facilities. So we get a
18 separate block out for that as well. And we
19 also now put a tape along the linear route of
20 the transmission cables to, again hopefully
21 give some indication as people dig. They'll
22 see the tape and stop digging before they
23 excavate into the duct bank.

24 MR. ASHTON: And even CBYD,
25 call before you dig doesn't necessarily save

1 you. We have experience, have we not, that
2 contractors on occasion are prone to dig the
3 ground without calling CBYD?

4 THE WITNESS (Bowes): Correct.

5 MR. ASHTON: They may be
6 beginning to learn, but there's still a way
7 to go.

8 I want to ask you a couple of
9 questions on the nature of construction for
10 the cables. We talk in the application in
11 absolute terms, but I'm looking for a
12 relative term. Can you think of any
13 construction that compares one way or another
14 with the kind of construction that you're
15 proposing here?

16 For example, would a water
17 line or a storm sewer line over something
18 like that be roughly similar?

19 THE WITNESS (Gagnon): We did
20 do a project in Stamford that is probably the
21 closest.

22 MR. ASHTON: I know, but
23 that's another cable job. I'm not interested
24 in that. There are comments from people in
25 the letters that I read where people are

1 expressing a lot of concern about what this
2 is going to do. And what I'm looking for you
3 to tell me is whether or not there are other
4 non-Eversource projects that have a
5 comparable, if not similar impact?

6 THE WITNESS (Bowes): I can
7 think of several, and one, the first I'll use
8 is actually an Eversource project, but it's
9 not electric. Our gas expansion project in
10 the state of Connecticut is putting hundreds
11 of miles of new gas pipeline in the ground to
12 serve customers. So that's an example of
13 another infrastructure project that is --

14 MR. ASHTON: Now Eversource
15 does not serve gas in Greenwich. If my
16 memory is correct?

17 THE WITNESS (Bowes): That is
18 correct.

19 MR. ASHTON: What kind of work
20 in Greenwich -- in Greenwich would be
21 analogous to what you're doing here?

22 THE WITNESS (Bowes): So the
23 Town of Greenwich has done a lot of work with
24 their sewer mains and recently had a project
25 in the same proximately to Cos Cob substation

1 under Metro-North railroad tracks where they
2 replaced some -- some sewer main.

3 MR. ASHTON: So would it be
4 fair to say then that municipal projects,
5 either water, sewer, or storm drains have
6 similar if not identical impacts to the kind
7 of thing that's going here?

8 THE WITNESS (Bowes): Yes,
9 they do. Another example would be, you know,
10 the large MDC project here in the -- in the
11 central region, probably 10 to 20 times the
12 size of the project we're proposing, much
13 larger in scope and scale.

14 MR. ASHTON: Well, let me turn
15 now to the questions of load growth, which I
16 must admit in my heart of hearts I'm still
17 puzzled by. I don't know where the State is
18 going. The Governor has put forth a program
19 of seeking to expand the use of various types
20 of on-site generation, solar of one kind or
21 another, expand the use of natural gas and
22 what have you.

23 Has the applicant looked at
24 the impact or projected the impact of that
25 program?

1 THE WITNESS (Bowes): Yes.

2 MR. ASHTON: And what does it
3 say vis-a-vis Greenwich?

4 THE WITNESS (Bowes): So one
5 of the programs that has been advocated by
6 the State of Connecticut is Solarize
7 Connecticut where the Green Bank is the
8 financing entity, and Eversource look at
9 towns that have future capacity needs and
10 identify them so they become a target per se
11 for the Green Bank to promote solar in that
12 town.

13 In 2013 the town of Greenwich
14 was selected. The response was, I would say,
15 acceptable, but was not robust as compared
16 with other towns where the Green Bank has
17 done a solarize campaign.

18 MR. ASHTON: Acceptable by the
19 customers themselves?

20 THE WITNESS (Bowes): Yes,
21 about 90 people, I think, selected
22 residential solar in this case. We have
23 pending applications for solar right now in
24 Greenwich. There are 28 of them which
25 accounts for about 400 kW of peak load and

1 that peak load occurs, or peak generation
2 capacity occurs between ten and eleven in the
3 morning for solar.

4 MR. ASHTON: So that's less
5 than half of 1 percent of your projected peak
6 load on the Cos Cob substation?

7 THE WITNESS (Bowes): Correct.
8 And it's also not the right time of day.
9 It's between eleven and, you know, ten and
10 eleven in the morning, not when the peak load
11 occurs in Greenwich, between four and six.

12 MR. ASHTON: Okay. Is it fair
13 to say that the -- let's talk about peak
14 first. The peak tends to be on a very hot
15 windless day in summer, a calm day in summer?

16 THE WITNESS (Bowes): It
17 typically tends to be the third or fourth
18 consecutive day.

19 MR. ASHTON: Okay. But it's a
20 day where there's darn little wind and a lot
21 of sun, and a lot of temperature.

22 THE WITNESS (Bowes): There's
23 a pre-loading on the first day. The load
24 doesn't come down as much at the beginning of
25 the morning. It continues to inch its way up

1 to the third or fourth day where you have
2 very high loads.

3 MR. ASHTON: It pumps up as
4 people take the air conditioners out of the
5 attic and stick them in the window?

6 THE WITNESS (Bowes): And
7 they're less tolerant of public appeals for
8 curtailment.

9 MR. ASHTON: And that peak
10 load, that the load rises pretty sharply to
11 about ten in the morning and then it's fairly
12 flat, allowing for a little dip there maybe,
13 and then the absolute peak is late in the
14 afternoon, but it's a fairly flat load during
15 that summer peak. Isn't it? It's not a
16 spike like you get in the winter?

17 THE WITNESS (Bowes): It's
18 becoming more acute because of, you know, on
19 a systemwide basis because of the adoption of
20 solar. So solar is curtailing the peak in
21 the early afternoon hours, but drops off
22 dramatically into the midafternoon hours
23 where almost no solar generation, you know, a
24 very small percentage of nameplate is
25 available at three to four in the afternoon.

1 MR. ASHTON: So solar, really,
2 is it fair to say solar really provides
3 energy and not capacity?

4 THE WITNESS (Bowes): That's
5 probably a good way to say it, yes.

6 MR. ASHTON: Or if it does
7 provide capacity it's a relatively small
8 amount that's nameplate?

9 THE WITNESS (Bowes): At the
10 time of need, yes. It's probably in the less
11 than 40 percent of nameplate when the hours
12 of need are greatest.

13 You asked a more general
14 question about load projections.

15 MR. ASHTON: Yeah?

16 THE WITNESS (Bowes): ISO New
17 England has projected a 1.1 percent load
18 growth that is above what Eversource --

19 MR. ASHTON: That's across the
20 system?

21 THE WITNESS (Bowes): Correct.
22 That's above what Eversource has done. In
23 fact, in this case even the area of the state
24 with the most robust economy, in this case,
25 Fairfield County, we are only projecting a

1 1 percent increase in usage.

2 This year to date we've seen a
3 1.5 percent increase in usage. So it's not
4 out of the realm of possibility that the
5 one percent is a good design basis.

6 MR. ASHTON: Eversource does
7 not serve gas in Greenwich. Does it?

8 THE WITNESS (Bowes): We do
9 not. It is served by CNG.

10 MR. ASHTON: Okay. Does
11 Eversource have any opinion as to the
12 relative cost of gas applications versus
13 electric in the area of hot water heating and
14 drying, specifically?

15 Let me be very blunt. Is gas
16 cheaper for hot water heating than for
17 drying, clothes drying and cooking?

18 THE WITNESS (Bowes): So I
19 think the original question was around, do we
20 have an opinion on whether it's more
21 efficient or more --

22 MR. ASHTON: You can answer it
23 that way. We'll come back later.

24 THE WITNESS (Bowes): You
25 asked one question. The second was a little

1 different. That's why.

2 MR. ASHTON: Yes, it is.

3 THE WITNESS (Bowes): So the
4 first question I would say for the consumer
5 that natural gas is probably a better
6 alternative for -- for hot water, for heating
7 and for --

8 MR. ASHTON: For drying?

9 THE WITNESS (Bowes): And For
10 drying.

11 MR. ASHTON: If that is the
12 case does Eversource feel any obligation to
13 alert the consumer that that is the case so
14 they avoid using electric applications?

15 THE WITNESS (Bowes): So we
16 promote the national gas expansion in the
17 state.

18 MR. ASHTON: That didn't
19 answer my question.

20 THE WITNESS (Bowes): So as
21 part of our conservation programs we look at
22 electric alternatives and we'll obviously try
23 to recommend what's best for the customer
24 regardless --

25 MR. ASHTON: Do you in a

1 declarative sentence say, Mr. Ashton, you
2 have electricity to your house, you have gas
3 to your house. It is in your best interest
4 to use gas for heating, hot water and drying,
5 period?

6 THE WITNESS (Bowes): We never
7 make that definitive statement, as far as I
8 know.

9 MR. ASHTON: Would a campaign
10 which does that chew into your peak load
11 growth?

12 THE WITNESS (Bowes): Not on
13 those summer hot days.

14 MR. ASHTON: Why?

15 THE WITNESS (Bowes): Again,
16 because we're not looking at heating, we're
17 probably not looking at cooking. We're
18 probably not looking at clothes drying.

19 MR. ASHTON: People do eat in
20 the summer, I think.

21 THE WITNESS (Bowes):
22 Residential gas for cooking is
23 a very small percentage of the electrical --

24 MR. ASHTON: And a 60-watt
25 lightbulb replaced by 11-watt lightbulb is a

1 small increment for improvement, but
2 nonetheless you take it. Don't you?

3 THE WITNESS (Bowes): So part
4 of our 1-percent load forecast assumes a
5 certain amount of distributed generation and
6 assumes a certain amount of energy
7 efficiency.

8 MR. ASHTON: And assumes a
9 certain amount of what?

10 THE WITNESS (Bowes): Energy
11 efficiency, which would electric conservation
12 measures. We have been active in the town of
13 Greenwich with our campaigns for residential
14 programs.

15 MR. ASHTON: Does it include
16 switching to gas?

17 THE WITNESS (Bowes): I do not
18 know.

19 MR. ASHTON: Does anybody
20 know?

21 No. I'm sorry. It's a public
22 hearing, but we need sworn witnesses. Nobody
23 on the panel knows?

24 MS. DUBUQUE: Mr. Chairman,
25 mr. Ashton, Mr. Swift will be here this

1 afternoon.

2 MR. ASHTON: Okay.

3 MS. DUBUQUE: And Mr. Swift
4 will likely be able to answer that question.

5 MR. ASHTON: That's fine. I'm
6 getting to the end. And as the panel well
7 knows my background is both electric and gas
8 and I was raised in an era where we did what
9 we thought would be best for the customer and
10 we broke our backs trying to knock costs
11 down. So that's what some of my pointed
12 questions are.

13 Your route goes across Indian
14 Harbor, the proposed route. Is that an open
15 cut or a directional drill crossing? I
16 couldn't quite figure it out from the map.
17 It looks like it's open cut.

18 THE WITNESS (Gagnon): There's
19 actually two. There's the preferred route.
20 There's one that goes directional drill
21 across, and then there's the preferred route
22 open trench option that actually uses the
23 cofferdam.

24 MR. ASHTON: Okay. And use of
25 a cofferdam is a fairly standard construction

1 technique for crossing bodies of water,
2 streams of one kind or another. They use it
3 on gas transmission lines. Yankee used it
4 and so forth. Is that fair to say?

5 THE WITNESS (Bowes): Yes,
6 that is.

7 MR. ASHTON: Well accepted and
8 well proven. Okay. Bear with me while I
9 will go through this thing.

10 On the bottom of -- this is
11 Exhibit 1, page ES-7. At the very bottom the
12 line reads, neither alternative is as
13 desirable as the preferred route due to
14 physical constraints and increased community
15 and environmental impacts. That's a
16 nonquantitative type of thing that I have to
17 ask a question about.

18 It's right opposite the route
19 map which is an aerial photo. Mr. Libertine
20 might like to chime in. Did you find it?

21 THE WITNESS (Gardell): The
22 southern route, there's no room left in Sound
23 Shore Drive, the alternative for the southern
24 route. So we would have to be in private
25 property.

1 MR. ASHTON: When you say no
2 room, explain?

3 THE WITNESS (Gardell):
4 There's no room left for
5 utilities to be built in Sound Shore Drive.

6 MR. ASHTON: The drive is full
7 of existing utilities?

8 THE WITNESS (Gardell): Yes,
9 it is.

10 MR. ASHTON: Okay. That helps
11 explain it. No room doesn't mean much. So
12 are they all active utilities or are they
13 inactive, or what?

14 THE WITNESS (Gardell): We've
15 talked with the Town of Greenwich. They have
16 some issues with their sewer mains. They
17 have a new main in there. They also have
18 their old main in that area. In the
19 situation, they have so much stress on their
20 system that they want to keep all their mains
21 there because they have issues going forward
22 with that.

23 MR. ASHTON: All right. I'll
24 going to pass on that. I'm not going to fall
25 on that. Just bear with me a little bit

1 more.

2 You gave me the size of the
3 Cos Cob transformer. Do you consider a
4 1 percent overload, which is -- the 2017
5 figure is about six tenths of a percent of an
6 overload, as I recall? And it's shown on
7 page E-5 of your application.

8 THE WITNESS (Bowes): I'm
9 sorry. What was the question?

10 MR. ASHTON: Well, you show
11 that the peak total MVA load on the
12 substation is 135.8. So you have capacity of
13 135. What I'm trying to get at is how
14 serious of an overload that is. And I know
15 that's an overload, but life is full of
16 overloads and life is a crapshoot and we do
17 take chances. What I'm trying to get at is
18 how serious is that eight tenths of an MVA
19 overload?

20 THE WITNESS (Bowes): I
21 wouldn't consider it a serious overload.

22 MR. ASHTON: Do you ever use
23 water cooling on transformers, turning a
24 garden hose on them?

25 THE WITNESS (Bowes): Yes.

1 MR. ASHTON: I'm not
2 recommending, but do you ever use it?

3 THE WITNESS (Bowes): Yes, we
4 have.

5 MR. ASHTON: Okay. That is an
6 FOA, FOA H2OA. Isn't it.

7 THE WITNESS (Bowes): So what
8 that does is it mitigates the temperature of
9 the oil, but it does not prohibit the
10 windings from being overloaded. So it's a
11 very stopgap type measure with the idea that
12 you're willing to accept premature aging and
13 failure of that piece of equipment to carry
14 you through, as you say, a very short-term
15 peak.

16 MR. ASHTON: What is the power
17 factor with that 135.8? Let me give do a
18 follow-on question first.

19 THE WITNESS (Bowes): We could
20 easily find out and read it into the record.

21 MR. ASHTON: Well, okay. But
22 the follow-on question is, has the addition
23 of capacitors to correct power factor at Cos
24 Cob been looked at?

25 THE WITNESS (Bowes): Yes, it

1 has.

2 MR. ASHTON: And to knock that
3 loading down a little bit?

4 THE WITNESS (Bowes): Yes. So
5 when we look at the -- the bulk distribution
6 substations and distribution substations
7 every year for VAR needs, or capacitor needs.
8 In the case of Greenwich, there are station
9 capacitors and there are a host of line
10 capacitors.

11 MR. ASHTON: Sure, they're out
12 on the distribution circuit.

13 THE WITNESS (Bowes): On the
14 distribution circuit to try to --

15 MR. ASHTON: And that's
16 voltage driven in part. Isn't it?

17 THE WITNESS (Bowes): Well,
18 voltage driven primarily, but also the
19 necessary VARs to maintain a .99 power factor
20 as the desired, you know, at peak.

21 MR. ASHTON: Do you think the
22 135.8 is at the .99 percent power factor?

23 THE WITNESS (Bowes): I think
24 it's probably very close to that, but I will
25 verify.

1 MR. ASHTON: I would like to
2 hear what the number is.

3 Is there anything in Greenwich
4 in the way of government philosophy, if you
5 will, that says the load will not grow? In
6 other words, are there any prohibitions
7 extent in Greenwich that say you can't build
8 new housing, you can't go put in additional
9 loaded buildings or what have you?

10 THE WITNESS (Bowes): No,
11 quite the opposite. Right now there's --
12 there are several requests for new service
13 and service upgrades. We're seeing a very
14 robust economy. There are presently 92
15 applications in our design phase for either
16 upgraded services or new services in
17 Greenwich.

18 MR. ASHTON: So Greenwich
19 isn't going away?

20 THE WITNESS (Bowes): No. In
21 fact, we're seeing a lot of the older homes
22 being -- being torn down and new homes being
23 constructed.

24 MR. ASHTON: That's
25 interesting. I heard of a house -- not in

1 Greenwich, but in that general area -- it was
2 built in '98. A 5,000 square-foot house. It
3 was built in '98 and is has now been torn
4 down and is being replaced.

5 In the section -- on page
6 E-6-E, and it's section E-4.1.2, this -- you
7 talk about reliability and outages and so
8 forth. I want to be sure that we're focusing
9 on a substation and not on feeders where they
10 may be superannuated, may need some
11 replacement. Whether or not you do a
12 substation or not, is there still work on
13 feeders that has to be done notwithstanding a
14 new station?

15 THE WITNESS (Bowes): If we
16 built a new Greenwich substation the existing
17 load on the 27-kV feeders would be reduced by
18 about the capacity of the --

19 MR. ASHTON: Right, because
20 you're going to tap into an existing feeder,
21 bring it into the station and serve it
22 directly off of a 115 bus?

23 THE WITNESS (Bowes): Correct.

24 MR. ASHTON: Okay.

25 THE WITNESS (Bowes): So we

1 would have clearly N minus two type
2 contingency for those 27-kV feeders going
3 forward.

4 So whether we made additional
5 investments in them, or looked to ultimately
6 retire them, that's probably a decision that
7 is certainly beyond our planning horizon now,
8 probably beyond the ten years. But I could
9 see that taking place in the 10 to 20-year
10 timeframe of serving Greenwich at 13.2 kV
11 rather than the 27 kV as we have today.

12 MR. ASHTON: Has any thought
13 been to use the 23 kV as the distribution
14 voltage?

15 THE WITNESS (Bowes): Probably
16 not in this case, introduce, you know,
17 another voltage into the town of Greenwich.
18 We will probably serve at 13.2.

19 MR. ASHTON: And that's
20 because there's a lot of 13-8 kV in the area?
21 Is that fair to say.

22 THE WITNESS (Bowes): Well,
23 there's a lot of 13-2.

24 MR. ASHTON: 13-2. 13-2 is an
25 old Helco voltage. Isn't it?

1 THE WITNESS (Bowes): Correct.

2 MR. ASHTON: And 13-8 was the
3 old CL&P voltage and never the twain shall
4 meet. But anyway, it's a higher distribution
5 voltage. Is that fair to say?

6 THE WITNESS (Bowes): Yes.

7 MR. ASHTON: Is there any
8 thought of converting any of the distribution
9 system to high voltage to get rid of some of
10 the loading on the 27-6 feeders coming out of
11 the station?

12 THE WITNESS (Bowes): Well, in
13 essence this plan replaces some of the 27-kV
14 system with 115-kV system.

15 MR. ASHTON: Yes, I understand
16 that.

17 THE WITNESS (Bowes): So to go
18 above 27 kV or to expand the 27 kV is not
19 something we're looking at. In fact, quite
20 the opposite of removing, you know, 50, a
21 60-year-old 27-kV system uni-grounded that
22 has other operating complications.

23 MR. ASHTON: Mr. Chairman, I
24 think that winds me up for a while.

25 THE CHAIRMAN: Thank you.

1 We'll let you unwind. Okay. Thank you very
2 much, Mr. Ashton.

3 Senator Murphy.

4 SEN. MURPHY: Mr. Chairman, I
5 had an opportunity at the last time. I will
6 defer to other members.

7 THE CHAIRMAN: Dr. Klemens.

8 DR. KLEMENS: Thank you,
9 Mr. Chairman. My questions are going to be
10 somewhat on a different tack and they're
11 going to focus on three areas. One is the
12 need. One focuses on sort of a soft version
13 of environmental justice issues, and then
14 lastly on the routing.

15 And the first question I have
16 is, there seems to be a lot of discussion
17 whether or not you've actually -- and I saw
18 this in the Town, the planner has said this.
19 There's been back and forth, whether or not
20 you've actually demonstrated that there is a
21 need for this. And who actually has
22 concluded beyond Eversource that there's a
23 need for this?

24 THE WITNESS (Bowes): I guess
25 I would say that I'm the decision maker on

1 the need looking at the load projections,
2 looking at the reliability of the 27-kV
3 system, looking at the future capabilities,
4 say, a system where we could transfer load
5 between Cos Cob and Greenwich, looking at the
6 aging assets of both the 27-kV system as well
7 as the Prospect Street substation. So those
8 in totality, I would say are the main drivers
9 for the need in -- in Greenwich.

10 DR. KLEMENS: How about ISO
11 New England? What do they have to say?

12 THE WITNESS (Bowes): ISO New
13 England has approved the technical aspects of
14 this project, but it's really not a needs
15 analysis. It's a no adverse impact. So they
16 have said that by extending the transmission
17 system to the new Greenwich substation it
18 won't impact the bulk system, the bulk power
19 system.

20 DR. KLEMENS: So I've read all
21 the public -- well, I mean not all -- but the
22 public comments. I think there was one
23 single letter that spoke from a gentleman in
24 Riverside that spoke in favor of construction
25 of this. Piles and piles of letters that

1 don't want this.

2 You have gone on record in
3 saying that the only beneficiaries of this
4 electricity coming from here in is the town
5 of Greenwich. Is that correct?

6 THE WITNESS (Bowes): That is
7 correct.

8 DR. KLEMENS: Not going to
9 Stamford Hospital?

10 THE WITNESS (Bowes): That is,
11 it is not going to Stamford Hospital?

12 DR. KLEMENS: Not going to
13 Rye?

14 THE WITNESS (Bowes): That is
15 correct.

16 DR. KLEMENS: Not to Port
17 Chester?

18 THE WITNESS (Bowes): Not to
19 Port Chester.

20 DR. KLEMENS: All right. So
21 it's an interesting conundrum. You have here
22 a station that you ostensibly wish to build
23 to benefit the citizens of Greenwich, or the
24 residents, and yet no one wants it.

25 So I ask why are you doing it?

1 THE WITNESS (Bowes): That's
2 an easy question and an easy answer.

3 DR. KLEMENS: Really? I don't
4 think it's that easy.

5 THE WITNESS (Bowes): Because
6 we have an obligation to serve all the
7 customers.

8 DR. KLEMENS: What if the
9 customers don't wish to be served? What if
10 the customers would rather be in the dark,
11 have unreliable service as opposed to having
12 that station put there?

13 THE WITNESS (Bowes): So there
14 is no customer in Greenwich that has come to
15 us and said we don't want to be served by
16 CL&P any longer. So we have no one saying,
17 we don't want electricity anymore.

18 DR. KLEMENS: Reliable
19 electricity, we're talking about?

20 THE WITNESS (Bowes): What
21 we -- what we're talking about is the
22 obligation of a public service company to
23 serve the load that is there, and also to
24 anticipate the future needs of the town and
25 clearly the reliability needs of the town.

1 So that is an obligation that we have.

2 DR. KLEMENS: What if they
3 don't wish you to have that obligation?
4 Don't they have a right not to have it? I
5 mean, you've heard testimony that from the
6 town planner they don't feel you've made the
7 case that Greenwich is growing, that they
8 dispute a lot of this in their statements.

9 So if they don't want it why
10 are we doing this?

11 THE WITNESS (Bowes): So you
12 asked a legal question before, which I'm not
13 capable of answering. So -- but why are we
14 doing it? I'm doing it because I believe
15 it's the right thing to do for all the
16 customers of Greenwich.

17 DR. KLEMENS: Even though they
18 don't wish this to happen?

19 THE WITNESS (Bowes): Even
20 though there's a percentage that do not want
21 it, yes.

22 DR. KLEMENS: Okay. Do you
23 have any data on electrical consumption per
24 town? I would like to know, are communities,
25 more affluent communities such as Greenwich

1 using more or less per capita electricity?

2 THE WITNESS (Bowes): Yes, we
3 do have that data. In fact, we have at least
4 filed partial data in that regard. Greenwich
5 is the third-largest user of electricity in
6 the Eversource service territory, and with
7 28,000 customers it is a far smaller number
8 of customers that are served by the two
9 largest towns, Hartford and Stamford.

10 For example, Stamford has
11 approximately twice as many customers served
12 at number two.

13 DR. KLEMENS: So we're looking
14 at spending \$140 million which is going to be
15 amortized over ratepayers across the state to
16 service this cluster of people here at this
17 very southwestern corner of the state. Is
18 that the best way to spend all the
19 ratepayers' money?

20 THE WITNESS (Bowes): I
21 believe it satisfies the needs of that
22 community.

23 DR. KLEMENS: How about the
24 rest of the state?

25 THE WITNESS (Bowes): We

1 invest dollars in every town in the state of
2 Connecticut every year. So in this case
3 there happens to be a large investment in
4 Greenwich, but there have been large
5 investments in Haddam, in Killingly, in
6 Hartford, in Stamford.

7 So to single out a particular
8 town for one project I think is a very
9 limited view of the obligation to serve and I
10 believe that we distribute the resources of
11 the company in an appropriate way to satisfy
12 the needs of our customers.

13 Not one customer better
14 service than another, but all customers with
15 a base level of service that means the lights
16 don't go out on a hot day, the lights don't
17 go out in the middle of the winter.

18 DR. KLEMENS: I understand
19 that. What I'm getting at is if in fact you
20 have an area that seems to be using a lot
21 more electricity, maybe than other parts of
22 the state, what are you doing to encourage
23 conservation there as opposed to building
24 more capacity and more transmission?

25 Because it seems to me, and I

1 heard this in the earlier one -- and I drive
2 around these communities. I see the
3 landscape lighting. I see the incredible
4 waste of electricity in some of these more
5 affluent communities. What are you doing to
6 try to -- to bring that in, I mean, instead
7 of just building more? As long as you make
8 more they will use more.

9 THE WITNESS (Bowes): So there
10 may be a multipart response to that.

11 DR. KLEMENS: Please?

12 THE WITNESS (Bowes): Our
13 energy efficiency programs are provided for
14 all residents in the state of Connecticut.
15 We put more focus on certain areas than
16 others and we identify for multiple years
17 areas in the state where we could defer
18 capacity investments. Greenwich has been one
19 of those. So we've been very active with
20 electric conservation measures in Greenwich.

21 That said, all of those
22 programs rely upon a customer acceptance. We
23 cannot force people to conserve. We cannot
24 force people to put in more efficient
25 appliances or lighting. We have an

1 obligation to serve as well, so if they want
2 to use those appliances and that lighting
3 that is their right to do that. It's not for
4 the electric utility to say, you cannot turn
5 on certain things at certain times.

6 DR. KLEMENS: So if the people
7 in certain communities had the ability and
8 the income level not to want to conserve, or
9 conserve less than maybe because -- why do we
10 end up paying? All the other ratepayers end
11 up paying for these improvements?

12 I mean, this is the social
13 justice issue I'm trying to hammer at. I
14 feel as a ratepayer, I'm sort of -- and I'm
15 very concerned about how I use my
16 electricity. I have all kinds of energy
17 savings. I feel I am subsidizing wasteful
18 behavior in other parts of the state. And I
19 feel that you are actually aiding and
20 abetting it by just producing more and more
21 capacity and transmission. That's my
22 personal concern.

23 Where does this end? We used
24 to talk about energy conservation. Now we
25 just talk about putting more energy into the

1 hands of people. It seems conservation has
2 really taken a backseat.

3 THE WITNESS (Bowes): So I
4 would say to start with, I disagree with your
5 premise.

6 DR. KLEMENS: Okay.

7 THE WITNESS (Bowes):

8 Eversource is one of the
9 country's leaders in conservation programs.
10 We've been active in conservation for
11 decades. In fact, this last week we filed
12 our three-year plan with DEEP, and ultimately
13 it will go to PURA. A 700 million-dollar
14 investment in energy conservation over three
15 years.

16 We're active with the Green
17 Bank and Solarize Connecticut programs. More
18 than a billion dollars over ten years is
19 going to the solar and distributed generation
20 industry in the form of incentives and
21 renewable energy credits. So we are very
22 active in trying to conserve and make
23 Connecticut a greener infrastructure for
24 their energy needs. We're active with the
25 gas expansion in Connecticut.

1 So because we come forward
2 with a project that is needed based upon
3 capacity, based upon reliability, and it's a
4 percentage of our overall spending program
5 over the next decade, many of those budgets
6 have come before the Siting Council,
7 Bethel-Norwalk, Middletown-Norwalk, Glenbrook
8 cables, Stamford cables, south end
9 substation, Glenbrook substation, Cos Cob
10 substation, with infrastructure improvements.
11 We've invested over \$2 billion into that part
12 of Connecticut, not at the -- at the expense
13 of others.

14 We've also invested into, you
15 know, the Greater Springfield Reliability
16 Project which brings a source of transmission
17 into Connecticut. Now we're active in the
18 building of the interstate reliability
19 project. So we're building out
20 infrastructure that's needed, some of it for
21 economic reasons, but most of it purely for
22 reliability reasons.

23 DR. KLEMENS: Okay. So we
24 assume that this is needed. I'll go with
25 that assumption now, despite everything that

1 I read, piles of paper that say you haven't
2 made the case, but let's go forward with the
3 fact.

4 Is there a reason why you
5 haven't considered putting -- I mean, I have
6 a problem with the parkland, going through a
7 park. But I also understand that the other
8 route is crazy to go up and around and
9 through. It's a very inefficient and
10 expensive route.

11 Can't you consider putting it
12 overhead parallel to the highway at the very,
13 very northern end of Bruce Park and not have
14 to dig, and all of this digging? Which to
15 me, as I see it is almost like fracking.
16 Can't you just use electric wires across
17 Bruce Park parallel to Interstate 95?

18 There seems to be an area
19 below 95 that may be half in the park, half
20 on 95, where you can put high-tension wires,
21 at least for that segment. And avoid all
22 that disruption to the park to the residences
23 and of all that.

24 THE WITNESS (Gagnon): Well,
25 yes, we did look at overhead solutions as

1 part of the selection. We looked at actually
2 four different possible overhead routes. And
3 what we did is we actually end up dissipating
4 them due to a bunch of reasons. And I'll let
5 Jacqui dive into those because she did most
6 of that work, but we did look at four
7 options.

8 DR. KLEMENS: Were they
9 presented to the Council as alternatives or
10 anything?

11 THE WITNESS (Gardell): No,
12 because when we looked at -- first we did
13 look, we did sit with some CDOT --

14 MR. ASHTON: Use the mic,
15 please?

16 THE WITNESS (Gardell): We did
17 look with -- at the utility -- the highway
18 corridor. We did sit with CDOT. There is --
19 there's not a lot of room in their corridor.
20 They also have an expansion that's also part
21 of our application, their letter back to us.

22 We did look at also going
23 south of Interstate 95. And if we were in
24 that situation the amount of houses we would
25 have to acquire in that area is rather large

1 and the cost of the project based on the
2 value of the property is \$290 million.

3 DR. KLEMENS: Maybe I'm not
4 being clear what I was talking about. I
5 wasn't talking about the whole thing being
6 overhead. I'm talking about basically you go
7 to your preferred route map segment, sheet 6
8 of 9.

9 I'm asking why you can't have
10 this go -- and it may not be -- it may be off
11 the 95 right-of-way. It could even be in the
12 very, very northern part of Bruce Park. Why
13 can't this area from the DPW shoot across and
14 be high-tension wires at least getting over
15 to Davis Avenue and maybe beyond?

16 I'm not saying the whole thing
17 needs to be, but why not in this area that is
18 so problematic in terms of the wetlands, and
19 that why can't it go there?

20 THE WITNESS (Gardell): We
21 also looked at the impacts, all the tree
22 removal that would have to happen for -- it
23 would be somewhere between a 70 to 90-foot
24 right-of-way and you would have to remove all
25 the trees in that area. And that also would

1 have huge impacts to Bruce Park going
2 forward.

3 DR. KLEMENS: I don't see
4 where the trees would be removed. You have
5 on the orange you've got the open trench.
6 That area there where you have to remove
7 trees. It seems fairly open to me on the
8 north end of Bruce Park there. You cross
9 Indian Harbor. You cross another field
10 that's essentially open.

11 Why can't you put the wires --
12 why can't you span Bruce Park with wires
13 parallel to the highway, either on the
14 highway right-of-way, or at the very, very
15 northern end of Bruce -- edge of Bruce Park?

16 THE WITNESS (Gagnon): Well,
17 if you follow the orange route, that, you
18 know, that is a little small forested area I
19 think of, I don't know if it's five acres or
20 so. The trick is, is with overhead, overhead
21 line you also have to have a right-of-way
22 clearing to make sure there the trees are
23 substantially far enough away that they won't
24 fall into the transmission line.

25 The minimum right-of-way

1 clearance is usually about 70 feet. So that
2 that would take a pretty wide swath of
3 everything along that, that corridor.

4 DR. KLEMENS: Weren't you
5 talking about having the trench, just to do
6 the trench it was going to be 50 feet wide
7 already in previous testimony? We're going
8 to take 50 feet to do the trench.

9 THE WITNESS (Gagnon): I
10 believe it was 25.

11 DR. KLEMENS: Was it 25 or was
12 it 50?

13 MR. ASHTON: Mr. Chairman, can
14 I help Dr. Klemens out here, Dr. Klemens? He
15 asked a question that was not answered and
16 that is, why not go overhead along the
17 railroad where from Elia Avenue all the way
18 to Cos Cob you're overhead along the
19 railroad.

20 That's -- Eversource owns -- I
21 can't remember who owns the rights for Elia
22 Avenue back east, but they go all the way to
23 New Haven along the tracks.

24 THE WITNESS (Gagnon): We
25 looked at that for the Stamford project also,

1 as building along the railroad tracks. Some
2 of the difficulty is -- is the easement area
3 itself. We do have -- the transmission line
4 does have a cable swings, or what we call
5 blowout. I want to make sure the term --

6 MR. ASHTON: But there are
7 ways of preventing that. Are there not?

8 THE WITNESS (Gagnon): Yeah, a
9 lot more structures. You have a tighter and
10 tighter pack.

11 MR. ASHTON: Yeah, you don't
12 let a tangent string hang on. You have a
13 standoff insulator, and you've got that along
14 existing rights?

15 THE WITNESS (Gagnon): Yeah,
16 one of the biggest issues that we have is
17 working with the railroad schedule, working
18 with the railroad availability to be able to
19 take their tracks out of service. You know,
20 it's an active railroad, very busy.

21 And when we looked at the
22 Stamford project it was only allowing us to
23 work -- and I'd have to look at the record,
24 but if I recall it was close to two and half
25 hours, three hours at the most, and that

1 included their track time turning and
2 switching things off per day. So the amount
3 of time for setup every day and breaking down
4 the equipment, it would just become
5 unfeasible to build along the railroad.

6 MR. ASHTON: Now careful. UI
7 is doing it today.

8 THE WITNESS (Gardell): And we
9 did look at the northern part, to go north of
10 the tracks and there is room when you start
11 off, but it quickly gets into folks. There's
12 the backyards of the houses in that area and
13 we also have acquisitions of homes, which we
14 thought the impacts would be too great for
15 this project.

16 MR. ASHTON: So you're saying
17 to us that it is technically not possible to
18 build along the railroad in this section
19 where it has been possible to build along a
20 railroad from New Haven all the way to Cos
21 Cob. Is that right?

22 THE WITNESS (Gardell): Only
23 because of how close the backyards and houses
24 are to this area.

25 MR. ASHTON: And these are the

1 most? This is the most constricted section
2 in the state?

3 THE WITNESS (Gardell): On the
4 south side of the railroad between the
5 highway and the railroad is only 36 feet.
6 And on the north side it is -- I'd have to
7 look it up.

8 MR. ASHTON: Well, you're
9 building along the north side now. You've
10 built along the north side. Is that not
11 true? You're in the north side of Norwalk.

12 THE WITNESS (Gagnon): Is the
13 question, have we built or are we building?

14 MR. ASHTON: No, it's a
15 statement. You have built already on the
16 north side. It's in congested areas with
17 buildings right smack up against the railroad
18 right of way. Is that not correct?

19 THE WITNESS (Gagnon): The
20 last project I recall was the Pequonnock Elia
21 Avenue project that we built along the
22 railroad.

23 MR. ASHTON: And that's a fair
24 number of miles. Is it not?

25 THE WITNESS (Gagnon): It was

1 a fair number of miles. I don't remember the
2 exact amount.

3 MR. ASHTON: And in this
4 section it can't be done?

5 THE WITNESS (Gagnon):
6 Technically it can be done but
7 there's an expense to it and that's where --

8 MR. ASHTON: We all can agree
9 that building anything on a railroad ain't
10 cheap?

11 THE WITNESS (Gagnon): Right.
12 And that's true. When you're comparing that
13 cost of going through an open, you know,
14 trenching, an open trench through a field,
15 the open trench through the field is much
16 cheaper, less expensive.

17 MR. ASHTON: Right. Did you
18 run cost estimates on that overhead?

19 THE WITNESS (Gagnon): Yes, we
20 did.

21 MR. ASHTON: What do they
22 show?

23 THE WITNESS (Gagnon): Well,
24 one of the most -- I think the cost estimate
25 that we looked at in detail was 200 and --

1 THE WITNESS (Gardell): We --
2 the number I quoted before was the south
3 route. We chose to do one to the north and
4 one to the south to get those numbers. But I
5 have here the amount of properties in the
6 area were 64 properties impacted. 60
7 easements and 4 to 10 acquisitions for the
8 north.

9 MR. ASHTON: And what kind of
10 impact are we talking about? Blowout
11 problems where the conductor swings out over
12 somebody's property?

13 THE WITNESS (Gardell): It
14 would be in some locations we're very tight
15 also. We also have our distribution line in
16 that area. That would also have to be moved
17 up onto the transmission structures.

18 MR. ASHTON: That's not
19 unusual. Is it?

20 THE WITNESS (Gardell): No, it
21 is not.

22 MR. ASHTON: And so did the
23 design include restrained conductors so it
24 wouldn't blowout?

25 THE WITNESS (Gardell): It

1 would just mean you would have to have more
2 structures in a smaller space.

3 MR. ASHTON: Maybe. But isn't
4 that true along the railroad? Railroad
5 construction ain't new. Is it?

6 THE WITNESS (Gardell): No,
7 but we do not go in the catenaries anymore.

8 MR. ASHTON: I understand that
9 you don't. You go on separate structures and
10 that's been true for a long time. So is
11 there a particular problem here that I'm
12 missing somewhere?

13 THE WITNESS (Gardell): And if
14 you were to continue the whole way north if
15 you look on in Google maps -- I'm not sure if
16 you could see it in our maps here -- but as
17 you go to the west of Indian Harbor the
18 backyards are right up against and there's
19 absolutely no room as you move closer towards
20 Greenwich Ave to put lines to the north of
21 the railroad in that area without acquiring
22 many properties.

23 THE WITNESS (Gagnon): The
24 bottom line it's just the cost of being able
25 to do that versus the cost of the open

1 trench. The cost was \$291 million.

2 THE WITNESS (Gardell): Well,
3 we did not estimate the north because of the
4 huge amounts of impacts to go north all the
5 way down to Railroad Ave.

6 MR. ASHTON: Well, Dr. Klemens
7 has been asking what I thought was a fair
8 question and I should have thought of it
9 myself. And that was, how hard did you
10 squeeze that overhead route?

11 THE WITNESS (Gardell): When
12 we looked at it we ended up only going as far
13 as Indian Harbor. And then we did not think
14 that we could build it further to the north
15 and we would have to go across the highway
16 and into Bruce Park and we would have to
17 remove lots of vegetation.

18 And that would also put a
19 tower at the pinnacle of height by the Bruce
20 Park Museum and we thought the impact was too
21 huge to the town of Greenwich to do that.

22 MR. ASHTON: If you went
23 overhead for part of the distance to make a
24 transmission to underground, it's not a
25 particularly formidable problem. Is it?

1 THE WITNESS (Gardell): With
2 the cheaper HPFF it's harder to do.

3 MR. ASHTON: Yeah, you need a
4 little terminal station?

5 THE WITNESS (Gardell): Right,
6 which requires more cost and more land and
7 more --

8 MR. ASHTON: Wow. You know,
9 you've got 140 million bucks. You're
10 spending a hell of a lot, no question about
11 it. Again, I think both of us are trying to
12 get at the issue of how hard did you squeeze
13 that solution?

14 THE WITNESS (Gardell): We --
15 we looked at ten options that we looked at
16 for different routes and we had a
17 multi-disciplinary team in our -- and our
18 project team and then we brought others in to
19 try to get the right fit for the town of
20 Greenwich.

21 MR. ASHTON: I'm sorry,
22 Dr. Klemens. I didn't mean to take away your
23 thunder, but I thought your points were
24 well -- were good and well advised.

25 DR. KLEMENS: Thank you,

1 Mr. Ashton. I'd like to just sort of try to
2 finish this up, because whether or not the
3 whole length can go overhead, that's
4 something that I'm not best able to judge.

5 But what I'm trying to figure
6 out is what we can do about this very complex
7 crossing, or options to Bruce Park. And when
8 I was asking -- and I'm sure Mr. Libertine
9 can opine on the value of the forest as you
10 get closer and closer to 95 as to being a
11 fragment and not having a great deal of
12 ecological value. I would like to know why
13 we can't take the project overhead basically
14 around near the DPW on map 6 of 9, parallel
15 basically the property line of Bruce Park.

16 I understand that the area
17 outside the white is probably -- to the north
18 of it is probably the I-95 right-of-way. But
19 push that right up against that property
20 line, have it sail over Indian Harbor.
21 Maybe, hit that peninsula. Put a pylon there
22 and then land over on the other side. And
23 maybe even continue overhead further west.

24 But I'm trying to avoid
25 everything that is being done or proposed to

1 be done in Bruce Park with the underground
2 drilling and sort of quasi fracking type of
3 drilling and trying to get it overhead.

4 Now whether or not you can put
5 more overhead on a longer route, that that's
6 an issue that Mr. Ashton touched on. But I
7 don't know why we can't do something right
8 here on that one and it goes, frankly, could
9 even go further overhead. And don't see why
10 you couldn't do it overhead for quite some
11 distance going toward the museum.

12 And I don't know whether the
13 impact of having all this underground work
14 versus having a pylon by the Bruce Museum is
15 bad. I mean, it was never presented to
16 anyone to really opine on that.

17 THE WITNESS (Libertine): Dr.
18 Klemens, I'm going to chime in a little bit
19 and at least give you my perspective when we
20 looked at this from a number of avenues.

21 Cost aside, just I would agree
22 that in terms of the, what we'll call, the
23 transition area that you're proposing to go
24 from underground to aboveground at the DPW
25 yard, that forest probably does not hold a

1 high amount of value in terms of wildlife
2 habitat, or really -- it had some storm
3 damage over the years and because the soils
4 that are shallow out there it does not have a
5 robust forest.

6 I had concerns that we started
7 moving west. We did a take a look, not
8 necessarily as a transition just through
9 Bruce Park, but looking at options for
10 overhead. As you move westward the forest is
11 actually creating a pretty good buffer from
12 the highway. My concern once I was told what
13 the criteria would be for the necessary
14 right-of-way with overhead lines, that
15 70-foot swath takes down a good amount of
16 that if not pretty much all of that if we
17 were to stay -- all that forest, if we were
18 to stay on the northern limits adjacent to
19 the highway.

20 And so my thought was from a
21 long-term aesthetic standpoint we had a
22 visual and noise issue that doesn't exist
23 today that would, you know, certainly impact
24 people using the park as well as probably
25 some of the neighbors along Kinsman Lane.

1 I felt if the techniques were
2 done property once the construction was done
3 people wouldn't even know this was here. So
4 from a longterm standpoint that was my -- my
5 feeling was that there was a benefit to
6 exploring the underground options all the way
7 along.

8 And with respect to even
9 moving a little bit further to the west and
10 towards the museum itself, again, we tried
11 just to transition it back into the road so
12 that we would have as much minimal
13 disturbance to existing vegetation, trees and
14 that type of thing. And -- and I hear what
15 you're saying.

16 One of the challenges I think
17 from this transition to underground to
18 overhead and then overhead back to
19 underground, again because of the technology
20 being used, and again, someone else can jump
21 in here because this is a little bit beyond
22 me, but I do understand that we would have to
23 have other components that haven't been
24 necessarily planned for at this point, which
25 means more room.

1 I don't know if it means
2 acquisitions or not. It could, but the
3 impacts overall to the Park, we're talking
4 80, 90-foot structures, multiple structures
5 with the overhead lines. That gave me some
6 pause in terms of where we could come down
7 and where really the visibility associated
8 with these long-term would be.

9 DR. KLEMENS: But Mr.
10 Libertine, I understand what you're saying
11 and it sounds seductively wonderful. We'll
12 just bury it underground and you'll never
13 know that it's there again.

14 My first question is, if it's
15 running parallel with the highway as a
16 backdrop and the train lines, I mean, that
17 northern part of Bruce Park already is quite
18 visually impacted by its proximity. There's
19 a highway. There's the train line. So it's
20 hard to tell exactly how -- you would
21 probably have to do some simulations to show
22 exactly what that would look like standing in
23 Bruce Park looking toward it, how visually
24 jarring transmission lines would be given
25 that the backdrop is Interstate 95 and train

1 lines.

2 We've heard a lot of concern
3 about the wetlands and what happens with
4 these, going under them. And so in a way
5 you're right. Once it's hidden, it's hidden,
6 but I'm concerned of how you get there in
7 terms of impact. That that's really what I'm
8 trying to -- I'm trying to avoid it and go
9 overhead.

10 I don't know. Maybe if this
11 is continued -- I don't know how this works
12 in terms of getting a simulation, but I would
13 like to see how offensive, visually offensive
14 it would be standing here down on the
15 southern part of Bruce Park looking up to the
16 high-tension wires that would be roughly
17 paralleling visually the interstate.

18 Whether or not that would be
19 such an intrusive visual thing versus the
20 risks and the people's discomfort about going
21 underground. There's people that are
22 uncomfortable with the type of materials that
23 are being used.

24 There's a question, which I'm
25 going to throw out, whether or not you even

1 can even Kinsman Drive or Kinsman Lane.
2 Supposedly that's a private road and one of
3 the submissions said that their deeds extend
4 right into the middle of the road. And so
5 what permission do you have to actually do it
6 there?

7 So there's lots of issues with
8 this underground route that I think could be
9 solved by doing this, but that's just my
10 opinion. You can respond to any or none of
11 it.

12 THE WITNESS (Libertine): No.
13 It's -- you bring up some fair points. I
14 think obviously this type of technology has
15 been used. I think that's something that has
16 to be balanced.

17 I think at the end of the day
18 the feeling was when we started looking at a
19 balance of cost, environmental impacts and
20 social benefits and the downsides to some of
21 these, it appeared as though an
22 all-underground route in some configuration
23 on -- on balance seemed to make the most
24 sense to the entire project team, which I
25 tend to agree with. But I -- also I

1 certainly understand what the concerns are.
2 Nothing is perfect in terms of construction.

3 DR. KLEMENS: And I guess my
4 very final question will be, have you
5 received permission or an agreement with the
6 Town of Greenwich to actually go through
7 their park to do this? I mean, this is all
8 theoretical.

9 We've had -- the town planner
10 came and had a lot of concerns about this. I
11 understand the wetlands commission agency
12 didn't have as many concerns, but do you
13 actually have permission to go through this
14 town park? Is this real?

15 MS. DUBUQUE: Mr. Chairman, if
16 I might answer that question? As you know,
17 the Siting Council has the ultimate authority
18 to decide the routing or the location of the
19 substation. So at this point there have been
20 ongoing discussions with town officials,
21 however there are no pending applications
22 before the Town because we would need to know
23 the precise routing before we would pursue
24 the property rights acquisition phase of the
25 project, but there have been discussions.

1 DR. KLEMENS: So Attorney
2 Dubuque, if we were to approve this route
3 they would still have to get permissions? Or
4 would we be basically taking the Town's
5 parkland by our approval?

6 MS. DUBUQUE: No, you would
7 not be taking the Town's parkland by your
8 approval. Eversource would continue to
9 discuss with the Town the appropriate rights
10 and there are statutory provisions, as you
11 probably are aware, that if the electric
12 company or any public service company cannot
13 obtain the rights through negotiation there
14 are also court -- there is a court process.

15 DR. KLEMENS: So if we were to
16 approve this routing through the park that
17 would give you the leverage to potentially
18 take the park by eminent domain?

19 MS. DUBUQUE: No, I don't
20 think that's exactly what I said,
21 Dr. Klemens.

22 DR. KLEMENS: Well, it's sort
23 of what I heard.

24 MS. DUBUQUE: Well, no. What
25 I'm saying is that there, Eversource and

1 certainly CL&P before it has a history, a
2 very long history of working collaboratively
3 with towns, with private property owners once
4 projects are approved.

5 So to the extent that there
6 would need to be any further discussions or
7 further process, yes. Ultimately are there
8 other legal avenues available? Yes, there
9 are. That would be part of the public
10 utilities act.

11 DR. KLEMENS: But as we sit
12 here right now the Town has not acceded to
13 allowing Eversource to take a part of Bruce
14 Park for this?

15 MS. DUBUQUE: We have not
16 applied for any permits or approvals or
17 grants of rights at this time. And I would
18 like to just mention one thing, and we will
19 submit if we may after the hearing, but your
20 comment about Kinsman Lane. We do have
21 documentation from --

22 MS. BIDRA: Excuse me. This
23 is Lauren Bidra from the OCC. I'm going to
24 have to object at this point. Attorney
25 Dubuque is not a sworn witness in this case.

1 And this has gone on for a little bit too
2 long, in my opinion.

3 THE CHAIRMAN: I'm going to --
4 it's a legal question, so she is allowed to
5 answer the legal question.

6 So continue.

7 MS. DUBUQUE: Mr. Chairman, we
8 would like to submit following this hearing
9 documentation about the issue that
10 Dr. Klemens raised about whether Kinsman Lane
11 is a public or private road. That's was the
12 only point I was trying to make.

13 DR. KLEMENS: Thank you. I
14 have no further questions for now,
15 Mr. Chairman.

16 THE CHAIRMAN: Okay. We're
17 going to break for lunch. So 45 minutes and
18 we'll be back here at approximately quarter
19 to 2.

20 (Whereupon, a recess was taken
21 from 12:54 p.m. to 1:49 p.m.)

22 THE CHAIRMAN: Okay. Good
23 afternoon. We'll have our discussion of
24 football and whatever else -- and save that
25 for 5:00 p.m.

1 Thank you. I'd like to resume
2 our meeting. And I believe Mr. Hannon is --

3 MR. HANNON: Thank you,
4 Mr. Chairman. Yes, I do have some questions.

5 I know with the horizontal
6 drills that are being proposed I don't
7 believe that the company had finalized what
8 type of material they might be using for the
9 drills. But I'm just wondering whether or
10 not it's bentonite or some other material is
11 being proposed in conjunction with the
12 horizontal drilling?

13 THE WITNESS (Gagnon):

14 Bentonite is the common drill
15 mud that they typically use.

16 MR. HANNON: Yeah, but I also
17 know what the cost is per linear foot as far
18 as the bond, and there are other materials
19 that appear to be a little more
20 environmentally preferable. So that's kind
21 of why I'm raising the issue as to whether or
22 not any determination has been made on the
23 material that would be used?

24 THE WITNESS (Gagnon): No, it
25 has not.

1 MR. HANNON: Okay. In the
2 application that came in, I've got a question
3 about this low-strength concrete slurry. I
4 have an idea of what I think it might be.
5 But my understanding is where all the open
6 trenches are, this system would be used where
7 you would be putting the low-strength
8 concrete slurry.

9 Now is that something that is
10 relatively porous? Because I've got to
11 assume that it hardens, but sort of what is
12 the porosity? Or --

13 THE WITNESS (Gagnon): It is a
14 concrete. It just has a different PSI
15 rating. Normal concrete is 5,000, 7,000.
16 This is like a three, it's a lot lower. So
17 it allows you go back in and excavate later.

18 MR. HANNON: Okay. But it's
19 pretty stable once it's in?

20 THE WITNESS (Gagnon): That is
21 correct.

22 MR. HANNON: Okay. And the
23 reason that I'm asking is because with some
24 of the areas where the open trenches are
25 proposed -- and you're also talking about a

1 cap by a protective layer of high-strength
2 concrete. I'm assuming that there's very
3 little subsidence in the trenches where they
4 go in.

5 So that if you go in and you
6 backfill a little bit, plant grass or
7 whatever the natural environment is in an
8 area, you're not going to see any subsiding
9 like if you dig a trench in the roadway, you
10 could backfill it or compress it as much as
11 you want, but odds are it's still going to
12 give. And you're going to start to seeing
13 those depressions in the road.

14 So I'm just trying to get an
15 idea if this is more -- you're not going to
16 see it?

17 THE WITNESS (Gagnon): It's
18 more stable. We've used this on a lot of
19 projects down Route 1 where, you know, it has
20 to meet DOT regulations and it, it does
21 provide that stability.

22 MR. HANNON: And what type
23 of -- or amount of soil, for example, would
24 go over it as far as backfill if you had to
25 re-grass an area? Because I don't believe I

1 saw that anywhere in the documents, so I'm
2 just kind of curious on that.

3 THE WITNESS (Libertine):
4 Approximately a foot to
5 18 inches we have the opportunity to put on
6 top.

7 MR. HANNON: Okay.

8 MR. ASHTON: Mr. Libertine, I
9 couldn't hear that one.

10 THE WITNESS (Libertine): I'm
11 sorry. About a foot to a foot and a half.

12 MR. ASHTON: Thank you. You
13 have such a good voice I would like to hear
14 it.

15 THE WITNESS (Libertine):
16 Thank you, sir.

17 MR. HANNON: I believe there
18 were two numbers that were given previously.
19 One was about 10,000 cubic yards of material
20 removed. The other one was 14,000 cubic
21 yards of material being removed, depending
22 upon what type of system and the wires that
23 were being used.

24 What is being proposed to do
25 with the material that is removed from the

1 trenches? Because if you're going in and
2 putting in the concrete slurry, you're not
3 going to have much of a use for what you're
4 taking out of that trench. So what is the
5 proposed use there?

6 THE WITNESS (Gagnon): We're
7 actually going to be removing it off-site and
8 disposing of the soil according -- according
9 to regulation, you know, the standards.

10 MR. HANNON: Okay. Now my
11 understanding is that Eversource and DEEP
12 have reached an agreement. It took a while
13 to get to in how to deal with these kinds of
14 materials. I'm assuming that you folks are
15 planning on adhering to that agreement?

16 THE WITNESS (Gagnon): That is
17 correct.

18 MR. HANNON: Okay. Going back
19 to sort of the diagram that gives the various
20 options here, and it was discussed a little
21 bit earlier about possibly putting overhead
22 lines in by the highway. I'm just trying to
23 get an idea, because I guess what may be the
24 highway right-of-way just north of Bruce
25 Park, I think you've got three lanes in each

1 direction, a breakdown lane.

2 The center median is maybe a
3 hundred, 120 feet. Does that sound about
4 right? I mean, I'm not looking for the exact
5 footage, but about a hundred to a hundred and
6 20?

7 THE WITNESS (Gagnon): I
8 would -- I would agree.

9 MR. HANNON: Okay. So if you
10 were looking at possibly putting in overhead
11 lines, say, north of Bruce Park what kind of
12 right-of-way do you need and what would be
13 the width of trying to keep that clear
14 from trees? I'm just trying to get an idea
15 because I'm curious as to whether there would
16 be any buffer left between the highway and
17 the park.

18 THE WITNESS (Gagnon): Yeah.
19 This will be a -- built as a double circuit
20 where we are building two lines down -- down
21 that transmission route. So you would
22 probably have a hundred -- typically what we
23 use is a hundred feet of clearing for that
24 right-of-way.

25 And then the two ends where

1 we're coming out of the ground we have to
2 build a couple little mini substations to do
3 the conversion for the overhead.

4 MR. ASHTON: Mr. Gagnon, if
5 you say you normally use a hundred feet
6 that's not always true in a confined area.
7 You could get through with about 50 feet.
8 Can't you?

9 THE WITNESS (Gagnon):
10 Seventy-five is, I would say,
11 is our typical.

12 MR. ASHTON: Phase to phase is
13 how much?

14 THE WITNESS (Gagnon): About
15 20 feet phase to phase.

16 MR. ASHTON: Okay. And 15
17 feet on either side of it. So you got
18 50 feet by my calculation.

19 THE WITNESS (Gagnon): You
20 would need more than 15 feet for blowouts.
21 With a 40-foot -- we did take a quick look at
22 this over the break. We would probably get
23 by with 70-foot on that right-of-way here.

24 MR. ASHTON: You're worried
25 about blowouts.

1 THE WITNESS (Gagnon): We're
2 worried about blowouts.

3 MR. ASHTON: And I'm arguing
4 that by using dead-end construction or we
5 screen you can cut that blowout down to
6 essentially zero?

7 THE WITNESS (Case): Not zero.
8 No, with a 400-foot span you would still
9 have -- 400-foot is a pretty short span.

10 MR. ASHTON: And what spans do
11 you have along the railroad now?

12 THE WITNESS (Case): They're
13 around 350.

14 MR. ASHTON: Let's talk about
15 what you got now that you don't get that kind
16 of blowout with a restrained conductor.

17 THE WITNESS (Case): No, but
18 it would be a lot structures within Bruce
19 Park, though.

20 MR. HANNON: Then one of the
21 other questions that was raised at the public
22 hearing had to do with the oils that would
23 possibly be used. Can you tell me what's in
24 the oils?

25 THE WITNESS (Gagnon): We're

1 planning to use a dielectric fluid called
2 polybutene. And polybutene is a colorless,
3 tasteless, odorless substance. It's not
4 designated as an environmental hazard. It's
5 not classified as a waste carcinogen. It's
6 nontoxic, nonhazardous, non-sensitizing,
7 non-teratogenic and non-mutagenic.

8 MR. HANNON: Have you provided
9 any information on that to the Council?

10 THE WITNESS (Gagnon): The MDS
11 sheets were provided.

12 MR. HANNON: Okay. I didn't
13 see it, so thank you. Because I know part of
14 the question was that, is there a possibility
15 that these lines could leak. So that's kind
16 of why I was asking earlier whether or not
17 the concrete slurry is porous or not.
18 Because if there was sort of a leak, then
19 where does the oil go? You know, so it was
20 the kind of questions like that kind of where
21 I was going.

22 THE WITNESS (Gagnon): Let me
23 provide some information regarding the pipe
24 and the insulation itself. You know, the
25 pipe that we put in the ground is steel. It

1 has an epoxy coating on it. We do weld the
2 pieces together. The pieces are then x-rayed
3 to verify that the weld is -- meets the
4 requirements that we need, you know, a very
5 excellent weld.

6 Then there is extra additional
7 coating put over that mostly for cathodic
8 protection. And then it's, you know, put in
9 the thermal backfill on top of that. So
10 there's -- it's a well-confined pipeline.

11 MR. HANNON: And just again,
12 because this was an issue that was raised by
13 the public at the public hearing. I just
14 wanted to address it a little bit more. And
15 I guess, for example, if there was a small
16 leak somewhere for whatever reason, is there
17 any type of leak detection that's set up on
18 the pipes? Or would it just be that on a
19 routine inspection somebody might realize the
20 amount of fluids were lost? I mean, I'm just
21 curious.

22 THE WITNESS (Gagnon): Yeah,
23 we actually use three types of leak detection
24 that we have. We have fluid level alarms in
25 the system. We also look at frequency of the

1 pump operations, how fast they start up. And
2 we also look at low-pressure alarms that we
3 have on the pipe.

4 MR. HANNON: With one of the
5 responses you gave a little earlier it does
6 raise a new question which is nowhere in this
7 document. I'm assuming that for testing the
8 weld seals you're using x-ray equipment?

9 THE WITNESS (Gagnon): It's a
10 form of x-ray. It's not --

11 MR. HANNON: Is it something
12 that will require an ionizing radiation
13 license from our agency? Or do you bring in
14 outside contractors that use equipment that's
15 already been authorized by the agency?

16 THE WITNESS (Gagnon): I'll
17 verify that. I don't know.

18 MR. HANNON: Thank you. No,
19 because again, I'm assuming most welds that
20 I'm aware of, they're usually done by X-ray
21 machines and that often requires some type of
22 ionizing radiation license. I mean, it's
23 just a registration.

24 So I'm curious as to whether
25 or not that's something that the company

1 would have and they may have a license for it
2 that's portable, or you bring in an outside
3 contractor just to make sure that that
4 equipment is licensed?

5 THE WITNESS (Gagnon): I would
6 assume it's the outside contractor that
7 brings in that license as part of their
8 contract responsibility.

9 MR. HANNON: Okay. Thank you.
10 I do not -- well, wait a minute. I do have
11 one other question. There was some dialogue
12 about possibly doing some other things at
13 some point in the near future and delaying
14 the Greenwich substation. I guess part of my
15 question is that, what are sort of the
16 inflation rates associated with it?

17 If you move this out, say,
18 five years, because you were able to do some
19 other modifications and the substation was
20 delayed for, say, five years, what are we
21 looking at for inflationary rates and how
22 would that then, when you combine the cost of
23 the other things that you might do within the
24 next five years, how would that relate when
25 you take that cost and then add it in to the

1 additional cost of the substation?

2 I'm kind of curious if you
3 have any numbers like that.

4 THE WITNESS (Bowes): I'll try
5 my best to answer. I think the inflation
6 rates are fairly nominal. I think we look at
7 a five-year look when we do budgeting. I
8 think the inflation rates are 1 to 1 and
9 half percent. So it's fairly nominal in that
10 regard.

11 As far as the -- if we were to
12 delay five years what would we have to do and
13 the cost of that, it would probably be the
14 use of emergency generation so there would be
15 either purchase or rental, it would be
16 operation of that. So it could be in the,
17 you know, 10 to 20 million dollars per year
18 range.

19 MR. HANNON: Okay. And then
20 I'm also assuming that labor, materials and
21 everything else would go up. You know, so I
22 guess kind of what I'm getting at is if you
23 have 30 or 40 million dollars that you need
24 to spend between now and, say, five years to
25 do some of these other upgrades, is it going

1 to cost more than that by the time you go
2 back in to do the substation because of all
3 the other factors that may come into play
4 just in terms of overall cost?

5 THE WITNESS (Bowes): It is
6 likely that it would cost more than the
7 140 million-dollar estimate today. It's hard
8 to say. I think the bulk of this project
9 will ultimately be the civil construction
10 costs and that's probably more dependent upon
11 the availability of contractors and the
12 market pressures that they're seeing for
13 other work.

14 I wouldn't expect to see large
15 variations in that, but if there are other
16 large infrastructure projects that constrain
17 that market the prices will probably go up a
18 little more.

19 MR. HANNON: Okay. Thank you.
20 I have no other questions at this time.

21 THE CHAIRMAN: Dr. Klemens.

22 DR. KLEMENS: Very quick
23 follow-up question to Mr. Hannon's questions
24 about the buffer along -- separating Bruce
25 Park from Interstate 95. And this is a

1 question for Mr. Libertine, I think.

2 If you were to use the orange
3 route that's on the preferred route map
4 segment, map sheet 6 of 9, we follow that
5 orange route. And let's, for argument's
6 sake, we go 35 feet on each, you know, each
7 side of it. If those trees were removed 35
8 feet on each side of that orange line, in
9 your professional opinion are we still well
10 buffered, still a buffer between Bruce Park
11 and the interstate tree buffer?

12 THE WITNESS (Libertine): If
13 we follow the orange option line as it's
14 depicted here then I think we're taking
15 advantage of some open field areas on the
16 property. So it appears that a 35-foot
17 offset on either side would not impact a lot
18 of the areas in that northern portion of the
19 park.

20 We still have the
21 consideration of where on that particular
22 figure of map sheet 6 of 9 in the back of the
23 application, where it's shown as BPV-2 open
24 trench. Obviously there's going to have to
25 be significant clearing in there.

1 When we talked about this a
2 little bit earlier I felt as though we were
3 talking about pushing it even further to the
4 north and so that, that I had some serious
5 concerns about opening of those areas, I
6 guess I'll call it the north of the dashed
7 line.

8 But two things for
9 consideration, Dr. Klemens, that I've had
10 some concerns with about overhead transition
11 here is at either end we do have to have a
12 transition station of some kind. I don't
13 know the exact dimensions of those, but I do
14 have concerns about the -- the space and what
15 kind of clearing requirements we might have
16 with those. So that's just another
17 consideration.

18 But to answer your question, I
19 think if we're to follow that line, as your
20 suggesting, then certainly it minimizes the
21 amount of tree clearing that would have to be
22 done.

23 DR. KLEMENS: Thank you.
24 Thank you, Mr. Chairman.

25 THE CHAIRMAN: Commissioner

1 Caron.

2 COMM. CARON: I'm all set,
3 Mr. Chairman. Thank you.

4 THE CHAIRMAN: Mr. Lynch.

5 MR. LYNCH: Mr. Chairman, I
6 wasn't here this morning and I'm sure
7 Mr. Ashton asked all my questions while I was
8 gone.

9 THE CHAIRMAN: Some you
10 probably had never even dreamed of asking.

11 MR. LYNCH: So that having
12 been said, and I've had a little minor
13 accident coming here, I'm just waiting for
14 the drugs to kick in so I can go through the
15 rest of the day. I'm going to pass for now.

16 THE CHAIRMAN: Okay.

17 MR. LYNCH: I have faith in
18 you, Phil.

19 MR. ASHTON: Just so that I'm
20 clear in the discussion we had on the
21 preferred route, are we looking at the
22 drawing figure G-8, B as in beta? Is that
23 the one everybody is referring to?

24 THE WITNESS (Libertine): Yes,
25 sir.

1 MR. ASHTON: Let's make sure
2 the applicant says yes, too. I hate to see a
3 grown man cry.

4 THE WITNESS (Libertine): G-8
5 is.

6 MR. ASHTON: G-8, B as in
7 Betty. Okay. We're all on the same page?

8 THE WITNESS (Libertine): Yes.
9 It's the same, same figure as what
10 Dr. Klemens had referenced.

11 MR. ASHTON: Mr. Bowes, you
12 mentioned that in that the event the station
13 was delayed that you felt there would have to
14 be an emergency generator installed. You
15 didn't say where, when and how big and how
16 fueled and so forth. And so I'd like to hear
17 a little bit more about that. Is this going
18 to be, have to be in the Greenwich area, not
19 Cos Cob?

20 THE WITNESS (Bowes): Correct.
21 It would be probably at the 27-kV substations
22 for 27-kV customer locations. A
23 tractor-trailer mounted unit is in the
24 2-megawatt range. So probably a dozen or
25 more of those at locations around --

1 MR. ASHTON: And if it was a
2 couple of megawatts would that not load off
3 the diagram -- off the table you had
4 earlier -- and I forget what page it is, but
5 it's up front of the application, anyway.

6 THE WITNESS (Bowes): Do you
7 have a diagram?

8 MR. ASHTON: I don't have the
9 page reference in hand, but there's a table
10 up early in Exhibit 1 that lists the load on
11 the Cos Cob substation. That's the one.

12 THE WITNESS (Bowes): On page
13 E-5 there's the summer load, summer peak
14 loads and then a projection out to --

15 MR. ASHTON: How much would a
16 couple of megawatts buy in terms of time,
17 assuming you replace or do something when you
18 hit 100.0 percent, which I find a little
19 amusing?

20 THE WITNESS (Bowes): By
21 adding more each year you could delay it
22 probably five years or so.

23 MR. ASHTON: Okay. Thank you.
24 I have nothing further.

25 THE CHAIRMAN: Okay. I have a

1 few questions. Since there have been a
2 number of questions raised about an option of
3 overhead lines, and obviously you had
4 previously done your homework, although
5 apparently you chose not to give us. I'd
6 like to have a little bit of analysis that
7 you could present at the next meeting, a
8 diagram, maybe a visibility, a cross-section.
9 Some information so we have that as an option
10 we can understand a little better.

11 We know where you're coming
12 from, but it's been sort of piecemeal because
13 of the questions. So that would help if you
14 could put that all in the package. And I
15 think you pretty much know based on
16 Dr. Klemens, and what we're talking about.
17 We're obviously not talking about the whole
18 distance, but particularly to avoid, or to
19 mitigate the impacts on the park.

20 MR. ASHTON: I'd like to see a
21 cross-section on the overhead route near that
22 area you felt was very congested. I'd like
23 to see what could be done. And I'm not
24 interested in a hundred foot right-of-way, so
25 don't give me that. It won't fly.

1 THE CHAIRMAN: So hopefully
2 that's understood. I'm not totally clear on
3 one of the issues, which I assume is
4 reliability and I thought I heard one of the
5 answers was, how did you determine that? And
6 I think Mr. Bowes said, I determined it.
7 And that's okay.

8 But forgetting that, I mean,
9 is there at some point where maybe that you
10 would have -- you would be in violations of
11 either some state or federal agency and
12 therefore be subject to something? Or I
13 mean, how do you measure the reliability
14 other than saying, of course we want
15 redundancy and everything else?

16 THE WITNESS (Bowes): So I can
17 maybe provide a more detailed description. I
18 was kind of abrupt when I said that. So
19 back in the summer of 2011 we had a series of
20 issues on the 27-kV system that led us to a
21 conclusion that we needed to finally build a
22 new bulk substation in Greenwich.

23 We got into a situation where
24 we had to shed customer load over a series of
25 days where then 5,000 customers were

1 interrupted. We did not think that was
2 acceptable. We think the obligation to serve
3 requires us to serve all customers at all
4 times, except under extreme conditions. So
5 we went forward and made a public
6 announcement around a new substation. It was
7 a very open process. There was a press
8 conference, actually, where I made that
9 announcement.

10 We then embarked on a series
11 of meetings with the Town of Greenwich to
12 talk about where we could site the
13 substation. That didn't stop us from doing
14 the other regulatory requirements that we
15 have. We listed it with your ten-year
16 forecast of loads and resources, 2012. We
17 went through the ISO New England process to
18 make sure we studied the area completely and
19 looked at whether it was a two-line solution
20 or a three-line solution.

21 And we accommodated in our
22 final design a two-line solution, but plans
23 for the future of a three-line solution, both
24 at the substation with a six-position ring in
25 the GIS building, and also with the

1 fluid-filled system that we can circulate or
2 cool the fluid in to expand the capacity if
3 it were to interconnect with a bulk power
4 system at some time in the future.

5 We completed the ISO process
6 with no adverse impact. Last year we went
7 through the distribution rate case for
8 Eversource Connecticut, listed that as part
9 of our capital program for five years. So
10 it's been a very open and transparent process
11 we have used to go through about announcing
12 the fact that we needed a substation and how
13 we got there.

14 So it's more than just me
15 deciding. It's been me identifying the need,
16 the urgency of the need and then starting on
17 a five-year plan to try to get -- try to get
18 us there. In the interim we did multiple
19 distribution system improvements, more than
20 \$35 million worth of improvements that got us
21 to we are today.

22 But even last month we had
23 three contingencies -- not last month, but
24 the month of July we had three contingencies
25 on the 27-kV system that put us narrowly

1 close to again interrupting customers in the
2 town of Greenwich. To me, that's not an
3 acceptable way to run an electric system. So
4 that's why we're here today, again trying to
5 articulate the need that we do need to have a
6 bulk substation in Greenwich.

7 It also opens up future
8 capabilities that we don't talk about yet in
9 the application, the ability to switch
10 between Cos Cob and the new Greenwich
11 substation, to provide customers with
12 automatic backup where they do not have that
13 today. There's nowhere to move the load.

14 If we get into the 24-hour
15 contingencies we talked about this morning
16 with Mr. Ashton, that anticipates you can
17 move the load to some other substation within
18 that 24-hour period. There's nowhere else to
19 move it here. We can't move it Waterside.
20 We can't move it to Stamford. We can't move
21 it to New York. So we are stuck with having
22 to deal with an issue at the end of the line.

23 THE CHAIRMAN: Okay. That
24 was, I think, a more useful response than the
25 prior one.

1 On the issue of future demand
2 or the increase in demand you mentioned
3 Energize Connecticut, various efficiency, and
4 Solarize, those, but I'm wondering -- and
5 this question, it's probably better asked to
6 the Town, but the Town has chosen not to be a
7 party, so I'll ask you.

8 Has Greenwich embarked on any
9 other types of -- what did you call it?
10 Reduction in demand activities such as
11 microgrids? Such as, do they have an energy
12 district? I mean, has the Town? Because
13 we've sort of asked what you've done and
14 you've talked about how proactive you are.

15 But has the Town been
16 proactive in dealing with -- and obviously
17 they've known about this since you've had
18 this transparent process for a number of
19 years.

20 THE WITNESS (Bowes): So I can
21 respond to the microgrid specifically, and
22 then maybe open up to a more general
23 response. We've gone through two
24 solicitations in the state of Connecticut for
25 microgrids. We have not received any

1 responses from the Town of Greenwich.

2 We're about to go out with our
3 third in, probably in October to, again try
4 to solicit input in proposals for microgrids.
5 Again, microgrids are a part of the solution
6 as is Solarize Connecticut, as is energy
7 efficiency, but it will tend to slow the rate
8 of demand versus replace the reliability need
9 that we have today.

10 I'm personally not aware of
11 any other actions that the Town has taken for
12 trying to satisfy their -- their consumption
13 or their demand issues.

14 THE CHAIRMAN: Thank you. And
15 I just wanted to mention everybody received
16 this document that was provided by Consumer
17 Counsel about a case in New York. Queens,
18 and Brooklyn, which when I first looked at it
19 I said, is this being provided to replace a
20 sleep medicine I use?

21 But after rereading I found it
22 actually very interesting about how in that
23 particular case -- and obviously it's another
24 jurisdiction, another state -- they really
25 went, you know, a combined process of looking

1 at every aspect of alternative.

2 And I thought it was
3 interesting and would think particularly if
4 the issue was raised by the Town and others
5 then maybe, you know, being a little bit more
6 proactive might have delayed where we are
7 today. That apparently is not the case, but
8 that certainly maybe should be required
9 reading of the number of the -- I guess
10 that's a comment as opposed to a question.

11 I just, I guess, one other
12 thing. The structure that you're proposing
13 for the new substation, is that -- this was
14 probably asked and answered before. Is that
15 normal? Do you normally, when you build a
16 substation, put it inside of a building?

17 THE WITNESS (Bowes): We do
18 not. We have one other bulk substation that
19 is contained or partly contained within a
20 building. It came before you as part of the
21 Bethel Norwalk and Middletown Norwalk
22 projects, where the 345-kV GIS at Norwalk
23 substation is contained within the middle
24 building.

25 We don't have any other

1 distribution substations or new distribution
2 substations that are inside buildings. Some
3 of the open-air 4-kV systems we have, or
4 substations we have we're actually in the
5 process of retiring and removing those indoor
6 substations.

7 What makes this unique is the
8 need for two things. One is we are planning
9 for the future with a sixth-breaker ring.
10 That dictates us going to a GIS technology.
11 And the reason six-breaker ring, is for the
12 third transmission line that might ultimately
13 come here.

14 Future plans, nothing on the
15 drawing board today, but again, thinking 30
16 or 40 years out it's a viable thing to plan
17 for. Putting it inside the building, it's an
18 urban area. What we're seeing and hearing a
19 lot from the residents of Greenwich, that
20 they would prefer to have this substation in
21 the building.

22 THE CHAIRMAN: But apparently
23 not in the building you've designed. And I
24 raise this, somewhat elicit smiles from some
25 people, but also because -- and I've seen

1 some of the proposals by, I think, we'll have
2 them, at least in one case an intervener.

3 But the more you dress up the
4 building, it does add to the cost and that
5 cost is something that we're all going to be
6 paying for. Is that correct?

7 THE WITNESS (Bowes): I think
8 some of the -- the additions that we've been
9 asked from the Council and from the Town have
10 provided a positive aesthetic benefit and the
11 costs have been relatively nominal at this
12 point. So I don't think it's been overly
13 burdensome at this point to change the design
14 or outlook of the facade of the facility.

15 THE CHAIRMAN: Okay. Well,
16 that's helpful. Mr. Hannon.

17 MR. HANNON: Thank you,
18 Mr. Chair.

19 Just to follow up on one of
20 your comments about the future expansion of
21 this proposed site with going with a third
22 unit. The pole site, which is, I guess,
23 located just a little bit up the road, would
24 that site be large enough to also accommodate
25 the third unit?

1 THE WITNESS (Bowes): Yes,
2 it's an alternate location that has the same
3 equipment, whether it's at the preferred or
4 the proposed or the alternate. It both fits
5 onto the site. There are some other issues
6 with the alternate site, which have been
7 identified in the application.

8 MR. HANNON: I'm just curious
9 because you're saying you're trying to plan
10 out for the future. I was just curious if
11 the pole site would also be able to
12 accommodate the tree units?

13 THE WITNESS (Bowes): Yes, it
14 would.

15 MR. HANNON: Thank you.

16 THE CHAIRMAN: Dr. Klemens.

17 DR. KLEMENS: I just have one
18 more question, and I tried to get at this
19 earlier. I understand your desire to provide
20 reliable electric service as a corporate
21 decision and a duty. What I was trying to
22 elicit, and maybe I wasn't very successful at
23 getting that, if you fail repeatedly to
24 provide reliable electric service to parts of
25 your service area are there fines or

1 penalties that can accrue to your utility for
2 not providing reliable service?

3 THE WITNESS (Bowes): Over the
4 years we've had a series of reliability
5 dockets with PURA. And in some cases there
6 have been, I guess you could call it
7 penalties, either disallowances of storm
8 costs, return on equity penalties. For a
9 specific town it's usually been a required
10 improvement project and then reporting on
11 that.

12 So for example, if we were to
13 not serve the town of Greenwich and we might
14 be ordered to build the facilities that we're
15 here today seeking approval for.

16 DR. KLEMENS: Or if you were
17 penalized in some way on a larger scale
18 ultimately any kind of costs and penalties
19 that are placed on Eversource ultimately find
20 their way back to the ratepayers?

21 THE WITNESS (Bowes):
22 Typically not the penalties.

23 DR. KLEMENS: Well, whatever
24 you want to call them, but I mean, what I'm
25 trying to get at is there's a larger societal

1 interest in having this grid beyond
2 Greenwich, or not.

3 THE WITNESS (Bowes): I think
4 I understand. And yes, there's -- there's
5 obviously benefit to having reliable service,
6 not only for the customers in Greenwich but
7 for all the, you know, the economic
8 development of that area as well as the
9 people that are frequency -- frequenting
10 those establishments in Greenwich.

11 DR. KLEMENS: That's maybe why
12 there's a Siting Council with some of these
13 decisions, because when a community may not
14 want something there may be a larger regional
15 need or common good, and that's what we're
16 charged with doing, would you say?

17 THE WITNESS (Bowes): I think
18 you have to weigh the positives and the
19 negatives of any project, try to minimize
20 those, try to make it cost effective and
21 reliable. But you have to balance those
22 needs.

23 DR. KLEMENS: Thank you.

24 THE CHAIRMAN: So we need to
25 do some chair shifting. We'll now go to the

1 questions from --

2 MR. ASHTON: Before you do
3 I've got one more. In terms of what you're
4 going to be supplying us I would like a
5 careful look at that right-of-way near Bruce
6 Park Road, whatever it is. I won't accept a
7 100-foot right-of-way requirement. That's
8 clearly out of the question.

9 But there may be options such
10 as putting poles on both sides of the
11 railroad right-of-way with the arms hanging
12 into the right-of-way that allow you to go
13 overhead there. And I'd like a careful look
14 at that option. So that please don't put a
15 hundred foot right-of-way in there. I'm not
16 going to swallow that.

17 MS. DUBUQUE: Mr. Chairman,
18 would you like to have the answers to the two
19 questions that were asked this morning? We
20 do have answers. One was about the power
21 factor for 1-35.

22 THE CHAIRMAN: I guess if we
23 have an answer.

24 THE WITNESS (Bowes): The
25 power factor at the peak load day was 0.998

1 or effectively --

2 MR. ASHTON: Unity power
3 factor?

4 THE WITNESS (Bowes): Unity
5 power factor.

6 MR. ASHTON: So that means
7 there's no advantage of putting in capacitors
8 at Cos Cob to go to unity. You don't reduce
9 the loading of the transformers?

10 THE WITNESS (Bowes): That is
11 correct.

12 MR. ASHTON: Thank you.

13 MS. DUBUQUE: And Mr.
14 Chairman, the second question was about what
15 we tell customers, what Eversource tells the
16 customers in terms of electric and gas
17 options. And I mentioned that Mr. Swift
18 would be here this afternoon and he can
19 answer that question if you would like him to
20 do so now.

21 THE CHAIRMAN: Yes, please.

22 J O S E P H R. S W I F T,
23 recalled as a witness, having been
24 previously sworn, was examined and
25 testified on his oaths as follows:

1 MS. DUBUQUE: And I just want
2 to say for the record Mr. Swift was sworn in
3 on September 1st.

4 THE WITNESS (Swift): Good
5 afternoon. I believe that the question had
6 to do with energy efficiency, and correct me
7 if I'm wrong, and then if energy efficiency
8 pays incentives to customers to change from
9 one fuel to another fuel, in this case it was
10 natural gas.

11 And energy efficiency doesn't
12 promote fuel switching, whether it's from oil
13 to gas or electricity to gas. However the
14 energy efficiency programs do encourage
15 customers to be energy-efficient. So if a
16 customer is converting from one fuel to
17 natural gas we encourage those customers to
18 participate in our programs and weatherize
19 their homes as an example or add insulation.

20 And in addition we offer
21 incentives for high-efficiency equipment. So
22 if a customer is putting in a boiler we will
23 pay an incentive to cover the incremental
24 cost of installing a high-efficiency boiler
25 versus a -- versus a baseline boiler.

1 MR. ASHTON: Just one
2 question. You do not then tell a customer
3 you can take advantage of gas to your
4 economic and energy efficiency benefit?

5 THE WITNESS (Swift): Energy
6 efficiency doesn't do that. As I'm sure you
7 know have do a sales group that, you know,
8 consistent with the State of Connecticut
9 comprehensive energy strategy, you know, to
10 encourage customers to --

11 MR. ASHTON: I'm looking for a
12 yes or a no.

13 THE WITNESS (Swift): Energy
14 efficiency does not do that. We encourage
15 high efficiency assuming the customer has
16 made the decision to change fuels.

17 MR. ASHTON: It's up to the
18 customer to figure it out?

19 THE WITNESS (Swift): It's up
20 to the -- exactly.

21 THE CHAIRMAN: All right.
22 Thank you. So we'll now continue
23 cross-examination. Office of Consumer
24 Counsel.

25 And will you three vacate your

1 positions so they can come here please? We
2 do find that Eversource like to monopolize
3 all the seating. Sorry, you have to share.

4 So whenever you're ready to
5 begin your cross-examination.

6 MS. BIDRA: Good afternoon,
7 Mr. Chairman, Council members, and
8 Eversource. My name is Lauren Bidra.

9 MR. LYNCH: Speak up, please.

10 COMM. CARON: It will adjust.

11 THE CHAIRMAN: Keep talking
12 and we'll adjust by some magic wand. But
13 Commissioner Caron apparently --

14 MS. BIDRA: Apparently it
15 wasn't on.

16 COMM. CARON: You know what
17 your problem is then.

18 MS. BIDRA: My name is Lauren
19 Bidra. I'm a staff attorney with the Office
20 of Consumer Counsel.

21 MS. BAIN: Good afternoon
22 councilmembers, Attorney Bachman, Council
23 staff and panel. I'm Margaret Bain from the
24 Office of Consumer Counsel.

25 I'd like to start off with

1 looking at need and look at the forecast. We
2 have in the application on page E-5 you have
3 a table that goes out to the future. And in
4 the response to OCC-22 we have a revision to
5 part of that table, so if we could get those
6 two together.

7 So the table in E-5 has a
8 total of MVA for 2014 of 131.8 and that was
9 revised to the actual in OCC-22, of 107.7.
10 So 2015 in E-5 is 133.1. And in OCC-22 it's
11 114.8. So significantly less.

12 So would you talk about the
13 future from starting off from the point of
14 the estimate in 2015 of 114.8. And even
15 before you do that, is that estimate close to
16 the actual for August? Do you know?

17 THE WITNESS (Bowes): I
18 believe the 114.8 is a July number.

19 MR. ASHTON: Normalized?

20 MS. BAIN: Okay. Was your
21 peak in July or do you know what the August
22 results are at this point?

23 THE WITNESS (Bowes): I
24 believe the peak was in July and it's -- it
25 is normalized. It was approximately, I

1 think, 89 percent of the normal system, or
2 the absolute system.

3 MS. BAIN: So you're
4 comfortable with the 114.8?

5 THE WITNESS (Bowes): Yes, I
6 am.

7 MS. BAIN: Okay. So if we
8 could look at, for instance, are you starting
9 with the 114.8 and using your 1 percent
10 increase per year from there?

11 THE WITNESS (Bowes): For
12 what?

13 MS. BAIN: For the future, for
14 2016 we'll start with.

15 THE WITNESS (Bowes): I'm not
16 sure I understand that.

17 MS. BAIN: You're saying
18 there's 1 percent growth per year
19 approximately?

20 THE WITNESS (Bowes): The
21 1 percent was in the original application.

22 MS. BAIN: Right.

23 THE WITNESS (Bowes): Table
24 E-1.

25 MS. BAIN: Right. Correct.

1 Page E-5?

2 THE WITNESS (Bowes): So that
3 was derived from a group of substations in
4 the Norwalk Stamford subarea and it was the
5 average of three years. So it was 2010, '11
6 and '12.

7 A VOICE: Louder please.

8 THE WITNESS (Bowes): It was
9 2011 -- 2010, '11 and '12 and it was the
10 average load increase of those transformers
11 per year over a three-year period. That's
12 what we used to project the 1 percent going
13 forward from 2013.

14 MS. BAIN: Uh-huh. And now
15 we're starting from a different point.
16 Right? We're starting from a lower level.
17 We're starting from 114.8. Right? If we --
18 let's take the response to OCC-22. Okay?

19 THE WITNESS (Bowes): I'm not
20 sure I understand what you mean by starting
21 from.

22 MS. BAIN: Starting to look at
23 the future from a lower level. Right?

24 THE WITNESS (Bowes): Well,
25 there certainly have been two years of, you

1 know, 2013 and 2014 -- or I should say, 2014
2 and 2015 that were lower than the 2013
3 number, but we have not reset it to 114.8 as
4 a starting point.

5 MS. BAIN: Are you still
6 sticking with 134.5 for 2016?

7 THE WITNESS (Bowes): So we're
8 saying that the underlying kilowatt hour
9 usage has really remained unchanged even
10 though the peak demand has come down. So the
11 basis for the customer load is still there.
12 You understand what I'm saying?

13 MS. BAIN: I do.

14 THE WITNESS (Bowes): So the
15 kilowatt hours are still all being used. So
16 the customers haven't all of the sudden
17 changed their equipment. The number of
18 customers is essentially unchanged while the
19 number of customers, new customers taking
20 advantage of Solarize Connecticut or energy
21 efficiency has remained unchanged. What has
22 changed is the weather.

23 MS. BAIN: Okay. Just to
24 clarify we're looking at the summer peak load
25 levels tables?

1 THE WITNESS (Bowes): Yes.

2 MS. BAIN: Okay.

3 MR. ASHTON: Is that weather
4 normalized? Is the 114 weather normalized?

5 THE WITNESS (Bowes): It's the
6 absolute loads taken. So no, it would not
7 be. If we had seen the same peak in New
8 England that we saw in 2013 we would see --

9 MR. ASHTON: I want to make
10 sure we haven't got Russians numbers here. I
11 asked you earlier about the 135.5 peak on Cos
12 Cob in 2017. You answered that was weather,
13 a weather normalized peak. Remember?

14 THE WITNESS (Bowes): Because
15 it's forecasted, yes.

16 MR. ASHTON: Now I understand,
17 but it's a weather normalized figure. What I
18 want to know is the 114.8 and the 107.7 and
19 the year proceeding weather normalized?

20 THE WITNESS (Bowes): No,
21 they're actual values.

22 MR. ASHTON: Okay. So that
23 could be, I'll pick a ridiculous figure,
24 65 degrees, not 95 degrees. I don't know
25 what it was, but the point is, it ain't

1 weather normalized, so we're not comparing
2 apples and apples.

3 THE WITNESS (Bowes): The past
4 is the actual data. The future is the
5 forecasted data.

6 MR. ASHTON: Right, but again,
7 the past is not weather normalized?

8 THE WITNESS (Bowes): That is
9 correct.

10 MR. ASHTON: Thank you.

11 THE WITNESS (Bowes): So what
12 that means, I think, if I could expand on
13 that, is that if the same weather were to
14 occur as occurred in 2013 we would see the
15 peaks that have been forecasted.

16 SEN. MURPHY: So let me see if
17 I can understand it. I think you're really
18 talking about two starting points. She's
19 talking about starting points as the real
20 thing, and you're talking about a starting
21 point that's annualized, and there are two
22 different things.

23 MR. ASHTON: Normalized.

24 SEN. MURPHY: Normalized, two
25 different things. And she's asking you

1 questions and you're thinking in a different
2 term than I think she, is the problem that
3 you're having. She's talking about your real
4 numbers and you're talking about the
5 normalized numbers. And you forecast off the
6 normalized numbers, not off the real numbers
7 as I understand it.

8 THE WITNESS (Bowes): That is
9 correct. And we also look at not just a
10 single substation or a single transformer.

11 SEN. MURPHY: Right.

12 THE WITNESS (Bowes): We look
13 at a group of them. That's probably
14 representative of what's going on in the
15 economy.

16 SEN. MURPHY: But I can see
17 the cross-examination coming about the
18 growth, but you're really starting at two
19 different points to talk about the growth, is
20 the point I'm trying to make. And I think it
21 hasn't been clear. At least it wasn't to me
22 until you resolved it. Sorry for the
23 interruption, Mr. Chairman.

24 MS. BAIN: So are you looking
25 at making any changes to this table E-1 for

1 2016 forward?

2 THE WITNESS (Bowes): We have
3 not redone the planning or the load forecast
4 for the summer of 2015. So there it's
5 possible there could be adjustments based
6 upon, you know, the data that is still being
7 compiled. But at this point we have not made
8 any changes.

9 MS. BAIN: Now what else goes
10 into the peak usage forecast? Would it be
11 subject to energy efficiencies in addition to
12 weather?

13 THE WITNESS (Bowes): Yes,
14 energy efficiency, distributed generation and
15 also an eye towards what ISO New England is
16 also looking at for the regional system as
17 far as the growth rates that they are looking
18 at it, to make sure that we're not totally
19 disparate from what they are projecting as
20 well.

21 MS. BAIN: Okay. So if we do
22 look at OCC-22, which has actuals. Right?

23 THE WITNESS (Bowes): Yes.

24 MS. BAIN: The actuals went
25 down from 2013 to 2014 -- I calculated it

1 down 17 and a half percent, which you cite
2 that number as well. And then in the next
3 year it went up 6.5. Okay.

4 THE WITNESS (Bowes): I
5 believe that's -- I calculated the same
6 numbers, yes.

7 MS. BAIN: Okay. And then
8 between 2012 and 2013 it went up 1.8?

9 THE WITNESS (Bowes): So this,
10 this points out some of the difficulty of
11 looking at a particular year and a particular
12 substation in trying to come up with an
13 overall estimate of the load increasing or
14 the load decreasing.

15 MS. BAIN: Along the same
16 lines, if we look at the response to OCC-24.

17 THE WITNESS (Bowes): Yes, I
18 have it.

19 MS. BAIN: We have the 25
20 largest customers and their maximum demand.
21 Between 2014 and 2015 I counted 11 customers
22 increased and 14 decreased in their usage.

23 THE WITNESS (Bowes): This is
24 actually the peak demand, but I think that's
25 right.

1 MS. BAIN: And their usage
2 during the peak, yes. And so have you
3 noticed that customers have had an impact
4 from energy efficiency? Or why do you think
5 those customers decreased who decreased, the
6 14 that went down?

7 THE WITNESS (Bowes): I do not
8 know.

9 MS. BAIN: You don't know?
10 You haven't looked into that?

11 THE WITNESS (Bowes): I have
12 not.

13 MR. ASHTON: Mr. Bowes, where
14 the times of the peaks the same? Could one
15 group be on -- one entity be on vacation in
16 the summer at one time and then not another?
17 It's potluck. Isn't it?

18 THE WITNESS (Bowes): There's
19 probably many reasons why the demand changes.
20 It could be the ones that increased, you
21 know, may have added an additional shift.
22 They may have added a new production line.
23 Other customers may have done energy
24 efficiency measures that have now, you know,
25 mitigated the peak demand. I just have not

1 studied the 25 in any detail.

2 MS. BAIN: Okay. Starting
3 with the response to OCC-19. Now in the
4 attachment it lists the customers who will be
5 sharing the category A load. Is United
6 Illuminating going to be contributing to
7 that?

8 THE WITNESS (Cooper): United
9 Illuminating is an extended 21 category
10 customer. They are not connected to CL&P
11 system and non PTF.

12 MS. BAIN: So no, United
13 Illuminating will not. No?

14 THE WITNESS (Cooper): No.

15 MS. BAIN: And what percentage
16 will Public Service of New Hampshire be
17 contributing approximately?

18 THE WITNESS (Cooper):
19 Twenty-one percent.

20 MS. BAIN: And Western
21 Massachusetts Electric?

22 THE WITNESS (Cooper):
23 Nine percent.

24 MS. BAIN: And is the only
25 reason that they're contributing is because

1 they are sister affiliated companies? They
2 are part of Northeast Utilities companies
3 that work together.

4 THE WITNESS (Cooper): The
5 rate design for schedule 21 category A is for
6 all customers connected at non-PTF and PSNH
7 and WMECO are connected at non-PTF for this
8 rate design.

9 MS. BAIN: Okay. So this is?

10 THE WITNESS (Bowes): So that
11 would be, again non-PTF facilities in New
12 Hampshire or in Massachusetts.

13 MS. BAIN: Non-PTF?

14 THE WITNESS (Cooper): It's
15 connected at non-PTF which are the PSNH
16 retail customers and also WMECO. So, yes.

17 MS. BAIN: Okay. Is this
18 project though -- okay. This project,
19 though, what we're talking about is the LNS
20 costs and those are non pooled. Right?

21 THE WITNESS (Cooper): Right.
22 Local network service costs are costs that
23 not out in the -- in the region.

24 MS. BAIN: They're non pooled?

25 THE WITNESS (Cooper): No, the

1 rate design is that they're primarily non
2 pooled, but there's also rate -- rate design
3 differentials between regional and local
4 rates, so it covers that also, the timing of
5 it.

6 So primarily non-PTF, yes.

7 MS. BAIN: Non-PTF. And then
8 section B dealt with the pooled transmission
9 facility costs. And now why would this
10 response be confidential as to whether or not
11 you filed that with ISO? That's usually
12 public knowledge. Right?

13 MS. DUBUQUE: Mr. Chairman, I
14 think Ms. Bain is asking a question about the
15 protective order and these responses were
16 filed pursuant to the protective order. So
17 the content of those should not be discussed
18 in open forum.

19 MS. BAIN: No, I was just
20 asking why you thought it was confidential,
21 whether or not they filed with ISO, that
22 aspect of it.

23 MS. DUBUQUE: I believe that
24 the response indicates that it's proprietary
25 and confidential because it has not been

1 submitted to ISO New England. It states that
2 in the response. So I would just be careful
3 about going too far down afield when we have
4 filed subject to protective order.

5 MS. BAIN: Okay. Actually the
6 response doesn't indicate that you filed. It
7 just says it's proprietary.

8 MS. DUBUQUE: No actually at
9 the bottom it says, Eversource has not yet
10 submitted the associated transmission cost
11 allocation application to ISO New England
12 under B. It's in our response.

13 MS. BAIN: I'm not looking at
14 the confidential piece.

15 MS. DUBUQUE: I stand
16 corrected then. But it is in the
17 confidential piece for which you have access.

18 MS. BAIN: Right. But I'm
19 just wondering again why would that be
20 confidential, that particular element of it.

21 MS. DUBUQUE: I think we've
22 answered the question based on it not being
23 filed yet with ISO.

24 THE CHAIRMAN: I think they've
25 answered the best they can, whether you're

1 satisfied or not. I think we should go on
2 now.

3 MS. BAIN: Usually it's, you
4 know, a matter of public knowledge as to
5 whether or not you file, but that's okay.

6 MR. ASHTON: Just to be sure I
7 understand, you're saying that it's
8 confidential because it has not been filed.
9 Is there anything in the nature of the filing
10 that would warrant it being confidential?
11 I'm a little bit in their camp and I find
12 this thing all bizarre that everything is so
13 secret, not only in this application, but in
14 others and it's super confidential. And I
15 don't understand it.

16 MS. DUBUQUE: Well, Mr. Ashton
17 that information was in the motion for
18 protective order and it was based on the fact
19 that it's proprietary because it would
20 undermine the competitive bid process.

21 MR. ASHTON: Okay. I'm not
22 sure I was there, but if I did I voted
23 against it, I assure you. But I just fail to
24 see why it's top secret. I just can't
25 believe it.

1 THE CHAIRMAN: But we did take
2 action, so let's go on.

3 MR. ASHTON: Let's go on.

4 MS. BAIN: Okay. Now OCC-2,
5 the question was, provide a narrative
6 concerning the basis for provisions that the
7 company has made for contingencies.
8 Basically what I'm looking for here is why
9 you chose 10 percent, why you chose that
10 number for contingencies. How you arrived at
11 that, I don't have any detail in this
12 response.

13 Can you provide a response
14 that has more detail? Some of the
15 contingencies, for instance, sound kind of
16 like they could be very expensive. For
17 instance, the possibility of blasting and
18 chipping, the jack and bore under the
19 railroad, the horizontal directional drilling
20 issues, weather issues, traffic issues.

21 So I'm not understanding why
22 you're choosing 10 percent. If you can
23 explain that in more detail that would be
24 good.

25 MS. DUBUQUE: Mr. Chairman,

1 again I would like to point out that OCC-2
2 was responded to under the protective order.
3 This, it had very specific information.

4 MS. BAIN: This is OCC-20 and
5 I asked the same question.

6 MS. DUBUQUE: I'm sorry, I
7 thought you said OCC-2.

8 MS. BAIN: Yeah, I asked the
9 same question about a narrative in OCC 2.

10 MS. DUBUQUE: But we did not
11 provide that narrative in OCC-2 because the
12 numbers were all spelled out in the
13 information that was filed subject to the
14 protective order.

15 MS. BAIN: No, this is just
16 concerning the 10 percent contingency.
17 That's it. Not anything about the numbers.
18 Nothing about anything confidential.

19 THE WITNESS (Gagnon): All
20 right. We'll try to provide a generic
21 response to this. And what we did is, you
22 know, one of the parts that we do, when we do
23 an estimate we look at the expected risk of
24 the project. And just, you -- you pointed it
25 out there's several items that is in that

1 contingency amount.

2 You know, the project itself
3 is in a very dense urban environment that
4 provides a lot of complications in digging
5 around the subsurface areas. And because you
6 have a lot of utilities, communications,
7 sewer, water, gas, that's going to affect
8 where the pipe cable is and how far down you
9 have to go.

10 We -- we looked at soil
11 disposal, the testing where we have to remove
12 the soil, traffic restrictions on -- of the
13 construction itself. There's limited
14 workspace, workhours. Traffic control,
15 putting up barriers, police protection. And
16 then there's the dewatering on this.

17 This is close to the
18 shoreline. We expect water as we do some
19 work, so disposal charges, frac tanks for
20 holding. So there's a lot of construction
21 risk in -- in the cost.

22 MS. BAIN: So how did you
23 settle on ten? Would it be higher? Do you
24 think it could be higher than that?

25 THE WITNESS (Gagnon): We have

1 done many, many projects. A lot of this, a
2 lot of this work, you know, underground work
3 we have, our estimating group looks at past
4 projects. Stamford is one that isn't too far
5 away, very similar conditions.

6 We have done other underground
7 work in part of Middletown, Norwalk. And so
8 we looked at past projects to come up with an
9 historical costing in our estimate process.
10 And so that's what it's based on.

11 MR. ASHTON: Mr. Gagnon, would
12 another way of looking at it be to try and
13 recognize the unknowns where costs are going
14 to be incurred two or three years down the
15 road?

16 THE WITNESS (Gagnon): I'm not
17 sure -- I apologize. I'm not sure I follow
18 that.

19 MR. ASHTON: You're allowing
20 10 percent for contingency. Is that
21 10 percent one way of measuring unknown costs
22 because they're two to three years down the
23 road?

24 THE WITNESS (Gagnon): Yes.
25 Yes, that is correct.

1 MS. BAIN: Okay. Regarding
2 the response to OCC-25. Can you give us the
3 percentage of customers who are participating
4 in the energize CT programs? Do you have the
5 total customers, in other words, for
6 residential and then commercial and
7 industrial? And then we can develop the
8 percentages.

9 THE WITNESS (Gagnon): No, we
10 don't have the percentages for that.

11 MS. BAIN: Can you get us
12 that.

13 THE WITNESS (Gagnon): Sure.

14 SEN. MURPHY: Do you have the
15 total number of residential and commercial?

16 THE WITNESS (Gagnon): We can.
17 We can put that together.

18 MR. ASHTON: Did you tell us
19 28,000?

20 THE CHAIRMAN: That's the
21 total -- it's an assignment for you, so let's
22 go on. You need to provide that information.

23 MS. BAIN: Okay. Regarding
24 the response to OCC-26, when you state that
25 you had direct mail. 10,400 Greenwich

1 residents received an energy efficiency
2 mailing in August. What was that mailing?
3 Was it a bill insert?

4 THE WITNESS (Bowes): It was
5 not a bill insert. It was a separate
6 mailing.

7 MS. BAIN: Okay. Can you file
8 a copy of that on the record?

9 THE WITNESS (Bowes): Yes.

10 MS. BAIN: Regarding the last
11 paragraph there, where it says account
12 executives have individually contacted 66
13 commercial industrial customers within the
14 last two years. Do you offer customized
15 applications for these customers? Or is it
16 the standard energize programs?

17 THE WITNESS (Bowes): Clearly
18 the standardized programs, but also one of
19 the -- one of the programs for commercial
20 industrial customers is just that. It's a --
21 it's a more flexible solution that meets
22 their particular needs that's part of one of
23 the program designs.

24 MS. BAIN: Would it be
25 something like, United Illuminating has an

1 energy efficient blueprint program?

2 THE WITNESS (Bowes): Yes, and
3 I think the programs are in close alignment
4 with United Illuminating through Energize
5 Connecticut.

6 MS. BAIN: Okay. Do you keep
7 statistics on how many of these customers
8 have initiated measures?

9 THE WITNESS (Bowes): Yes, we
10 do.

11 MS. BAIN: Okay. Can we get
12 the statistics on that?

13 THE WITNESS (Bowes): Yes.

14 MS. BAIN: Okay. So now in
15 the response to OCC-28 this one asks about
16 various measures that you might have looked
17 into to reduce demand. Now it says here that
18 you haven't really studied the volt/VAR
19 controls in detail. An analysis of battery
20 storage has not been conducted.

21 Are these things that you
22 think you could do to be part of a program
23 that would help to reduce demand? And I'm
24 thinking about the Brooklyn Queens demand
25 management program where they instituted a

1 number of different measures, not relying on
2 just one measure to solve this problem, but a
3 number of different measures with energy
4 efficiency, a different standard, standard,
5 you know, distribution measures all combined.

6 So have you looked at any of
7 these things in combination, in a mix that
8 would help you to come down from this
9 140 million-dollar project, and yet satisfy
10 demand?

11 THE WITNESS (Bowes): So I'll
12 try to pick up the questions one at a time.
13 I think there were about five there. The
14 first around conservation voltage reduction.
15 Connecticut has benefited from a program,
16 although relatively simplistic, for more than
17 30 years of lowering the overall voltage at
18 the substations and maintaining it out to the
19 last customer on the line.

20 By reducing that voltage by
21 about 2 percent we have saved energy
22 consumption by about 1 percent. That was the
23 initial study that was done. And although
24 load mix has changed a little bit, I think
25 1 percent is still very conservative.

1 We also have the ISO New
2 England emergency actions under operating
3 procedure 13, where they need to reduce the
4 voltage by 5 percent and achieve -- achieve a
5 1.5 percent reduction in demand. So we have
6 to be careful how much benefit we will see as
7 we've already have reduced 2 percent to start
8 with. Another 5 percent has to be available
9 for emergency actions.

10 And then doing an optimization
11 at the individual circuit level, there's
12 still some benefit there, but it's going to
13 be, I think, minimal. And in the case of
14 Greenwich it may be difficult to achieve
15 those compounding benefits.

16 Going onto battery storage, we
17 have started to look at some applications for
18 battery storage. They have been mainly
19 dealing with trying to firm up the
20 variability of distributed generation,
21 specifically solar. So trying to take
22 something that is highly variable that, you
23 know, based on weather conditions, cloud
24 cover or cloud movement and trying to make
25 that firm. So taking a 1-megawatt solar and

1 truly making it appear like 1 megawatt
2 throughout the daytime hours, or at least the
3 operating hours.

4 We haven't really looked at
5 energy storage as a means shift the peak. So
6 in this case you would store the energy in an
7 off-peak time and then release it on an
8 on-peak time for a couple of reasons. I
9 think it has promise in the -- in the future,
10 but today there really isn't the packaged
11 unit at the utility scale to do that. There
12 are many demonstration pilots going on.

13 In fact, the State of
14 Connecticut just launched an open meeting
15 yesterday to talk about some of those things
16 that are contained within the new
17 legislation. So I think there's some pilot
18 work to do here. To say that it will
19 definitely work and definitely satisfy this
20 need, I think time will tell.

21 The last item on this was
22 around energy efficiency. We've talked a
23 little bit about that, but additional energy
24 efficiency, especially targeted an area may
25 be with some increased incentives, which is,

1 I believe that you mentioned the Con Ed
2 package.

3 They're taking one of their
4 demand response programs and targeting it
5 specifically to this area, and I think about
6 \$25 million of energy efficiency funding for
7 this. I think that's something to look at.
8 It's not within the mechanisms we have today
9 in Connecticut for how the energy efficiency
10 programs are funded and then managed, but I
11 think it has something, some opportunity.

12 Looking at the -- I think you
13 also mentioned cost effective in your
14 discussion, and I know you, you asked for
15 administrative notice of a document that was
16 from -- actually case 14-E 0302. And that
17 has some -- some very interesting numbers in
18 it around the cost effectiveness of their
19 programs.

20 The Con Ed proposals, and I'll
21 refer you to -- if have it there -- I'll
22 refer you to page 7 in the second paragraph.
23 This was in the utility commission findings.

24 The 41 megawatts of customer
25 side nontraditional solutions will be

1 approximately \$150 million or about
2 \$3.7 million per megawatt. And if you go on
3 to the next sentence, the 11 megawatts of
4 utility side nontraditional solutions of the
5 11-megawatt range are estimated at
6 \$50 million, or about \$4.5 million per
7 megawatt.

8 So although they are proposing
9 some innovative solutions the cost
10 effectiveness versus the project we're
11 proposing which is just over \$1 million per
12 megawatt, I don't think it passes the
13 cost-effectiveness test. So -- and those
14 obviously are the two solutions there.

15 One is for 41 megawatts and
16 one is for 11. So for 52 megawatts you're
17 proposing to spend 200 million. Although
18 certainly our cost estimate is something
19 that -- that stops people. I understand for
20 140 million that's for 134 megawatts. So
21 it's a factor of three to four times more
22 cost effective than the Con Ed solutions
23 they're proposing in Brooklyn.

24 MS. BAIN: I think, you know,
25 looking at just that one little piece, you

1 know, that doesn't give you the full flavor.
2 You know, if I could just mention there's a
3 whole big decision here with various
4 different measures being taken.

5 Now is the company taking any
6 proactive steps like Con Ed did? For
7 instance, Con Ed brought this to the public
8 service commission and they were trying to
9 solve that problem of a too-expensive
10 substation, in their case, like, a billion
11 dollars. And you know, apparently they're
12 going forward with it and really trying to
13 save this money. But has the company taken
14 any proactive steps like that?

15 THE WITNESS (Bowes): So I
16 think, yes, but not to the integrated
17 approach that Con Ed has. And just to be
18 clear, they deferring the need for that
19 substation by five years and spending
20 \$200 million to do that. The original
21 project has not gone away. It's only been
22 deferred.

23 So I think Eversource has
24 looked at, you know, our energy efficiency
25 programs in this area. The fact we worked

1 with the Green Bank for our Solarize
2 Connecticut program for this town. The fact
3 that we've been active in the micro-grid
4 solicitations with DEEP.

5 You know, round one and round
6 two did not bring forth any micro-grid
7 solutions from the town of Greenwich. We are
8 active with other technologies out there,
9 including battery storage now with the recent
10 legislation in Connecticut. So I think we
11 are not as integrated and maybe not as far
12 along as New York is, but we're also, I
13 think, taking a more pragmatic and much more
14 cost-effective approach than they are.

15 MS. BAIN: On your micro-grid
16 solution did you specifically propose
17 Greenwich?

18 THE WITNESS (Bowes): It's an
19 open solicitation. The market needs to
20 respond to it, so that's the way that this,
21 the proposal in Connecticut is working. For
22 rounds one and round two we received no
23 proposals from anyone in the town of
24 Greenwich.

25 MS. BAIN: Okay. Did you go

1 talk to Greenwich?

2 THE WITNESS (Bowes): We
3 talked to all the towns about soliciting or
4 responding to the RFP. So in essence, yes,
5 but Greenwich was treated no different than
6 anyone else in that regard.

7 MS. BAIN: But did you
8 specifically talk to Greenwich about possibly
9 this micro-grid specific application?

10 THE WITNESS (Bowes): Well,
11 if -- if you look inside our application,
12 although a micro-grid might prolong or delay
13 the need, it really is not a viable solution.

14 MS. BAIN: So does that mean,
15 no, you didn't talk to Greenwich?

16 THE WITNESS (Bowes): No, we
17 talked to them. Be we see it as not a viable
18 solution to this project. We saw it as a
19 resiliency, a very good resiliency project,
20 could be done there.

21 MR. ASHTON: Mr. Bowes, could
22 you define a micro-grid just for the record
23 so we're all clear on what it is?

24 THE WITNESS (Bowes): Sure.
25 In fact, you know, DEEP has given a

1 definition as well. In essence it's a --
2 it's either a single customer or a group of
3 customers that have generation and can
4 operate independent of the electric grid when
5 needed to or when it's desirable to do so.

6 So they can in effect isolate
7 themselves from the grid, operate
8 independently with all of the load and
9 balancing requirements of that and then
10 return to the grid when it is either reliable
11 to do so or economic to do so.

12 MS. BAIN: So does that sound
13 like something that might help with the peak
14 load?

15 THE WITNESS (Bowes): Yes,
16 for -- on a small-scale basis and that might
17 defer, as I said, might defer the need for a
18 period of time. But it's really not an
19 alternative to the capacity of a new
20 Greenwich substation.

21 MR. ASHTON: Is this in your
22 answer also driven by the by the fact that
23 the customer must install generation? If
24 it's just a bunch of customers connecting
25 together that doesn't affect your peak load.

1 THE WITNESS (Bowes):

2 Obviously there would be
3 generation involved in this.

4 MR. ASHTON: Right. That's
5 what I'm saying. It has to happen. To make
6 it reduce peak load it has to have a
7 generation component.

8 THE WITNESS (Bowes): And we
9 looked at a series of generation alternatives
10 in the application as well. And if you're
11 looking for a green solution it would
12 probably be driven more towards fuel cells
13 which have a baseload capability, a thermal
14 capability that customers could take
15 advantage of to make it more economic. But
16 it also has to be sized at a sufficient
17 capacity to really satisfy the need.

18 MS. BAIN: And if we're
19 talking about breaking down the need, and not
20 saying this one micro-grid is going to solve
21 this whole problem, rather a combination of
22 things, as Brooklyn and Queens had. They
23 have a micro-grid. They have battery
24 storage. They have the volt/VAR
25 optimization. They have a whole panoply of

1 things that will help to solve their problem.
2 They're not relying on one thing.

3 THE WITNESS (Bowes): And I
4 think that they have proposed all of those
5 things. I'm not sure any are operational
6 today.

7 MS. BAIN: So you've proposed
8 a micro-grid?

9 THE WITNESS (Bowes): No, you
10 just gave a list of things that someone was
11 doing as it had already been done. I believe
12 those are all still in the future and may or
13 may not be effective.

14 MS. BAIN: They are, but they
15 are proposing them and they've been accepted
16 by the public service.

17 THE WITNESS (Bowes): But
18 there's also another very interesting part of
19 that Con Ed decision. It's on page 6, and I
20 think that's another critical part here.

21 The first paragraph, the
22 company will develop backup plans which will
23 include additional utility side solutions or
24 advancement of the deferred traditional
25 utility structure -- infrastructure to meet

1 its needs in the event that the above
2 customer side nontraditional solution
3 checkpoints are not met.

4 So there's 17 megawatts of
5 traditional utility investment that Con Ed is
6 planning to make, is 80 megawatts of load
7 transfers they're planning to make in
8 addition to that. Eighty megawatts would
9 solve the problem in Greenwich for many years
10 to come. I just have no -- no place to
11 transfer that load to. That's what the
12 Greenwich substation will allow us to do, is
13 transfer about that amount of load from Cos
14 Cob to Greenwich.

15 So Con Ed has many more
16 options available to them than we do in
17 Greenwich, and they're also going to pay a
18 premium in this case for the nontraditional
19 investments of about four times the cost of
20 this project per megawatt hour, or per
21 megawatt.

22 MS. BAIN: Right, in order to
23 save money on putting in a new substation, a
24 1 billion-dollar substation.

25 THE WITNESS (Bowes): Defer,

1 not solve. It only differs it five years.

2 MS. BAIN: Right. And you
3 know, the forecast as we have seen in the
4 actual versus the forecast can be very
5 different and it can be lower. And who knows
6 in the future if more energy efficiency, et
7 cetera, who knows hypothetically if there
8 will be no need for, you know, the extra
9 piece that they're missing.

10 They may find -- get out there
11 and say, oh, wait a minute. It doesn't look
12 like we're going to need this because people
13 have lowered demand. The system, right? Is
14 changing. Right? As you say.

15 THE WITNESS (Bowes): That is
16 very true, but on the flipside I don't think
17 it would be prudent to go forward and avoid
18 all of the studies that are out there that
19 say temperatures are warming and that the
20 climate in Connecticut will continue to
21 change.

22 In fact, there are some state
23 laws now that we have to factor in changing
24 climate in Connecticut. That does not mean
25 the temperatures are going to get cooler. It

1 means the temperatures will get hotter and
2 that should also be balanced in our planning
3 assumptions as well.

4 MS. BAIN: And how perhaps --
5 I don't know if Mr. Swift would be better
6 able to answer this, but what are the
7 programs that Energize Connecticut has to
8 reduce air conditioner usage? Let's start
9 with the residential side.

10 THE WITNESS (Swift): So we'll
11 start on the residential. Our flagship
12 program, the home energy solutions program
13 offers weatherization services to all of our
14 customers including air sealing, insulation
15 as well as duct sealing, which is an
16 important component of reducing
17 air-conditioning load.

18 Through that program there are
19 rebates for high-efficiency air-conditioning
20 units, including very efficient ductless heat
21 pump units that customers can leverage to, to
22 ensure that their air-conditioning systems
23 are running efficiently and they're
24 minimizing their impact on peak load.

25 Similarly on -- for the

1 commercial and industrial programs, as Mr.
2 Bowes mentioned, there's packaged rebates
3 available for, you know, for high-efficiency
4 cooling units, whether they be, you know,
5 small commercial units or large chillers.

6 In addition there are also
7 comprehensive packages that are off -- often
8 put together for larger commercial
9 industrial -- larger commercial industrial
10 customers that would include measures
11 against -- such as cooling, but even large
12 compressor projects and lighting is good.
13 People don't associate lighting with peak,
14 but it's coincident with peak, so there's
15 also another good opportunity to reduce
16 summer peak load through essentially all of
17 our energy efficiency programs.

18 MS. BAIN: So for instance,
19 what would be your incentive for the
20 residential air-conditioning system? And
21 that would be a whole house air-conditioning.

22 THE WITNESS (Swift): A
23 central air-conditioning system, yes.

24 MS. BAIN: Versus the window
25 air conditioner?

1 THE WITNESS (Swift): Subject
2 to check, I believe it's \$250 for a
3 high-efficiency central air-conditioning
4 system.

5 MS. BAIN: And then the
6 chillers would be different?

7 THE WITNESS (Swift): They
8 vary. Those are typically custom projects,
9 so the incentive would not be a flat amount.

10 MS. BAIN: Okay. So basically
11 250 wouldn't be a big incentive for that.

12 THE WITNESS (Swift): It's not
13 a big incentive, but again the incentive is
14 designed to get people that are going to be
15 installing central air-conditioning, or
16 replacing central air-conditioning to go that
17 extra step and put in the high-efficiency
18 system.

19 MS. BAIN: Thank you. And
20 regarding your response to OCC-3, now the
21 numbers in here, the \$2 million, the 9.7 does
22 this include the circuits through this, or is
23 this just the drilling?

24 THE WITNESS (Gagnon): It's
25 talking about the directional drilling.

1 MS. BAIN: Just drilling?

2 THE WITNESS (Gagnon): That's
3 true. It includes the cost of the cable
4 itself. It's like the component piece of
5 that section of line, not only the
6 construction, but the materials for the
7 cable.

8 MS. BAIN: Does it include the
9 actual circuit line?

10 THE WITNESS (Gagnon): Yes,
11 the cable itself. Yes, it would have one
12 section.

13 MS. BAIN: It includes the
14 drilling and the circuit?

15 THE WITNESS (Gagnon): Yes.
16 We just did it by, like, a per-foot
17 calculation.

18 MS. BAIN: Plus the line,
19 going through it. Okay.

20 Response to OCC-11. Now this
21 says that about 76 percent of the 26.7-kV
22 load is serving the Western Greenwich area,
23 and that's the area that it has the capacity
24 concerns. Is that correct, Western
25 Greenwich?

1 THE WITNESS (Bowes): That's
2 where the majority of the load is, yes, or
3 the load density area.

4 MS. BAIN: So did the company
5 analyze moving the 24 percent that's not in
6 Western Greenwich to another substation?

7 THE WITNESS (Bowes): Yes, but
8 there's no other substation, except Cos Cob.
9 So it all comes back to that source, whether
10 it's the 13 kV fed out of Cos Cob or the 27
11 kV fed out of Cos Cob.

12 MS. BAIN: There's no other
13 substation that has 27 kV you're saying?

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

16 MR. ASHTON: The nearest one
17 would be to Norwalk?

18 THE WITNESS (Bowes): Yes, you
19 are correct and it's -- that would not be a
20 viable alternative of that length of
21 distribution service.

22 MS. BAIN: And what is the
23 normal substation, you're saying, that most
24 substations are not 27.6. What would be the
25 most common substation?

1 THE WITNESS (Bowes): The most
2 common new substation today is at 23 kV with
3 a high side of 115 kV. We still also have
4 13.8 kV and 13.2-kV legacies from the old
5 Hartford Electric Light Company and the old
6 Connecticut Light & Power.

7 But given the alternatives or
8 the preference, we would propose 23 kV in the
9 future if that area was served at that
10 voltage for this discussion we had this
11 morning about a higher distribution voltage
12 lowers the current, and thus the losses.

13 MS. BAIN: Regarding the
14 response to OCC-17, has the company made any
15 contact with Connecticut Natural Gas
16 regarding promoting combined heat and power?

17 THE WITNESS (Bowes): Not that
18 I am aware of, no.

19 MR. ASHTON: May I inquire as
20 to exactly what that meant, combined light
21 and power?

22 MS. BAIN: Combined heat and
23 power.

24 MR. ASHTON: I'm sorry?

25 MS. BAIN: Combined heat and

1 power.

2 MR. ASHTON: Oh, heat. So
3 this would be a small generator on somebody's
4 front porch that would provide --

5 MS. BAIN: Yeah.

6 MR. ASHTON: I can see there's
7 a red hot market.

8 THE WITNESS (Bowes): Well,
9 the more typical or traditional market is the
10 hospitals where there would be generation at
11 a hospital like Greenwich Hospital. And they
12 would use the waste heat for their own, you
13 know, internal heat and hot water needs or
14 other process needs. Most hospitals in the
15 state of Connecticut have some form of
16 generation as part of their energy mix.

17 MS. BAIN: Now looking at some
18 of the environmental issues. With the line
19 HPFF, high pressure fluid filled line,
20 through the body of water in Bruce Park, what
21 are the potential consequences from drilling
22 in there and doing horizontal drilling? What
23 are the potential consequences to the
24 ecosystem of that body of water, which I
25 believe has fish and other living beings in

1 there?

2 For instance you can talk
3 about the drilling, mudding and the slurry.

4 THE WITNESS (Libertine): This
5 is Mike Libertine. I'm not an expert
6 certainly on this particular technique, but I
7 think with any construction project of this
8 size and using some of the -- the options
9 that are on the table, there has to be great
10 care taken to ensure that things are done
11 properly and that you have contingencies in
12 place in case you do run into some technical
13 difficulties.

14 Certainly with the slurry,
15 which is going to be some type of a bentonite
16 material, that does have the potential to
17 release to the water bodies in the event of
18 some unforeseen circumstance. I know there
19 have been projects that the company has been
20 involved in and they've had good luck with
21 this particular type of operation doing the
22 directional drilling, but certainly there are
23 those risks involved with any large-scale
24 construction project.

25 I think from a standpoint of

1 the impact on the environment if there were
2 to be some type of release of the bentonite,
3 which is probably the most -- the largest
4 concern in terms of a release during
5 construction with the horizontal drilling
6 technique, that tends to be more of a
7 nuisance in the sense that it's unsightly.

8 It can be messy and take some
9 time to clean up, but in terms of long-term
10 effects, I don't believe there are
11 substantial impacts. And I'm going to
12 qualify that as long as we don't have some
13 type of a major blowout.

14 We do have some responses in
15 the interrogatory set two from the council,
16 specifically numbers 9 and 10 that speak to
17 that in more detail. And again, I'm not an
18 expert on this.

19 With respect to once it's
20 constructed we obviously have underground
21 lines that do contain fluids. It's -- it's
22 an oil. So whenever you have oil involved
23 there is the potential for leaks and
24 releases. As Mr. Gagnon had mentioned this
25 morning, there are protective measures in

1 place. It's all encased in a steel pipe.

2 There are alarm systems.

3 There are seams because you
4 have to weld the pieces together. So those
5 have to be done in a way, a proper way so
6 that you don't have the potential for a leak.
7 There will be a cathodic protection system as
8 well so we know that we're in a saline
9 environment which can enhance rusting. So
10 obviously that's something that has to be
11 taken into consideration.

12 MR. ASHTON: Mr. Libertine,
13 there are many, many pipelines that cross
14 saltwater. Aren't there?

15 THE WITNESS (Libertine): Yes,
16 there are, sir.

17 MR. ASHTON: So it's both
18 cathodic protection and the nature of the
19 coating on the pipe that offers protection.

20 THE WITNESS (Libertine): I
21 stand corrected. You're right.

22 MR. ASHTON: And the epoxy is
23 a pretty good coating. You would agree?

24 THE WITNESS (Libertine): It
25 certainly is. Again, I'm not an expert with

1 this particular technology, but certainly, as
2 I say, any construction or operation that
3 involves underground lines there's always
4 that potential. But I think in terms of its
5 design, these are -- these are done fairly
6 commonly throughout the country, so it's not
7 a unique methodology that -- that we're
8 proposing.

9 THE CHAIRMAN: Dr. Klemens I
10 think had a comment.

11 DR. KLEMENS: I just have a
12 comment or clarification for Mr. Libertine,
13 because words matter. You start off saying
14 that there's a risk associated, but we've had
15 very good luck. I don't think it's really a
16 matter of luck. Is it? Isn't it a matter of
17 diligence and your preparation?

18 THE WITNESS (Libertine): I
19 apologize if I used the word "luck."

20 DR. KLEMENS: You did and I
21 think you need to clarify that.

22 THE WITNESS (Libertine): No.
23 Thank you for catching that. No, absolutely.

24 The fact is that once -- once
25 a route is selected, really that's when

1 the -- the true engineering is going be
2 performed here. We're going on the idea that
3 we have a proposed pathway that we know needs
4 to cross two bodies of water. We've taken a
5 look at a couple of different options as to
6 how to get -- get across those bodies of
7 water. And as Dr. Klemens is suggesting we
8 will need additional information just to
9 understand exactly the depths of the water
10 table.

11 We know it's shallow. That's
12 pretty evident just from looking at the lay
13 of land out there, so we know we're going to
14 be dealing with that environment. But it's
15 going to be encased in a concrete slurry that
16 will further protect it. So yeah, the design
17 elements are going to be key in making sure
18 that we have those protective measures in
19 place.

20 THE WITNESS (Gagnon): Yeah,
21 to add to Mike. You know, as we bring out a
22 contractor to do that, we bring a contractor
23 that is specialized, and then so they have
24 the skill set. The contractor is required to
25 have an incident mitigation plan in place.

1 There's three parts to that medication plan.

2 One is they have to provide
3 documents to ensure the quality of work
4 practice, and part of that is they have
5 records of equipment and equipment
6 maintenance. They have quality materials
7 that the use. There's specifications that
8 are required. There's details of record
9 permits needed. And there's also records of
10 the personnel training.

11 Part of that plan is they have
12 to provide plans for proper setup and
13 operation, where they're going to exit and
14 enter. The proper space for consumable
15 staging materials, how they're going to set
16 up a spoils area. The poling plan, the
17 tensions as they pull on the cable. And the
18 mud slurry leak -- leak detection, they
19 require to have systems that are set up for
20 that.

21 And lastly, they provide a
22 plan for evidence of response in case there
23 is an issue. They have standby equipment on
24 site, materials such as the vac trucks,
25 holding tanks, straw -- straw hay bales and

1 they have cleanup procedures already in
2 place.

3 THE WITNESS (Libertine): The
4 only thing I would add as well is that other
5 than really the bentonite slurry -- bentonite
6 slurry this is a standard construction
7 operation. There's nothing beyond that in
8 terms of any other -- introducing any other
9 type of fluids or liquids that you would see
10 on any other construction site.

11 MS. BAIN: Regarding the
12 ongoing operation can you talk about how you
13 would handle the possibility of burn through
14 due to a cable electrical fault?

15 THE WITNESS (Gagnon): Most --
16 most faults would be internal to the cable
17 itself. You know, it would be -- the cable
18 would short against probably the casing,
19 which, you know, would be, you know, would
20 ground out against that. And the system
21 would automatically detect a fault and be
22 taken out of service.

23 THE WITNESS (Bowes): It's a
24 physical construction of the duct bank and
25 fluidized backfill that becomes almost like a

1 concrete. That's going to prevent
2 construction next to it for other utilities
3 as well in the future. They're not going to
4 be able to co-locate in proximity to the
5 steel pipe because of that concrete barrier
6 and as well as, you know, the call before you
7 dig provisions that are out there.

8 MS. BAIN: And if you do have
9 a problem in ongoing operation, how long
10 would it take to repair this type of thing?
11 And you would have to -- it would be shut
12 down, you're saying. Right? For instance of
13 burn through?

14 THE WITNESS (Gagnon): Yeah,
15 I'm aware of a pipe that was in the Boston
16 area that had recently been punctured and
17 immediately they -- they relieved pressure
18 from the pipe itself. They excavated the
19 area. They had taken some of the material
20 away because then you want to clean the area
21 up. Looked at the pipe itself. They have to
22 determine is -- was the cable damaged itself
23 or was it just the external pipe?

24 They were able to cap that
25 pipe, particularly, cap that pipe with some

1 weld and put it back. So it was probably in
2 service back within a week, week and a half.

3 MS. BAIN: Week and a half.

4 THE CHAIRMAN: Dr. Klemens has
5 a follow-up.

6 DR. KLEMENS: What happens if
7 this happens underwater? You mentioned that
8 there was earth removed and they opened it up
9 and excavated it to remove, I guess, earth
10 that was polluted in some way. What happens
11 if this happens underwater in Indian Harbor?

12 THE WITNESS (Gagnon): The
13 fault in this case, it was a puncture from a
14 contractor. That's -- of all the faults that
15 we're aware of most of them are a puncture
16 through a manmade event that occurred. A
17 natural leak from corrosion I am unaware of
18 one happening on our system to date.

19 So for underwater, if the
20 cable itself -- if the cable faulted it would
21 fault within the pipe itself and it would be
22 self contained in that pipe. It's not going
23 to go outside of that, that casing. It would
24 be -- the fault would be held within that
25 pipe.

1 DR. KLEMENS: But you would
2 have to dig up the hole. If it was submerged
3 you would have to take everything out of
4 the --

5 THE WITNESS (Gagnon): We
6 should -- we should be able to extract the
7 cables itself. Just pull the cable out.

8 DR. KLEMENS: So you could
9 pull the cable out and put it back in again
10 without having to tear up the pond again?

11 THE WITNESS (Gagnon): Correct.

12 DR. KLEMENS: Thank you.

13 MR. LYNCH: Excuse me, I'm not
14 speaking too well. Just another follow-up to
15 Dr. Klemens' question.

16 So are you saying that erosion
17 of any type could not disrupt the cable? I
18 know they have a couple of situations out
19 west that that was the case. So I just
20 figured I would ask the question.

21 THE WITNESS (Gagnon): What we
22 do is we put an extensive corrosion cathodic
23 protection in place. It starts with the
24 initial construction of the pipe itself,
25 making sure that that, the protective coating

1 on the outside of the epoxy coating is
2 sealed.

3 The weld pipe itself is then
4 sealed again. And then we put a cathodic
5 protection on it. Usually there's a
6 rectifier that's installed and it puts a --
7 embeds a current on the pipe and that
8 keeps -- it's a way of protecting the pipe.

9 And they -- they do periodic
10 tests on this protection to verify that the
11 pipe is holding up to the corrosion. As long
12 as the coating on the pipe is good they're
13 going to be -- they're going to be able to
14 see that in the test results of the cathodic
15 protection.

16 MR. LYNCH: Thank you.

17 MS. BAIN: Did you do an
18 analysis of using XLPE pipe instead of the
19 HPFF?

20 THE WITNESS (Gagnon): As we
21 said earlier, we did look at XLPE. And for
22 us it's the size of the trench and the cost
23 of the XLPE. Going with XLPE, it was more
24 expensive, \$16 million.

25 MS. BAIN: Did you include the

1 costs of the cofferdams, all of the things
2 that are associated with this particular
3 application?

4 THE WITNESS (Gagnon): Yes, we
5 did.

6 MS. BAIN: You did? And it
7 still came out to be more expensive? And the
8 cost of maintenance going forward, a higher
9 cost of maintenance on the HPFF going
10 forward. Did you include all that when you
11 looked at it?

12 THE WITNESS (Bowes): So the
13 construction technique, either HDD or open
14 trench with a cofferdam would be the same or
15 very similar whether it was XLPE or HPFF. So
16 those costs would be, and difficulties would
17 be about the same.

18 MS. BAIN: But you wouldn't
19 need the pressurizing stations. Right?

20 THE WITNESS (Bowes): So there
21 would be some difference in equipment at the
22 Greenwich substation for the pumphouse or
23 pressurization house. The lifecycle costs
24 are, I think, as part of the administrative
25 notice of this docket as well, so there's

1 very good detail in the Siting Council's
2 lifecycle costs around HPFF versus XLPE. And
3 I think that they are comparable, if my
4 memory serves me?

5 THE WITNESS (Gagnon): Yeah,
6 if you go back between different years,
7 there's a little -- they're very comparable.
8 Different years -- I think there was actually
9 different conclusions about which ones cost
10 more. And a lot of it has to do with the
11 construction of the trench itself. That's
12 where the cost concern is. How -- how much
13 material are you excavating? And it has to
14 do with the capacity of the cable predicts
15 the design of the trench.

16 MS. BAIN: Regarding the
17 geologic features of Bruce Park you mentioned
18 that you might have to use blasting in the
19 area. And tell us what would be the impact
20 of blasting on the park ecosystem and on the
21 Kinsman Lane residences?

22 THE WITNESS (Gagnon): I think
23 we've always put out there blasting would be
24 the last resort. We're going try to use
25 pneumatic cameras. We'll try to do maybe

1 even the expanding grout option. But if it
2 comes to it, we would do some blasting.

3 And that they would do a --
4 there's a lot of new blasting techniques out
5 there that allow it to be less intrusive and
6 it's the way they design the explosive
7 charges in certain patterns. They can
8 control it. They have ways to control that.

9 I'm not the expert in that,
10 but we do hire blasting contractors that have
11 that capability.

12 THE WITNESS (Bowes): Just to
13 back up to the previous question. The
14 lifecycle costs are included on table ES-3.
15 And they show the 115-kV XLPE has a total
16 lifecycle cost, again single circuit, of
17 31,835,000. And the 115-kV HPF has a total
18 lifecycle cost of 25,444,000. So a sizable
19 difference in lifecycle costs as well.

20 MS. BAIN: So back to the
21 blasting. Would you ever have to use
22 blasting in the body of water in Bruce Park?
23 Possibly, is that a possibility that you
24 might have to?

25 THE WITNESS (Gagnon): We're

1 not anticipating. When we did the soil
2 borings there were silt, layers of silt
3 that -- I'm recalling the application,
4 there's two layers of a type of silt and were
5 able to use -- it was the depth, the depth of
6 the silt, it was large enough or deep enough
7 for us to do the work and we didn't have to
8 go further.

9 MS. BAIN: So you feel it
10 would be within that silt level it should be
11 operating?

12 THE WITNESS (Libertine): If
13 we were going with the open trench option.

14 THE WITNESS (Gagnon):
15 Correct, open trench option.

16 MS. BAIN: Has the company
17 received any communications from DOT
18 regarding it's position on the proposed
19 route?

20 THE WITNESS (Gagnon): They
21 have not. They have not provided any
22 preference of any of the routes through the
23 Bruce Park route, other than just telling us
24 they didn't want us to be on their -- next to
25 their -- longitudinally built next to their

1 highway, the railroad.

2 MS. BAIN: Could you file a
3 copy of any letter you got from them
4 regarding that?

5 THE WITNESS (Gagnon): It's in
6 the application.

7 THE WITNESS (Libertine): It's
8 in the application.

9 MS. BAIN: It's in the
10 application. What's the date of the letter?

11 THE WITNESS (Libertine):
12 January 23, 2015, and that's
13 appendix E.

14 MS. BAIN: Thank you. Okay.
15 The application on page E-3 mentions the 2014
16 integrated resources plan. And I believe
17 it's also in the administrative notice
18 section, but the plan classifies the
19 Greenwich, the planned Greenwich project as a
20 category C project. And under category C it
21 means that under certain circumstances
22 requests for proposals, RFPs may be
23 applicable for soliciting non-transmission
24 alternatives.

25 Did CL&P issue RFPs to solicit

1 non-transmission alternatives for the
2 Greenwich Cos Cob project?

3 THE WITNESS (Bowes): We did
4 not issue an RFP, and I believe that's a
5 leftover from the Connecticut energy advisory
6 board process. I'm not sure it's still in
7 effect.

8 MS. BAIN: It's in the 2014
9 integrated resources plan.

10 Now we talked a little bit
11 about this before, but just to clarify
12 completely, did the company consider using a
13 mix of alternatives to solve the capacity
14 issue or solve a portion of it with each
15 measure in the mix contributing a piece to
16 the total solution? Did you actually write
17 up a plan like that or did you give that
18 serious consideration in some way?

19 THE WITNESS (Bowes): I would
20 say for the last four plus years we've looked
21 at various alternatives including the
22 distribution improvements we've made in more
23 than, I guess, more than a dozen now. We
24 looked at the Solarize Connecticut program.
25 We looked at energy efficiency, but we did

1 not issue a comprehensive RFP to satisfy this
2 need.

3 MR. LYNCH: Excuse me, Mr.
4 Bowes. After I do what Mr. Caron says about
5 volume levels, I can't hear what you're
6 saying.

7 THE WITNESS (Bowes): I'm
8 sorry. I will speak up.

9 MR. LYNCH: Please.

10 MS. BAIN: Okay. So did you
11 write up a plan that has this, you know,
12 alternative would save us 5 percent, this one
13 would get us 10? You know, using a mix of
14 solutions, did you ever do that?

15 THE WITNESS (Bowes): Other
16 than what's the non-transmission alternatives
17 in the application, we did not.

18 MS. BAIN: No? Okay. And has
19 the company ever considered having a major
20 promotional campaign for energy efficiency
21 and demand reduction measures with the Town
22 of Greenwich participating?

23 THE WITNESS (Swift): I think
24 there, there was one of the OCC responses
25 that illustrates, you know, a lot of the

1 outreach efforts that we -- we've made to
2 Greenwich.

3 But in addition to that,
4 Greenwich has signed the clean energy
5 communities pledge which essentially gives
6 the Town a couple things. It's a pledge for
7 the Town to conserve a certain amount of
8 energy, but it also typically mobilizes local
9 taskforces to encourage both residential and
10 commercial customers to participate in energy
11 efficiency.

12 So I think, you know, through
13 our traditional channels plus layer on top of
14 the fact that Greenwich is a member of the
15 clean energy communities, I think we've -- we
16 certainly haven't ignored Greenwich and I
17 think we're very active and proactive in
18 terms of promoting energy efficiency to all
19 the customers in Greenwich.

20 MS. BAIN: Did you ever
21 really, though, contact them and say, listen.
22 It looks like people in your town are not
23 thrilled about this plan and let's have a big
24 push on energy efficiency?

25 THE WITNESS (Swift): There

1 certainly have been messages about promoting
2 energy efficiency. I can't speak to whether
3 those messages have been linked specifically
4 to the proposed project.

5 MS. BAIN: Then thank you.

6 Regarding the Docket Number 435 which is the
7 Stamford project, this was administratively
8 noticed and I have copies of this. I'm just
9 going to read a little piece. If anybody
10 wants to read and follow along, it's just a
11 couple of sentences I wanted to read. I have
12 copies if anybody wants it -- or I'll just
13 read.

14 Now this -- and I just want to
15 look at the second paragraph and it's item
16 number one. It says -- the first sentence,
17 it says the cost of the proposed project is
18 extremely high, approximately \$5800 per foot.

19 Then the second paragraph of
20 item number one says, to our mind 5800 per
21 foot is extremely disturbing. Although it
22 can pass judgment on project need and
23 environmental effect, the Siting Council has
24 negligible authority to evaluate and regulate
25 project costs. The applicant made a case

1 under inquiry that this is a realistic cost
2 figure.

3 That may be, but we are
4 concerned that what is needed is a thorough
5 and intense review by this applicant, parens,
6 and any other in a comparable position, end
7 parens, as to how to drive down these costs.

8 Then the last sentence of that
9 paragraph says, out-of-the-box thinking is
10 critical for cost management. Subsequent
11 projects must, all caps, pay greater
12 attention to capital and operating costs if
13 electrical energy costs are to be held in
14 check. In short, do a better job for less.

15 Can you tell us how you did
16 out-of-the-box thinking? Give us -- on this
17 project in order to keep in mind the high
18 cost and keep it down.

19 THE WITNESS (Gagnon): First
20 of all, that was the Stamford reliability
21 cable project. And it actually came in
22 \$10 million less than what we had originally
23 budgeted for.

24 A VOICE: Louder please.

25 MS. BAIN: I'm sorry. Can't

1 hear you.

2 THE WITNESS (Gagnon): That
3 was the Stamford reliability project. That
4 project actually came in \$10 million less
5 than what we had put in the application as
6 the cost estimate.

7 So -- and we looked at that
8 project and we looked at the results of it
9 and that was the forefront of our minds as we
10 begin to design this project. And therefore,
11 we spent a lot of time looking at the
12 alternative types of designs to go with this,
13 the Greenwich project.

14 We looked at an XLPE, trying
15 to put that into the ground and trying to
16 move that forward. And the cost of that was
17 just prohibitive. So we ended up going with
18 the HPFF cable design saving \$12 million in
19 the design itself. Even though the project
20 is \$140 million we feel that we've squeezed
21 out quite a bit and learned quite a bit from
22 the Stamford project in coming up with this
23 design.

24 MS. BAIN: So I mean, can you
25 give me one example, to say, and not to use

1 XLPE?

2 THE WITNESS (Gagnon): We
3 used -- correct. We went with the HPFF
4 cable. That's -- that's one example that we
5 did.

6 Stamford was a little bit
7 different. It was a line that we were -- it
8 was a reliability project for the
9 transmission itself. So that was just a
10 small upgrade to the terminal structures at
11 both ends of the substations. And so the
12 majority of the cost itself was the cable.

13 In this project a big portion
14 of the -- the cost is the length of the cable
15 in the ground, the substation itself at
16 Greenwich, and there's a piece at Cos Cob.
17 And we did look at the designs on both those
18 locations and we tried to minimize the cost.
19 We went in with a very narrow or light
20 construction building at the -- the Greenwich
21 substation.

22 Consultation with the Town.
23 We were trying to -- trying to give them what
24 they were looking for in terms of the
25 aesthetics. We wanted to do it in a

1 cost-conscious way, so we started using
2 concrete panels trying to keep that cost
3 down.

4 So we did look at the
5 different components and as part of that we
6 did design the systems trying to be the most
7 cost effective as we can.

8 A VOICE: Louder please.

9 MS. BAIN: That's it for us.

10 MS. BIDRA: Thank you.

11 MR. ASHTON: I must say the
12 author of that opinion was quite articulate,
13 but I think the logic also applies in this
14 docket.

15 THE CHAIRMAN: Mr. Mercier has
16 a follow-up.

17 MR. MERCIER: Another quick
18 question regarding the possibility of
19 blasting along the route maybe in front of
20 someone's home. Is it typical that pre-blast
21 surveys are done in this type of work,
22 pre-blast surveys of someone's foundation or
23 a residence?

24 THE WITNESS (Gagnon): Yes, we
25 do. And we typically will put seismic

1 equipment out there to measure, to verify
2 that we're -- we're under a certain impact
3 blast propagation. So they -- they do -- the
4 blasters do that as part of their plan, yes.

5 MR. MERCIER: Is there a
6 mechanism in place so if a resident has a
7 claim that damage was done due to blasting
8 does Eversource have a mechanism in place?
9 Or does that go through the subcontractor
10 level?

11 THE WITNESS (Gagnon): It
12 would -- well, they definitely would contact
13 the project -- we'll have a project contact
14 person available for this project that the
15 homeowner could contact, homeowner or
16 business owners could contact. That would be
17 first approach, contacting them.

18 If we felt that the contractor
19 did something beyond what was beyond their
20 plan, their initial plan, and it was -- it
21 was their issue, then we would probably ask
22 the contractor to look at that, but we would
23 be the first point of contact of where to go
24 to.

25 MR. MERCIER: Okay. Thank

1 you.

2 THE CHAIRMAN: The next for
3 cross-examination Parker Stacy.

4 MR. STACY: Mr. Stein, Ms.
5 Bachman, members of the Siting Council, this
6 is a first for me in terms of the fairly
7 daunting theater here. So please bear with
8 me and help me along if I'm not within the
9 confines of your protocols, whatever they may
10 be.

11 On September 21st I filed a
12 letter to the Siting Council and copied
13 everyone on the list that they gave me at the
14 time. And my question for Eversource is, has
15 there been any response or any consideration
16 given to the points that I made in my letter?

17 MS. DUBUQUE: Mr. Chairman,
18 can we go off the record for a moment.

19 THE CHAIRMAN: Yes, one
20 moment.

21 (Whereupon, a recess was taken
22 from 3:51 p.m. to 3:55 p.m.)

23 THE CHAIRMAN: Okay. I'm
24 ready, ready for your response.

25 THE WITNESS (Libertine): I'll

1 take -- I think Mr. Stacy brought up the
2 question of the park and more or less the
3 surface and subsurface water conditions. And
4 he brings of a very interesting point as to
5 my perspective in that this is an
6 historically developed park and during some
7 of the excavations that were done on his
8 property for a septic system installation
9 they found some old drains there, which is
10 probably not surprising if you live anywhere
11 in New England.

12 So the short answer is I'm not
13 sure we know everything, or know -- or will
14 we know everything about what's going on
15 underneath the areas we're going to excavate
16 until we do a little more work. We have done
17 some substantial test boring work up to this
18 point, so we know the underlying soils there.
19 It's mostly sand and gravel.

20 Mr. Stacy did provide some
21 photographs after the most recent large rain
22 event we had back in September. There was
23 standing water, which again, should not
24 surprise any of us. There's fairly shallow
25 groundwater out there. We don't have -- we

1 have surface water throughout the park. So
2 we fully anticipate that we're going to be
3 dealing with water both during construction
4 and once the line is installed if we go
5 through the park.

6 So the questions that he
7 raised are, both in terms of could we create
8 a problem that could create additional
9 surface water inundation out there with the
10 installation of this trench and then the
11 concrete casing that will hold the lines?
12 And I think one of the things from my
13 perspective as we look at this, is that we're
14 going to have the line insulation, but around
15 that is going to be material that's
16 backfilled that's very similar to what is out
17 there today. We're going to have some form
18 of sand and gravel.

19 So in terms of altering the
20 flow that -- the flows that are happening
21 today on the park property, the gradient is
22 such it's fairly level out there, but the
23 groundwater is likely to flow towards Indian
24 Harbor, which then ebbs and flows with the
25 tides.

1 So I think if anything in
2 terms of the groundwater at the site once
3 we're installed there's a potential we could
4 be creating somewhat of a preferential
5 pathway along our route just in the sense
6 that once water infiltrates into that trench
7 it's probably going to follow along that
8 trench line and will be allowed flow
9 essentially like it does today, with the
10 exception there will be a, for the lack of a
11 better term, a "rectangular box" there that
12 will be in some way, shape or form
13 influencing groundwater and how it moves
14 relative to how it does today.

15 The other point that he did
16 bring up was he had some concerns about the
17 statements that were made about affecting the
18 flood storage capacity at the park. And our
19 answer was talking more or less about just
20 that flood storage capacity. And the fact is
21 that because we're not having above-ground
22 structures we're not going to be altering
23 that in any way.

24 And I believe, and again what
25 we're installing is not going to have a

1 substantive effect of conditions as they
2 really occur today. Certainly it's not going
3 to be an effect where we're going to be
4 impacting residential properties or anything
5 along those -- along those lines. Where we
6 are in that part of the park it's fairly --
7 we know it's fairly shallow bedrock in some
8 portions.

9 And then once we get into the,
10 what I'll call the park proper out by the
11 ball field and get in closer to lakes we
12 know, that it starts to transition more into
13 a alluvial soil type.

14 So I think at that point we
15 really don't have significant concerns. But
16 again, we need to do a little bit of
17 additional work to really understand how
18 water is flowing out there along the -- the
19 pathway that we're ultimately going to be
20 building on.

21 THE CHAIRMAN: Thank you.

22 MR. STACY: And my actual
23 question, Mr. Libertine, was, has anybody
24 addressed the points that I made in my letter
25 to now? Has anybody given consideration to

1 the points that I made and submitted some
2 kind of a response? Or is what you just
3 said, is that your response right now?

4 THE WITNESS (Libertine):

5 That's certainly my response.
6 I'm not sure if there's been anything formal.
7 I have not seen anything formal come back
8 based on what you had -- had submitted.

9 MR. STACY: So in Mr. Ashton's
10 words, a yes or no, and that would be no.

11 MS. DUBUQUE: Mr. Chairman,
12 may I just interrupt? There were no
13 interrogatories addressed to us, so there was
14 nothing for us to respond to.

15 MR. STACY: Right. And I'm
16 only asking whether any consideration was
17 given to the points that I made in my letter
18 up until now, and you have answered them here
19 and now and that's it. Right?

20 THE WITNESS (Libertine): Yes,
21 sir.

22 MR. STACY: So until now the
23 answer is no. Right now it's from you.

24 THE CHAIRMAN: Well, they do
25 the answer. You do the questioning. You can

1 interpret it anyway you want, but you've
2 gotten your answer at this point.

3 MR. STACY: I'd like to expand
4 on the point that you were interpreting, Mr.
5 Libertine. The main contention that I have,
6 and with respect to my septic system, is that
7 after the septic system was installed, and
8 unknowingly it interdicted some existing
9 water flow patterns. But that was not known
10 at the time because all the testing that they
11 did -- and they did some testing -- didn't
12 show anything of the kind.

13 And it took some several years
14 for the actual new pattern of flow to create
15 and manifest itself. However that happened,
16 I'm not an expert in this stuff. And my real
17 question to Eversource is, how can you
18 determine the unknown, and in my view so far,
19 my experience, unknowable changes in patterns
20 that might occur based on these ancient
21 drains and patterns, and as you say, all over
22 New England, but I'm only concerned with
23 Bruce Park?

24 THE WITNESS (Libertine): All
25 I can offer today is similar to your

1 situation. If in fact this line were
2 installed and there were some unforeseen
3 events after the fact, in terms of what
4 seemed to be a pretty good fix at your
5 property in terms of putting the curtain
6 drains and that, that's essentially what's
7 going to be surrounding this particular
8 installation. We don't call it that, but
9 it's essentially the same type of material.

10 So it's impossible for us to
11 predict, obviously, but I know we, obviously
12 Eversource would be committed to fixing a
13 problem if it were to arise. I don't foresee
14 that. I think there's, between what we have
15 today and the information that would have to
16 be obtained prior to construction and then
17 even during construction, and what we're
18 seeing, that could certainly be mitigated, or
19 at least minimized. Maybe not fully
20 mitigated until, like as you say, if
21 something pops up two or three years later.
22 I think that's going to be something that we
23 would just have to -- we have to deal with.

24 THE CHAIRMAN: Dr. Klemens I
25 think has a follow up.

1 DR. KLEMENS: Are you saying
2 that these trenches, when you trench it
3 they're going to act sort of like French
4 drains and the trenching itself is going to
5 be a water collector that's going to actually
6 move along that trench, those trenches?

7 THE WITNESS (Libertine):

8 It certainly is conceivable in
9 some areas just because of the depth of the
10 groundwater being so shallow. I've only seen
11 some of the borings and we certainly don't
12 have extensive borings along the entire line
13 that goes through the park. We have every 60
14 or 70 feet. So we have some ideas as where
15 it transactions from bedrock into a more
16 appropriate soil type.

17 So yeah, essentially the way
18 they're constructed there's a good chance
19 that we're going to be intercepting some
20 groundwater, certainly during high
21 groundwater periods.

22 DR. KLEMENS: And is that a
23 bad or a good thing? Or an indifferent
24 thing?

25 THE WITNESS (Libertine): I'm

1 not necessarily sure it's a bad thing.
2 Groundwater ultimately is flowing towards the
3 bay. And so again, I mentioned earlier that
4 we may create a situation where there's a bit
5 of a preferential pathway that maybe
6 accelerates that certain times of the year or
7 certain events. I don't see it necessarily
8 as a bad thing.

9 THE CHAIRMAN: Mr. Hannon.

10 MR. HANNON: And to follow up
11 on Dr. Klemens, I'm assuming that when --
12 well, if this goes forward I'm assuming that
13 the design is going to take slopes into
14 consideration so that you are not creating
15 problems elsewhere, and that the water will
16 continue to flow down towards Indian Harbor?

17 THE WITNESS (Libertine): That
18 would be the goal, absolutely.

19 MR. HANNON: Thank you.

20 MR. STACY: I guess from my
21 perspective, and included in my letter, is
22 the unknowable element of this is such that
23 all of your planning, all of our planning on
24 my little piece of land there could not
25 foresee what would happen several years later

1 and that a project of this size and of this
2 nature could have unforeseeable consequences
3 down the line timewise and for the park
4 itself and other residents that might not
5 even show up at your line, along your line.

6 And so from that point of view
7 I believe that I have indicated that unless
8 these things can become knowable, that in my
9 view the line should not be located at Bruce
10 Park.

11 THE CHAIRMAN: Well, let me
12 just say a couple of things just on process.
13 First of all, at this stage we don't even
14 know -- there are a lot of ifs. One, if
15 something is going to be approved, and as I'm
16 sure you're aware, there are a number of
17 options as to how or where a line -- and
18 we've even added another option in discussion
19 today. So we don't even have those facts
20 yet.

21 If and when -- and again, I'm
22 stressing the word "if" -- this project is
23 approved with an approved location of
24 whatever it is of where the line is going to
25 go, at that point the applicant -- again, I'm

1 using the word "if" -- will be required to
2 provide, we call it a D and M plan, a much
3 more detailed plan with presumably many more
4 soil borings and other, whatever it's called,
5 geologic, and other kinds of investigation
6 and that also has to go through the Council.

7 So the short answer to your
8 question is, yes, there are a lot of
9 unforeseen, but there will be presumably a
10 lot fewer, a lot fewer once all these
11 determinations are made if they're made.

12 MR. STACY: Thank you.

13 THE CHAIRMAN: Dr. Klemens.

14 DR. KLEMENS: In this
15 discussion something occurred to me also in
16 talking. You earlier asked the applicant to
17 prepare some analysis of potential of an
18 overhead powerline going through Bruce Park.
19 And in this discussion it occurred to me that
20 that might also -- something else you may
21 want to look at and include in the analysis
22 is, I believe that some of those footings are
23 going to be in a flood layer or a floodplain.

24 So I think that needs to also
25 be part of the picture. When we look at it

1 we should look at that, too. I mean, we
2 should be cognizant of that.

3 MR. STACY: The only other
4 point I want to make, which Mr. Libertine has
5 more or less made for me, is that I took the
6 two photographs that you have -- you all
7 have, I believe -- the day after the day it
8 rained. This followed a 30-day dry spell,
9 one of the driest periods that I've ever
10 experienced in that area.

11 And so that groundwater, and I
12 believe you said, we know there's groundwater
13 and there's standing water in Bruce Park.
14 For there to be standing water in Bruce Park
15 under those conditions with the porous soil
16 that you've talked about seems to me that
17 there's a lot of undiscovered water
18 conditions there.

19 And I would urge that the
20 Siting Council would make sure that you all
21 have done your homework upside and down so
22 that we don't end up ten years from now with
23 a big mess on our hands.

24 THE CHAIRMAN: Okay. Thank
25 you very much.

1 Representatives of Pet Pantry,
2 please.

3 MR. MARCUS: Edward Marcus and
4 Mark Bergamo of the Marcus Law Firm on behalf
5 of Pet Pantry. I'm ready any time.

6 Now we can agree that the use
7 of 290 Railroad Avenue is an integral part of
8 the original plan that was submitted. Is
9 that correct?

10 THE WITNESS (Bowes): It's the
11 proposed substation site, yes.

12 MR. MARCUS: Right. And can
13 we also agree that that property has been
14 occupied by Pet Pantry for 40-some odd years?

15 THE WITNESS (Bowes): I
16 believe that's correct.

17 MR. MARCUS: Okay. And if
18 your proposal that includes 290 Railroad
19 Avenue were to be approved Pet Pantry would
20 be evicted, or asked to leave. Is that
21 correct?

22 MS. DUBUQUE: I'm going to
23 object to that question because that's the
24 relationship between private parties that are
25 not -- that's not an issue before the Siting

1 Council right now. And the use of the word
2 "eviction," I don't --

3 MR. MARCUS: Well, required to
4 leave. I'll correct it.

5 THE CHAIRMAN: I think there's
6 a way you can answer that, because it is
7 pretty obvious what the answer is without
8 using those terms.

9 So will the building be able
10 to hold both Pet Pantry and your facility?

11 THE WITNESS (Bowes): No, it
12 will not.

13 MR. MARCUS: Now does
14 Eversource own 290 Railroad Avenue?

15 THE WITNESS (Bowes): We do
16 not.

17 MR. MARCUS: Okay. Is there
18 any guarantee that you will ever own 290
19 Railroad Avenue?

20 THE WITNESS (Bowes): If it
21 becomes a substation, then the answer would
22 be yes.

23 MR. MARCUS: Well, can you
24 elaborate on that answer? Because looking at
25 the leases I have I don't see where there's a

1 guarantee. You have an option to negotiate.
2 No guarantee that you'll arrive at a price.
3 Is there?

4 THE WITNESS (Bowes): I have
5 not seen the lease.

6 MR. MARCUS: You have not seen
7 the lease.

8 MR. LYNCH: Again, Mr. Bowes,
9 could you please speak up. I know I'm going
10 deaf anyhow, but --

11 THE WITNESS (Bowes): I have
12 not seen the lease.

13 MR. MARCUS: But isn't this
14 crucial to your initial proposal? You've
15 submitted a proposal to the Siting Council.
16 Thousands upon thousands of dollars have been
17 expended by your firm, or rather the
18 Eversource, by legal firms involved in this
19 matter. A great deal of time has been spent
20 and you could not in good conscience today
21 tell the Siting Council that you have any
22 guarantee of owning that property. Is that
23 correct?

24 MS. DUBUQUE: I'm going to
25 object to the characterization about the good

1 conscience and what the lease says and what
2 it doesn't say.

3 MR. MARCUS: I'll delete the
4 word "good conscience." I'll delete the
5 words.

6 THE CHAIRMAN: I'm not sure
7 this is even before the Siting Council.

8 MS. DUBUQUE: It's irrelevant
9 to the Siting Council's decision.

10 MR. MARCUS: Of course it's
11 relevant. If you don't own the property then
12 how can you come in with this proposal. And
13 if you don't have any showing of a right to
14 own it, how can you come in with a proposal?

15 THE CHAIRMAN: I'm going to
16 ask our staff attorney to respond.

17 MS. BACHMAN: Under
18 Connecticut general statutes 16-50P
19 subsection G, it states that the Council may
20 not take into account whether or not they
21 actually own a property or have rights to the
22 property, because it's really outside of our
23 charge to balance the need for the project
24 with the environmental impact.

25 Any ownership rights, lease

1 rights or any other property rights are
2 between the actual property owner and the
3 applicant who may become a certificate holder
4 or may not. So hence, that's why we don't
5 take that into consideration.

6 MR. MARCUS: Well, just may I
7 inquire of Counsel, what you're really saying
8 is that someone could come before the Siting
9 Council with an application and have
10 absolutely no right to the property that they
11 allege they're going to be utilizing?

12 MS. BACHMAN: That's correct.
13 It happens all the time particularly with our
14 cell tower applications.

15 MR. MARCUS: Okay. All right.
16 The point has been made. I'll move on.
17 Okay. I propose to go through the Pet Pantry
18 interrogatories, not through all of them, but
19 starting with page 1 just to make sure that
20 we're all, so to speak, on the same page.

21 And the question was, just to
22 be certain that we're starting off in the
23 right direction, are there any studies as to
24 the impact of lack of parking due to the
25 trenching and laying of lines in the

1 Greenwich area? Is that what everyone has
2 before them?

3 THE WITNESS (Bowes): Yes, it
4 is.

5 MR. MARCUS: Okay. And your
6 response was that you just haven't conducted
7 a study. And my question would be, what good
8 is a study after the fact? And you're saying
9 a parking plan will be conducted if the
10 Siting Council approves the project.

11 THE WITNESS (Gagnon): Well,
12 right now we -- we put a couple alternative
13 routes into -- as part of our application.
14 We don't know the exact route, so we're
15 trying to -- we're going to wait for exact
16 route to understand where we're going to be
17 looking.

18 MR. MARCUS: Okay. So at this
19 point let's say that's the first question
20 where there's no study, and I think we'll
21 find about eight more as we go forward.

22 If you now look at the next
23 question and that was, has Eversource
24 received any permission or authorization from
25 either the federal or state government for

1 the construction or laying of lines, or by
2 I-95 Highway in Greenwich. The answer is no
3 as it relates to this project.

4 So the question would be when
5 do you intend to seek such authorization?

6 THE WITNESS (Gagnon): Once a
7 route is --

8 MR. MARCUS: And can we get an
9 answer without counsel indicating to you what
10 it might be?

11 THE CHAIRMAN: Sir, they're
12 allowed to talk amongst themselves.
13 Obviously I'm hopeful that we're not going to
14 have to answer all 51 questions this way, so
15 let's keep moving.

16 THE WITNESS (Gagnon): We
17 haven't determined a route yet, or it hasn't
18 been determined.

19 MR. ASHTON: Keep your voice
20 up, Mr. Gagnon.

21 THE WITNESS (Gagnon): Oh, I'm
22 sorry.

23 MR. MARCUS: I'm not certain
24 that I understand it. You submitted a plan.
25 Correct?

1 THE WITNESS (Gagnon): Yes.

2 MR. MARCUS: And you submitted
3 an alternative plan. Am I right?

4 THE WITNESS (Gagnon): We
5 submit -- we submitted three alternative
6 routes and a couple variations to some of
7 those routes.

8 MR. MARCUS: Okay. But --

9 THE WITNESS (Bowes): So maybe
10 I could help.

11 MR. MARCUS: Okay. Sure.

12 THE WITNESS (Bowes): Until a,
13 you know, a specific location for road
14 crossing, rial crossing is established
15 through the Siting Council process we can't
16 ask the state or federal government for a
17 permit that doesn't specify the exact
18 locations.

19 MR. MARCUS: Okay. So at this
20 point we don't know whether or not such a
21 permit would be granted. Is that a fair
22 statement?

23 THE WITNESS (Gardell): We --
24 we have had conversations with CDOT. They've
25 seen all of our plans and we've taken into

1 account some of their concerns already on the
2 alternatives, all the alternatives that are
3 presented in our application.

4 MR. MARCUS: But you don't
5 know as a matter of fact that it would be
6 granted. Correct? Is that right?

7 THE WITNESS (Bowes): That's
8 correct.

9 THE WITNESS (Gardell): We do
10 not have permission as of yet.

11 MR. MARCUS: Okay. If you
12 look at question number three, the matter of
13 the width of the trenches. And when I look
14 at your response and I do the arithmetic it
15 comes to about 75 feet in width. It's almost
16 the size of a city block. Is that a correct
17 interpretation?

18 THE WITNESS (Gagnon): Of the
19 trench? No.

20 MR. MARCUS: Well, you're
21 showing area -- you're showing a trench of
22 4.5.

23 THE WITNESS (Gagnon): That's
24 the width.

25 MR. MARCUS: Right. Area

1 affected, 25 feet wide.

2 THE WITNESS (Gagnon): That's
3 the area of meeting the vehicles, trucks to
4 do the trenching work.

5 MR. MARCUS: Okay. Total
6 width of work zone is about 20 feet. And
7 then the area required for construction is
8 30 feet. Is my addition incorrect?

9 THE WITNESS (Libertine):
10 That's not a cumulative
11 number. I think that may be part of the
12 confusion. The 75 feet that you've
13 referenced is for a safety zone for
14 construction. And that 20 feet is the actual
15 work zone.

16 MR. MARCUS: Okay. During the
17 course of construction it would actually be
18 75 feet. Is that correct?

19 THE WITNESS (Libertine): For
20 protection for temporary construction, yes.

21 MR. MARCUS: Right. So my
22 addition isn't wrong. It's only during the
23 construction period. Right?

24 THE WITNESS (Libertine): I'm
25 sorry. I thought you were adding those.

1 THE WITNESS (Bowes): Each --
2 each question has an independent answer, not
3 a connected answer.

4 MR. MARCUS: Right. But if
5 you add them up?

6 THE WITNESS (Bowes): You
7 don't add them.

8 MR. MARCUS: You ultimately
9 add them up for construction.

10 THE WITNESS (Bowes): You do
11 not add them up. Each is a separate
12 response.

13 MR. MARCUS: Do you add them
14 up for construction purposes?

15 THE WITNESS (Bowes): No.

16 MR. MARCUS: Okay. What would
17 the width be during the term of construction?

18 THE WITNESS (Bowes): Depends
19 on which part of the construction process
20 you're asking. And we've gone through each
21 step A through E. Do you want to know just
22 about the trench width itself?

23 MR. MARCUS: Well, what's the
24 largest width that would exist during the
25 construction period?

1 THE WITNESS (Bowes): I think
2 30 feet would be the largest width based upon
3 response to question E.

4 MR. MARCUS: How do you get to
5 30 feet looking at your response? Just
6 explain it to me.

7 THE WITNESS (Gagnon): I think
8 what there -- it's trying to explain is
9 you've got this -- if can picture a trench
10 width of five feet. Let's use five feet.
11 And then there's a working zone next to that
12 trench where you're going to have the
13 vehicles, so that's an extra amount.

14 MR. MARCUS: Right. How much
15 is the extra amount?

16 THE WITNESS (Gagnon): Well,
17 in here we talked about a work area
18 construction of 25 feet. Then you have a
19 safety zone that you want to protect the
20 crews. This is a -- you're in traffic.

21 MR. MARCUS: No, I understand.

22 THE WITNESS (Gagnon): So you
23 have this area encompassing all of that that
24 is a safety zone. So it's a little bit
25 beyond where the vehicles are and it's a

1 little bit on the other side of the trench
2 where there's -- no vehicles are. There will
3 be cones set up.

4 MR. MARCUS: I understand.
5 Just tell me the total width during
6 construction.

7 THE WITNESS (Gagnon): Yeah,
8 we've used approximately 30 feet.

9 MR. MARCUS: Total?

10 THE WITNESS (Gagnon): Total.

11 MR. MARCUS: Okay. And if you
12 have 30 feet width and you're working on a
13 road, how would vehicles get by?

14 THE WITNESS (Gagnon): I have
15 to know the size of the road, but we do
16 have -- we do set up a -- we do set up
17 traffic plans with the town. We get together
18 and understand how to move traffic around a
19 work zone. And we want to make sure it's
20 done in a way that protects the crews on the
21 site.

22 MR. MARCUS: Have you done
23 that as of yet?

24 THE WITNESS (Gagnon): No, the
25 detailed traffic plans aren't done yet.

1 MR. MARCUS: Okay. And we had
2 asked a question about decibel levels of
3 construction sites, sounds caused by
4 construction and the like. Your answer were
5 that no studies were performed for the
6 potential construction site. When would that
7 study be taken?

8 THE WITNESS (Gagnon): Well,
9 sound studies of the actual construction we
10 would probably not be doing, as it is exempt.

11 MR. MARCUS: Would not be
12 doing?

13 THE WITNESS (Gagnon): Because
14 it's exempt.

15 MR. MARCUS: Well, aren't
16 there ordinances that relate to decibel
17 levels?

18 THE WITNESS (Gagnon): That's
19 for operation of the equipment, operation of
20 the facilities.

21 MR. MARCUS: Operation of the
22 facility and also any blasting construction
23 work that you do?

24 THE WITNESS (Gagnon): During
25 the construction period, my understanding is

1 it's exempt.

2 MR. MARCUS: I'm sorry. I
3 didn't understand?

4 THE WITNESS (Gagnon): During
5 construction, the construction noise, my
6 understanding, is exempt.

7 MR. MARCUS: Have you checked
8 with the Town as to that?

9 THE WITNESS (Libertine): The
10 only -- Mr. Gagnon is correct in the sense
11 that the decibel levels are exempt during
12 construction. There are time constraints as
13 to when you can do the construction, but this
14 is like any other construction along that
15 road for a new building.

16 MR. MARCUS: Now you've
17 testified today, I believe, that you have yet
18 to engage any contractors for this project.
19 Is that correct?

20 THE WITNESS (Gagnon): Well,
21 other than engineering contractors.

22 MR. MARCUS: Okay. But have
23 you predicted how long it will take to
24 complete the project?

25 THE WITNESS (Gagnon): There

1 is a schedule in the application.

2 MR. MARCUS: Okay. And what
3 does that say?

4 THE WITNESS (Gagnon): That
5 says 19 months for the entire project.

6 MR. MARCUS: And what do you
7 base that on?

8 THE WITNESS (Gagnon): Past
9 experience on other projects that we had
10 done.

11 MR. MARCUS: Okay. So you
12 don't have studies where one would normally
13 expect them. In the case of the term of the
14 project you're just basing it on previous
15 experience?

16 THE WITNESS (Bowes): So what
17 studies were you referring to that we have
18 not previously done?

19 MR. MARCUS: Well, it was the
20 impact of parking due to trenching, the
21 construction noise. I don't believe you've
22 done a terrific study. Have you?

23 THE WITNESS (Bowes): No, we
24 have not.

25 DR. KLEMENS: Would you please

1 all speak up a bit. It's getting softer and
2 softer. I was having trouble hearing.

3 THE WITNESS (Gagnon): We have
4 done other projects that that was done in
5 Stamford. It's the same process in which we
6 went through.

7 MR. MARCUS: Well, you mean,
8 each traffic study is the same?

9 THE WITNESS (Gagnon): No.

10 MR. MARCUS: No?

11 THE WITNESS (Gagnon): The
12 process.

13 MR. MARCUS: The process is
14 the same. When do you do a traffic study?

15 THE WITNESS (Gagnon): Once we
16 know the route we'll start doing traffic
17 studies.

18 MR. MARCUS: Now have you, in
19 question number six, have you performed any
20 studies relative to subsurface conditions,
21 such as rock, water, other utilities?

22 THE WITNESS (Gagnon): We put
23 in the application and we've discussed today
24 that we've done soil borings at 40 different
25 locations. And so we do have some

1 preliminary information around the preferred
2 routes that we have identified.

3 MR. MARCUS: Now what do you
4 mean by a preliminary?

5 THE WITNESS (Gagnon):

6 Preliminary means we would
7 like to do more testing, more soil borings
8 once we define the route to get a better
9 profile for our engineering.

10 MR. MARCUS: If you look at
11 your response to question number seven where
12 we asked whether or not full studies have
13 been undertaken to assess the full impact of
14 construction, I don't quite understand your
15 answer. You say if you get approval from the
16 Siting Council you'll take additional
17 samples.

18 THE CHAIRMAN: I'm sorry, sir
19 I don't understand. It seems to be rather a
20 comprehensive answer. The question has been
21 raised throughout this hearing, the
22 difference between preliminary and final.
23 They don't have a defined route, so I'm
24 just -- other than you're continually
25 repeating, and are you going to do this for

1 all 51 or more questions?

2 MR. MARCUS: Well, it depends
3 what the question has in it, but I'd submit
4 to you that I've sat very patiently on behalf
5 of Pet Pantry.

6 THE CHAIRMAN: So have we,
7 sir.

8 MR. MARCUS: I know. That's
9 your job as the Siting Council.

10 THE CHAIRMAN: That's your
11 job, too.

12 MR. MARCUS: And that's mine
13 as an attorney, but I would like to go
14 through this as thoroughly as possible while
15 I have the ability to do so, so if there is a
16 record as to the questions that are asked and
17 answered.

18 THE CHAIRMAN: Let's just not
19 ask the same question where we've already
20 gotten a response.

21 MR. MARCUS: Well, I'm
22 certainly not trying to, and I believe they
23 are different in nature.

24 But coming back to number
25 seven, when you say you're going to take

1 additional samples to refine the analysis,
2 tell me what you mean by that?

3 THE WITNESS (Gagnon): What
4 that means is we would like to go in once we
5 know the preferred route to do more soil
6 borings in the area. We -- we need to
7 profile exactly where the bedrock is to
8 understand where we're going to be putting --
9 putting in the pipe. We want to make sure
10 that -- that we have all that engineering
11 pre-done prior to getting into construction.

12 It's just that -- it's just
13 the moving into detailed engineering. That's
14 what it allows us to do. We -- we can plan
15 with the preliminary data that we got and
16 then what we have to do once we know the
17 route we go in and get more detailed
18 information and then do more detailed
19 engineering.

20 MR. MARCUS: Right. But
21 really what you're telling us, or telling me
22 is that it's only after you have approval,
23 after you have a defined route that you do
24 your studies. And you don't really know
25 today what those studies may reveal or what

1 problems may be related to a given route if
2 you get approval. Is that basically it?

3 THE WITNESS (Gagnon):

4 Basically that's it.

5 MR. MARCUS: Okay.

6 THE WITNESS (Gardell):

7 Because there's several routes
8 you can't do engineering. It wouldn't be
9 prudent to do detailed engineering and soil
10 borings on each of the routes, especially in
11 the application.

12 MR. MARCUS: And it is
13 certainly conceivable that you could obtain
14 approval from the Siting Council for a route
15 and then later determine that it's not
16 feasible, that it doesn't work, because
17 you're then taking additional engineering
18 studies which indicate you can't do it?

19 THE WITNESS (Gagnon): I
20 wouldn't -- I don't believe so. I think with
21 the preliminary information that we have it
22 gives us a good assessment of what we need to
23 do. It's just the final details of a -- to
24 develop the drawings and the engineering
25 specifications, is -- the other information

1 is required.

2 MR. MARCUS: Okay. If you
3 look at the answer to question eight, you're
4 talking about covering on excavations. That
5 was the question and you said, message
6 boards, barrels and traffic roll-up signs
7 will be used to help ensure the protection
8 and safety.

9 You didn't mean that that
10 would protect the excavation. You mean you
11 would just use that to tell the public that
12 the excavation was taking place. Is that
13 right?

14 THE WITNESS (Gagnon): Well,
15 at night what we would do is we would put the
16 steel plates down so traffic could resume.
17 And the idea of message signs, boards,
18 barrels and traffic signs are really just
19 traffic safety management.

20 MR. MARCUS: Okay. Now we had
21 asked you whether or not you had conducted
22 any terrific studies. And the answer was no?

23 THE WITNESS (Gagnon): Correct.

24 MR. MARCUS: Okay. Is that
25 what you normally do, conduct a study after

1 you obtain approval?

2 MS. DUBUQUE: Mr. Chairman, I
3 think we're getting a little repetitive here.
4 I think we've said several times that the
5 studies come once you have the route and more
6 details.

7 THE CHAIRMAN: That's what I
8 believe the members of the Council have also
9 heard, and asked and answered more than one
10 time.

11 MR. MARCUS: Now have you done
12 a study of the impact of the construction,
13 excavation, demolition on each of the
14 potential site? And if so, why haven't the
15 studies been disclosed? And your answer was
16 further detail will be developed as
17 engineering continues.

18 MS. DUBUQUE: Mr. Chairman,
19 that's already been sworn testimony, so
20 that's the answer we gave.

21 MR. MARCUS: Well, does that
22 mean I'm not allowed to cross-examine on
23 sworn testimony?

24 THE CHAIRMAN: It means do not
25 be repetitive. And if it's already -- I

1 don't know if it's already here in the
2 document, unless you're eliciting additional
3 or new information that's not here. I'm not
4 quite sure I understand what your point is.

5 MR. MARCUS: Well, I'm
6 questioning the answer. You know, the
7 answers to all these questions are all
8 general in nature and this one is just
9 typical of them, further detail will be
10 developed as engineering continues and after
11 a general contractor is on board.

12 They're asking the Siting
13 Council to give them approval for one of the
14 routes and I submit you don't have the
15 information that you need. I mean, there are
16 at least nine studies that haven't been
17 performed and I'm trying to inquire as to
18 what additional detail is required, what else
19 has to be submitted.

20 MS. DUBUQUE: Mr. Chairman,
21 the record shows we have 29 exhibits at this
22 point. So there is a great deal of
23 information in the application in the
24 exhibits. I do not think it's fair to
25 characterize this application as not having

1 any information about these particular
2 studies. So if there is a question --

3 MR. MARCUS: I posed a
4 question.

5 MS. DUBUQUE: We will answer
6 the question, but I don't think that we
7 should opt to keep going over what's in the
8 application again and what's already been
9 sworn to.

10 MR. MARCUS: I posed a
11 question, and if Counsel hadn't interrupted I
12 assume I would have gotten an answer.

13 MS. DUBUQUE: What was your
14 questions, sir?

15 MR. MARCUS: The question was,
16 what further detail is required to be
17 developed? It's an easy question.

18 THE WITNESS (Gagnon): Yeah,
19 we're trying. We need to figure out what
20 route we're going to be going. Once we're on
21 the route we have to determine are we on the
22 left side of the street? The right side of
23 the street? The exact details of where
24 things are going to be constructed.

25 THE WITNESS (Bowes): We'll

1 survey the other utilities in the road to
2 make sure we have minimized the
3 interferences. We may have to relocate some
4 of those facilities, or relocate through a
5 change in our depth or route the transmission
6 line. Those are some examples of what we
7 would do in a further analysis and further
8 information for the development and
9 management plan.

10 MR. MARCUS: If you look at
11 question number 13, we asked whether a study
12 has been conducted -- shows the impact of how
13 Greenwich town services will be impacted
14 should there be emergencies such as a fire at
15 the potential substation. And your response
16 is, Eversource has not conducted such a
17 study. Wouldn't that be a study that would
18 be necessary and appropriate to submit?

19 THE WITNESS (Gagnon): There's
20 two potential locations that the substation
21 could be on at this point and that's subject
22 to this proceeding.

23 MR. MARCUS: Well, wouldn't
24 the emergency procedures be the same
25 regardless of which location might be

1 accepted?

2 THE WITNESS (Bowes): Sure.
3 If you -- if you turn to page E-15 -- I'll
4 give you time to get there.

5 MR. MARCUS: No, I don't have
6 it in front of me. All I'm asking for is
7 that --

8 THE WITNESS (Bowes): Well, on
9 page E-15 it lists all of the substations in
10 the town of Greenwich. I spoke this morning
11 that, for example, Prospect has been there
12 for 81 years. The Town understands the
13 requirements around emergency response for a
14 substation event, as they have lived with
15 them for decades.

16 So there will be some unique
17 things around the new Greenwich substation,
18 which we'll review with the Town if and when
19 the project is approved. But to characterize
20 the fact that we don't have a study where
21 we've had equipment operating in that town
22 for a hundred years I think is a little
23 disingenuous.

24 MR. MARCUS: Well, that's your
25 opinion, sir, which you're entitled to.

1 THE WITNESS (Bowes): So again
2 that was page E-15, if you're interested.

3 THE CHAIRMAN: It would have
4 helped if you had referred to that in your
5 response. That one I'll give the questioner
6 some credit.

7 MR. MARCUS: Okay. If you
8 look at question number 14, out of any of the
9 potential substations as submitted by you in
10 your original proposal and the alternatives,
11 which line is the largest?

12 THE WITNESS (Bowes): I don't
13 think I have anything to add to that.

14 MR. MARCUS: Okay. And tell
15 me this, which site would do the least damage
16 by way of disturbing existing property
17 owners?

18 MS. DUBUQUE: Perhaps you can
19 clarify what you mean by damage.

20 MR. MARCUS: Well,
21 interference with their ability to use their
22 property, traffic issues and the like.
23 Things that might be negative relating to
24 existing property owners.

25 THE WITNESS (Bowes): So in

1 the application we go through a list of
2 criteria we use for selecting a substation
3 location. That's a little bit of a variation
4 on the criteria we use.

5 I believe that on two of the
6 sites there are existing buildings, which
7 would maybe factor into what you're asking.
8 In two of the sites there are nonexistent
9 buildings. Impacts are usually more
10 pronounced on the neighbors to the substation
11 than the actual use of the existing property.
12 Not always the case, but --

13 MR. MARCUS: If your initial
14 application which utilizes 290 Railroad
15 Avenue were to be granted, would the site
16 that you currently use at 330 Railroad Avenue
17 continue to be utilized?

18 THE WITNESS (Bowes): Yes, it
19 would.

20 MR. MARCUS: And why would
21 that be?

22 THE WITNESS (Bowes): It's
23 actually in one of your questions, and we
24 responded to it.

25 MR. MARCUS: I'm asking you.

1 You're a live witness. I'm asking you for a
2 live answer.

3 THE WITNESS (Bowes): Well,
4 it's -- most of the facilities would be
5 removed from that site, the Prospect Street
6 substation, in this case the transformers and
7 switchgear. We would still maintain the
8 27-kV switching equipment there that supplies
9 the downtown Greenwich network. So there
10 will be much less equipment on site, but we
11 would still use that for a switching
12 location.

13 MR. MARCUS: Now we asked
14 question 16, what the amount of proposed
15 impervious surface is in relationship to open
16 space for each potential substation location.
17 And your answer was a percentage calculation
18 of impervious surfaces has not been
19 completed.

20 So once again, no study. When
21 would that be done. When would you complete
22 it?

23 THE WITNESS (Bowes): Once the
24 proposed site was selected.

25 MR. MARCUS: So once again you

1 don't really know what you might be heading
2 into relative to the surface until after the
3 fact as far as this Council is concerned?

4 THE WITNESS (Bowes): It would
5 certainly be part of the development and
6 management plan, so that's kind of the second
7 phase of this process.

8 MR. MARCUS: Now throughout
9 your answers to our questions you indicate
10 that if there is a new substation the
11 additional service that you would be able to
12 perform would be limited to Greenwich. Am I
13 correct in understanding the answers that
14 way?

15 THE WITNESS (Bowes): I think
16 just the way you worded it, it's a little
17 different than what I'm used to. The
18 intended and sole use of the substation is
19 for Greenwich.

20 MR. ASHTON: Keep your voice
21 up, please, Mr. Bowes.

22 MR. MARCUS: Okay. How do you
23 actually enforce that? If there were a need
24 on any given Sunday, so to speak, in Stamford
25 or in Rye, New York, or any other area you

1 service and you needed that power, would you
2 not give it to them?

3 THE WITNESS (Bowes): So I'll
4 answer two part. There are no
5 interconnecting wires to New York, so that's
6 a very easy answer. There's no mechanism to
7 do that.

8 In Stamford for the flow of
9 electricity to flow from Greenwich to
10 Stamford, I'm not aware of a situation where
11 that could occur on the distribution system.
12 So I don't think it's possible today with the
13 existing facilities we have.

14 MR. MARCUS: And would it be
15 possible if you were to add equipment to
16 service Stamford, for example?

17 THE WITNESS (Bowes):
18 Technically it's possible.
19 It's really not feasible, otherwise we would
20 be adding equipment in Stamford to serve
21 Greenwich today.

22 MR. MARCUS: It might be
23 feasible tomorrow?

24 THE WITNESS (Bowes): It's
25 possible.

1 THE CHAIRMAN: A follow-up
2 question. Would some terrible thing happen
3 if somehow you added that equipment and some
4 entity or individual in Stamford were served?
5 Would that somehow destroy some balance
6 between, I don't know what?

7 MR. ASHTON: The laws of
8 nature?

9 THE CHAIRMAN: The laws of
10 nature. Okay. I was just wondering if there
11 was some something that I'm missing, some
12 extreme.

13 THE WITNESS (Bowes): I don't
14 see there would be any detriment to Greenwich
15 or Stamford if that were to occur.

16 MR. MARCUS: Okay. But the
17 representation throughout the answers of our
18 interrogatories are that it's limited to
19 Greenwich?

20 THE WITNESS (Bowes): Yeah,
21 and I understand it. That may have been a
22 reaction to many of the claims that were made
23 at the public meeting, that this was for
24 another state, or for another town or
25 something else.

1 MR. MARCUS: Okay. So it's
2 kind of an overreaction.

3 THE WITNESS (Bowes): I
4 wouldn't characterize it that way. It was a
5 reaction to it.

6 MR. MARCUS: Okay. And why
7 couldn't the substation at 330 Railroad be
8 brought current to address the potential need
9 of customers? It's there. Why can't you
10 can't you add to that?

11 THE WITNESS (Gagnon): 330
12 Railroad we call our Prospect substation
13 site. There there's some difficulties with
14 this site as it exists today. You're
15 probably aware that there's a culvert 16 feet
16 wide, 200 feet long built in 1934 that exists
17 through the middle of this site. That that
18 makes it extremely difficult for us to use
19 that site, having an active culvert
20 underneath it. It would have to be rebuilt
21 or located somewhere else.

22 There's also a 15-inch sewer
23 pipe that runs down the east side of the
24 culvert. This would also have to be removed.
25 This site is in a flood -- 500-year

1 floodplain. We would make sure that all the
2 equipment would have to be raised up. The
3 existing substation, as we said before, parts
4 of it are going to exist. We're not removing
5 all of it.

6 MR. MARCUS: What is a
7 500-year floodplain? Can you explain that?

8 THE WITNESS (Gagnon): A
9 chance for a flood in 500 years.

10 MR. MARCUS: So if means that
11 you're talking about one flood in 500 years?

12 THE WITNESS (Gagnon): It
13 doesn't exclusively mean that, no.

14 MR. MARCUS: Okay. But what's
15 the difference between a 100-year floodplain
16 and 500 years, except one is five times more
17 than the other? You're talking about one
18 flood in a hundred years potentially.

19 THE WITNESS (Gagnon):
20 Theoretically.

21 MR. MARCUS: Theoretically.

22 THE WITNESS (Gagnon): It's
23 doesn't mean -- it's just like -- it's just
24 like any probability. If you roll the dice.
25 There's a one in seven chance. It doesn't

1 mean one will come up again and again.

2 MR. MARCUS: So a 500-year
3 floodplain, can we agree, is not significant?

4 THE WITNESS (Libertine): I
5 would not characterize it as that. There are
6 certain base elevations that are developed
7 based on probabilities. And so the -- the
8 difference is usually a foot or more. So
9 we're talking about a site that has a lower
10 elevation that we're proposing.

11 So in the event of a surge or
12 some type of a catastrophic event, which we
13 typically have a lot less than 500 years
14 apart, there could be some potential damage
15 to equipment. So it just means that it's a
16 technical and cost issue for having to deal
17 with it. It doesn't mean you can't build in
18 it, but you certainly are vulnerable.

19 MR. MARCUS: Okay. But it's a
20 limited amount of vulnerability. Can we
21 agree as to that?

22 THE WITNESS (Bowes): Until it
23 occurs.

24 MR. MARCUS: Well, that's true
25 of any event.

1 THE CHAIRMAN: Dr. Klemens has
2 a question.

3 DR. KLEMENS: I have a
4 question for Mr. Libertine. Has it been
5 generally the increasing practice with
6 climate change in the concept of resiliency
7 that more and more people are using the
8 500-year flood benchmark as we used to use
9 the hundred-year flood mark. Isn't that sort
10 of becoming increasingly accepted practice?
11 And I think some of that has happened at this
12 Council.

13 THE WITNESS (Libertine): That
14 is true. It is being used more and more as
15 the, we'll use the base level from which to
16 work with. And certainly yes, the Council
17 has addressed that on several dockets. And I
18 think Mr. Ashton made a good point this
19 morning that they had such an event, if not
20 worse, just this past weekend in South
21 Carolina. So it can happen.

22 MR. MARCUS: If you turn to
23 question number 20. We ask why the market
24 study for evaluating potential sites for
25 substations -- it should be studies -- were

1 not submitted as evidence for the record.

2 Your answer was, you did not conduct a market
3 study. And my question would be, why not?

4 THE WITNESS (Gagnon): What we
5 did is we had a real estate company, CB,
6 Ellis, Richard, work with us. They, aided by
7 our local or internal real estate folks,
8 conducted a site survey or survey for -- for
9 properties.

10 They looked what was on the
11 market, what was company owned, what was
12 company leased. They used a lot of the
13 internet information out there on sites for
14 looking at it. And they also contacted local
15 brokers and appraisers that they went to, to
16 get additional information.

17 MR. MARCUS: Now we asked in
18 question 23 whether you conducted any studies
19 as to how the market value of real estate --
20 contiguous real estate, real estate in the
21 area that would be effected during the
22 construction period. And your response was,
23 no.

24 So once again, you did not
25 conduct any study as to what effect your

1 construction would have on other property
2 owners.

3 MS. DUBUQUE: I think that was
4 asked and answered, sir.

5 MR. MARCUS: I don't think we
6 had asked that question before.

7 MS. DUBUQUE: It's the
8 question you've just read and answered.

9 MR. MARCUS: But in any event
10 the answer is, no. Right?

11 Now we had asked in question
12 24 what injurious impacts substations can
13 have on public health. Once again, have you
14 submitted any studies? Your answer was that
15 there will be no injurious impact. How can
16 you be so sure about it and so definitive?

17 THE WITNESS (Gagnon): We have
18 substations all throughout Connecticut,
19 Western Massachusetts, Eastern Massachusetts,
20 New Hampshire. I am unaware of any.

21 MR. MARCUS: So you're basing
22 it on existing substations?

23 THE WITNESS (Gagnon):
24 Experience.

25 MR. MARCUS: Experience?

1 Okay. But in fact, you don't know whether or
2 not this new substation, if in fact built,
3 would have any effect, any injurious effect?

4 THE WITNESS (Gagnon): From
5 past experience, no.

6 MR. MARCUS: Okay. If you
7 look at question 25, if this project is
8 guesstimated to come in at 140 million -- is
9 that correct?

10 THE WITNESS (Bowes): That's
11 the project cost estimate.

12 MR. MARCUS: Right. It's an
13 estimate. And that estimate could be wrong
14 or it could be correct. And generally on
15 construction jobs, at least in my experience
16 over the years doing construction law, most
17 jobs have overruns. Now I don't know whether
18 that's your experience at Eversource or not,
19 but my guess is it probably is.

20 In any event, if -- let's
21 start with 140 million. If it cost
22 140 million what affect will it have on the
23 ratepayer?

24 THE WITNESS (Bowes): That's
25 in a response to another question from the

1 OCC, so it's very prescriptive.

2 MR. MARCUS: Right. But I
3 have another follow-up question to it. So
4 just tell me your response?

5 THE WITNESS (Gagnon): Yeah,
6 it's in answer 44.

7 MR. MARCUS: Can't you just
8 testify to it? You must know what it is.
9 Isn't that a major part of this, the cost to
10 the ratepayer?

11 THE WITNESS (Bowes): It's not
12 as simple as one cost. It depends on which
13 ratepayer.

14 MR. MARCUS: Well, residential
15 ratepayer?

16 THE WITNESS (Gagnon): Okay.
17 We show that the transmission rate would
18 be -- hang in with me with the zeroes --
19 .000458 dollars per kilowatt hour.
20 Distribution retail rate would be
21 .000160-kilowatt hours.

22 MR. MARCUS: So what does that
23 mean to me as the owner of a residence? How
24 much more a month is it going to cost me?

25 THE WITNESS (Bowes): So it's

1 really based on what your usage is. We could
2 easily calculate it.

3 MR. MARCUS: As a guess.

4 THE WITNESS (Bowes): Or
5 provide the usage.

6 MR. MARCUS: Well, I can't
7 provide the usages. My wife pays all the
8 bills, so I don't know.

9 THE WITNESS (Bowes): So
10 you're asking us a detailed question but you
11 don't know the basis for it?

12 MR. MARCUS: In general -- in
13 General you know what it's going to cost the
14 average residential consumer of electricity.
15 How much?

16 THE WITNESS (Bowes): So the
17 average is about a 700-kilowatt hour per
18 month customer.

19 MR. MARCUS: I'm sorry. How
20 much will it cost?

21 THE WITNESS (Bowes): So the
22 math would be simply 700 times the
23 distribution and the transmission.

24 MR. MARCUS: Which is what?
25 You must have some number. You must know it.

1 THE WITNESS (Gagnon): Yes, we
2 do. It's about \$5 a year.

3 MR. MARCUS: Five dollars?

4 THE WITNESS (Gagnon): A year
5 for CL&P. Let's narrow it down to CL&P. I
6 can't tell who the other customers would be.
7 Different revenue requirements.

8 MR. MARCUS: Okay. And what
9 is the job actually cost you 200 million? As
10 I understand the way it works, that would
11 result in the ratepayer paying roughly, what?
12 50 to 60 million of it, because there was
13 testimony earlier that 140 equated down to
14 30 million.

15 THE WITNESS (Gagnon): Yeah,
16 and I think we were -- we were talking about
17 that at lunch. And it's -- it was actually
18 probably 25 first -- first year costs.

19 MR. MARCUS: Okay. But if you
20 have an overrun what would it be roughly? If
21 it cost you 200 million, not 140.

22 THE WITNESS (Bowes): It would
23 be a ratio at about the same amount. So if
24 you're increased by, in this case,
25 \$60 million, it would go up by about, you

1 know, 40 percent.

2 THE WITNESS (Gagnon): And if
3 you went by what we did in Stamford we
4 actually came in under budget by 20 --
5 \$10 million. So --

6 MR. MARCUS: You must have had
7 a great contractor. We had asked the
8 question, question 26 whether you had done
9 any studies on the use of chemicals to break
10 rocks. Your answer were, no studies have
11 been submitted. Is that another one of these
12 studies that will be done assuming you obtain
13 approval?

14 MR. ASHTON: I have a
15 question. Is there any -- is there an
16 assumption that you're going to use chemicals
17 to break rock?

18 THE WITNESS (Gagnon): Well,
19 there we did talk in the interrogatories that
20 there's the possibility that we could use
21 expanding grout. So I assume that's where
22 he's going.

23 MR. ASHTON: And I suppose if
24 you blasted you'd consider that a chemical?

25 THE WITNESS (Gagnon): Correct.

1 MR. ASHTON: Can we move on?

2 MR. MARCUS: I'm just running
3 through my notes, and if you give me a minute
4 we'll see where we are.

5 THE CHAIRMAN: I'm going to
6 give you three minutes and then we're going
7 to terminate today's hearing.

8 MR. MARCUS: If you move to
9 question 36, and we'll remove the
10 characterization of monolithic structure from
11 the question, but assuming you obtain
12 approvals, how would the building of the
13 substation impact the evaluation of
14 properties that are in close proximity to the
15 structure?

16 Will values go up? Will it go
17 down? Based on your experience when you put
18 a substation in does that adversely affect
19 the value of contingent real estate?

20 THE WITNESS (Gagnon): I
21 haven't done a -- you would have to ask the
22 assessor in this particular case. In the
23 other case I'm not aware. I don't do those
24 studies. So --

25 MR. MARCUS: Well, you've been

1 involved in the construction of a number of
2 substations. Am I right?

3 THE WITNESS (Gagnon): Yes, I
4 have.

5 MR. MARCUS: And what normally
6 happens to the value of the properties that
7 are contiguous to the substation?

8 THE CHAIRMAN: He just
9 testified live that he doesn't know. So I
10 don't think there's any --

11 MR. MARCUS: I didn't hear him
12 actually say, no, he did not.

13 THE CHAIRMAN: I thought you
14 said you didn't know?

15 MR. MARCUS: Did you say you
16 do not know?

17 THE WITNESS (Gagnon): I did
18 not know.

19 MR. MARCUS: Okay. If the --
20 I still have some more questions, so if you
21 want to adjourn for the day we'll pick up at
22 the next hearing.

23 THE CHAIRMAN: Okay. I'd just
24 like to announce that we'll continue the
25 evidentiary portion of the hearing again

1 here, 10 Franklin Square, on Tuesday,
2 December 1st, at 11 a.m, in one of these two
3 hearing rooms, preferably the other one.

4 Please note that anyone who
5 has not become a party or intervener but
6 desires to make his or her views known to the
7 Council may file written statements with the
8 Council until the record closes. Copies of
9 the transcript of this hearing will be filed
10 at the Greenwich Town Clerk's office.

11 And I hereby declare this
12 hearing adjourned. Thank you.

13 (Whereupon, the witnesses were
14 excused and the above proceedings were
15 concluded at 5:00 p.m.)

16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

I hereby certify that the foregoing 279 pages are a complete and accurate computer-aided transcription of my original verbatim notes taken of the Public Hearing and Council Meeting in Re: DOCKET NO. 461, Application from Eversource Energy for a Certificate of Environmental Compatibility and Public Need for the Construction, Maintenance, and Operation of a 115-kilovolt Bulk Substation Located at 290 Railroad Avenue, Greenwich, Connecticut and Two 115-kilovolt Underground Transmission Circuits Extending Approximately 2.3 Miles Between the Proposed Substation and the Existing Cos Cob Substation, Greenwich, Connecticut, and Related Substation Improvements, which was held before ROBIN STEIN, Chairman, at the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut, on October 6, 2015.

Robert G. Dixon, CVR-M 857
Notary Public, Court Reporter
BCT Reporting LLC
P.O.Box 1774
Bristol, Connecticut 06011

My Commission Expires: 6/30/2015

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N D E X

WITNESSES

KENNETH B. BOWES
RAYMOND GAGNON
JACQUELINE A. GARDELL
MICHAEL LIBERTINE
GABOR MEZEI - Page 7
JOHN C. CASE
LISA COOPER - Page 9
JOSEPH R. SWIFT - Page 149

EXAMINATION

Mr. Mercier Page 14
Ms. Bain Page 152
Mr. Stacy Page 219
Mr. Marcus Page 232

	0:24	0:15,6,10,3	admit (2)	aging (2)
§	above-ground (1)	action (1)	0:13,16	0:12,6
	0:21	0:2	admitted (1)	ago (3)
\$1 (1)	abrupt (1)	actions (3)	0:4	0:21,17,17
0:11	0:18	0:11,2,9	adopt (5)	agree (9)
\$10 (4)	absolute (4)	active (16)	0:1,13,4,6,6	0:8,21,25,8,23,6,13,
0:16,22,4,5	0:11,13,2,6	0:11,24,21,12,12,	adoption (1)	3,21
\$12 (1)	absolutely (4)	19,10,16,22,24,17,20,	0:19	agreement (3)
0:18	0:19,23,18,10	3,8,17,19	advanced (1)	0:5,12,15
\$140 (4)	acceded (1)	activities (1)	0:19	aided (1)
0:7,24,14,20	0:12	0:10	advancement (1)	0:6
\$150 (1)	accelerates (1)	actual (12)	0:24	aiding (1)
0:1	0:6	0:9,16,21,4,4,9,22,	advantage (5)	0:19
\$16 (1)	accept (2)	14,2,14,9,11	0:15,7,3,20,15	ain't (5)
0:24	0:12,6	actually (39)	adverse (2)	0:6,16,9,5,25
\$190 (1)	acceptable (4)	0:15,15,19,9,8,19,	0:15,6	air (8)
0:11	0:15,18,2,3	22,17,20,21,19,1,3,11,	adversely (1)	0:19,21,5,22,4,8,14,
\$2 (2)	acceptance (1)	5,6,13,7,23,8,22,4,24,	0:18	25
0:11,21	0:22	5,8,16,8,16,21,4,5,21,	advised (1)	air-conditioning (9)
\$200 (1)	accepted (4)	17,23,23,9,17,4,12	0:24	0:17,19,22,20,21,
0:20	0:7,15,1,10	actuals (2)	advisory (1)	23,3,15,16
\$25 (1)	access (5)	0:22,24	0:5	alarm (1)
0:6	0:8,22,2,5,17	acute (1)	advocated (1)	0:2
\$250 (1)	accident (1)	0:18	0:5	alarms (3)
0:2	0:13	add (16)	aerial (1)	0:1,24,2
\$290 (1)	accommodate (2)	0:6,6,14,25,4,19,21,	0:19	alert (1)
0:2	0:24,12	4,5,7,9,11,13,13,15,10	aesthetic (2)	0:13
\$291 (1)	accommodated (1)	added (5)	0:21,10	alignment (1)
0:1	0:21	0:22,21,22,18,3	aesthetics (1)	0:3
\$3.7 (1)	accomplished (1)	adding (3)	0:25	allege (1)
0:2	0:9	0:21,25,20	affect (4)	0:11
\$30 (1)	accordance (1)	addition (8)	0:7,25,22,18	allocation (1)
0:9	0:8	0:22,20,11,8,6,3,8,	affected (1)	0:11
\$35 (2)	according (2)	22	0:1	allow (5)
0:7,20	0:8,8	additional (27)	affecting (1)	0:5,24,12,12,5
\$4.5 (1)	account (3)	0:9,3,13,11,15,6,7,	0:17	allowed (6)
0:6	0:11,20,1	21,13,15,8,4,6,1,21,	affiliated (1)	0:21,18,4,8,12,22
\$5 (1)	accounts (1)	23,23,8,8,17,16,1,17,	0:1	allowing (4)
0:2	0:25	2,18,11,16	affluent (2)	0:12,22,13,19
\$50 (1)	accrue (1)	additions (3)	0:25,5	allows (4)
0:6	0:1	0:14,24,8	afield (1)	0:10,24,17,14
\$5800 (1)	accurate (7)	address (3)	0:3	All-Points (1)
0:18	0:22,25,8,11,22,3,5	0:14,14,8	A-frame (1)	0:6
\$60 (1)	acetylene (3)	addressed (3)	0:16	all-underground (1)
0:25	0:14,18,23	0:24,13,17	afternoon (9)	0:22
\$72 (1)	achieve (3)	adhering (1)	0:14,21,25,1,23,18,	alluvial (1)
0:22	0:4,4,14	0:15	5,6,21	0:13
\$84 (1)	acoustics (1)	adjacent (3)	again (46)	almost (7)
0:19	0:19	0:22,1,18	0:2,25,5,15,22,20,	0:9,9,1,23,15,25,15
	acquire (1)	adjourn (1)	15,11,10,19,20,13,11,	along (34)
	0:25	0:21	19,1,4,3,5,15,6,11,19,	0:1,13,19,3,16,18,
	acquiring (1)	adjoined (1)	1,13,17,25,9,10,4,16,	23,1,13,5,18,19,9,10,
	0:21	0:12	23,24,16,3,21,25,8,8,	21,4,25,7,11,24,15,12,
	acquisition (2)	adjust (5)	1,20,25,1,1,24,13,25	10,19,8,5,7,5,5,18,6,
	0:1,24	0:16,19,18,10,12	against (7)	12,5,14
	acquisitions (3)	adjustments (1)	0:17,18,19,23,11,	altering (2)
	0:13,7,2	0:5	18,20	0:19,22
	acres (1)	Administrative (5)	age (2)	alternate (4)
	0:19	0:15,19,15,24,17	0:7,3	0:2,2,4,6
	across (10)	administratively (1)	agency (4)	alternative (16)
	0:19,16,19,13,21,	0:7	0:11,13,15,11	0:3,21,7,1,16,6,12,
	15,16,13,15,6	admission (1)	agenda (1)	23,1,19,20,12,12,12,3,
	Act (4)	0:25	0:8	5
A				
	abetting (1)			
	0:20			
	ability (5)			
	0:6,7,9,15,21			
	able (16)			
	0:1,11,4,18,24,4,18,			
	11,6,4,24,6,13,5,9,11			
	above (11)			
	0:25,3,6,17,4,22,18,			
	22,18,1,14			
	aboveground (1)			

<p>alternatives (16) 0:16,23,2,19,22,9,9, 7,24,1,13,21,16,2,2,10</p> <p>although (7) 0:4,16,23,8,17,12, 21</p> <p>always (5) 0:9,6,3,23,12</p> <p>amongst (1) 0:12</p> <p>amortized (1) 0:15</p> <p>amount (24) 0:2,13,8,5,6,9,24,2, 2,5,1,15,23,20,21,1, 13,9,7,13,15,14,20,23</p> <p>amounts (1) 0:4</p> <p>amusing (1) 0:19</p> <p>analogous (1) 0:21</p> <p>analysis (8) 0:15,6,19,18,17,21, 1,7</p> <p>analyze (1) 0:5</p> <p>ancient (1) 0:20</p> <p>angle (1) 0:14</p> <p>announce (1) 0:24</p> <p>announcement (2) 0:6,9</p> <p>announcing (1) 0:11</p> <p>annualized (1) 0:21</p> <p>answered (11) 0:9,15,14,12,22,25, 18,17,9,4,8</p> <p>anticipate (3) 0:4,24,2</p> <p>anticipated (1) 0:3</p> <p>anticipates (1) 0:16</p> <p>anticipating (1) 0:1</p> <p>anymore (2) 0:17,7</p> <p>apart (1) 0:14</p> <p>apiece (1) 0:24</p> <p>apologize (4) 0:12,17,17,19</p> <p>apparently (8) 0:25,16,5,7,22,13, 14,11</p> <p>appeals (1) 0:7</p>	<p>appear (2) 0:19,1</p> <p>appearance (1) 0:11</p> <p>appeared (1) 0:21</p> <p>appears (3) 0:18,25,16</p> <p>appendix (1) 0:13</p> <p>apples (2) 0:2,2</p> <p>appliances (2) 0:25,2</p> <p>applicable (2) 0:22,23</p> <p>applicant (8) 0:12,23,2,25,5,25, 16,3</p> <p>applicant's (1) 0:25</p> <p>application (41) 0:16,2,15,16,21,1,6, 10,7,21,2,23,5,9,7,2, 21,11,13,9,11,10,3,3, 6,8,10,15,17,5,9,13,3, 1,23,11,23,25,8,1,14</p> <p>applications (8) 0:23,12,14,15,21, 15,17,14</p> <p>applied (1) 0:16</p> <p>applies (1) 0:13</p> <p>appraisers (1) 0:15</p> <p>approach (3) 0:17,14,17</p> <p>approached (1) 0:6</p> <p>appropriate (4) 0:11,9,16,18</p> <p>approval (10) 0:5,8,15,15,22,2,14, 1,13,13</p> <p>approvals (2) 0:16,12</p> <p>approve (2) 0:2,16</p> <p>approved (7) 0:13,4,15,23,23,19, 19</p> <p>approves (1) 0:10</p> <p>approximate (1) 0:19</p> <p>approximately (15) 0:23,22,7,11,25,24, 11,18,4,25,19,17,1,18, 8</p> <p>arcing (1) 0:16</p> <p>area (73) 0:5,6,23,24,3,5,6,9, 18,24,9,1,14,24,16,10, 15,5,17,14,23,13,18,1, 20,20,18,25,13,17,25, 6,18,2,12,24,6,16,21, 16,23,8,25,6,18,22,18, 18,25,8,24,5,25,22,23, 3,9,16,16,19,20,19,10, 1,21,25,3,7,17,23,6, 25,21</p>	<p>areas (12) 0:3,11,15,17,16,24, 15,18,5,5,15,9</p> <p>arguing (1) 0:3</p> <p>argument's (1) 0:5</p> <p>arise (1) 0:13</p> <p>arithmetic (1) 0:14</p> <p>arms (1) 0:11</p> <p>arose (1) 0:7</p> <p>around (22) 0:4,7,17,23,3,19,2, 8,14,13,25,6,5,14,22, 18,2,14,18,1,13,17</p> <p>arrangement (1) 0:9</p> <p>arrive (1) 0:2</p> <p>arrived (2) 0:4,10</p> <p>articulate (2) 0:5,12</p> <p>Ashton (277) 0:9,10,7,17,22,4,11, 18,22,1,6,12,20,23,6, 9,14,20,2,12,17,21,25, 4,13,16,7,10,17,22,1, 9,15,23,20,5,11,16,22, 1,8,12,25,8,12,17,2,8, 16,23,3,8,12,1,5,9,15, 19,23,4,7,17,1,9,17, 22,10,15,21,12,17,23, 2,19,24,3,9,13,24,9, 13,17,22,3,12,21,8,16, 20,24,6,11,15,5,8,15, 19,12,5,11,17,22,12, 15,20,25,6,10,15,13, 25,13,19,6,11,16,1,6, 11,15,20,1,5,24,5,22, 14,19,3,14,2,18,4,12, 19,3,9,1,6,15,19,6,10, 22,2,8,11,18,25,1,9, 14,19,24,8,15,19,25,2, 5,24,7,1,6,10,23,10, 22,1,5,16,21,2,11,15, 21,1,18,24,19,24,12, 19,24,2,7,15,23,2,14, 13,6,11,6,16,25,8,14,</p>	<p>23,3,8,17,21,9,18,22, 3,8,6,22,3,8,21,1,6,8, 12,4,12,16,24,3,10,14, 7,19,1,6,11,1,8,15,23, 20,16,2,2,6,12,1,11, 17,19,3,9,16,22,6,10, 23,13,6,16,21,3,11,19, 18,21,21,4,16,19,24,2, 6,12,17,22,11,19,20,7, 18,14,23,1</p> <p>Ashton's (1) 0:9</p> <p>aside (1) 0:21</p> <p>aspect (2) 0:1,22</p> <p>aspects (1) 0:13</p> <p>assess (2) 0:25,13</p> <p>assessment (1) 0:22</p> <p>assessor (1) 0:22</p> <p>assets (1) 0:6</p> <p>assignment (1) 0:21</p> <p>assistance (1) 0:15</p> <p>associate (1) 0:13</p> <p>associated (5) 0:7,16,10,14,2</p> <p>assume (9) 0:2,14,7,24,11,6,3, 12,21</p> <p>assumes (3) 0:4,6,8</p> <p>assuming (12) 0:18,2,14,7,19,20, 17,15,11,12,12,11</p> <p>assumption (3) 0:10,25,16</p> <p>assumptions (2) 0:4,3</p> <p>assure (1) 0:23</p> <p>attachment (1) 0:4</p> <p>attachments (1) 0:13</p> <p>attending (1) 0:12</p> <p>attention (1) 0:12</p> <p>attic (1) 0:5</p> <p>attorney (7) 0:20,1,24,19,22,16, 13</p> <p>auger (1) 0:19</p>	<p>August (4) 0:3,16,21,2</p> <p>authenticating (1) 0:15</p> <p>author (1) 0:12</p> <p>authority (2) 0:17,24</p> <p>authorization (2) 0:24,5</p> <p>authorized (1) 0:15</p> <p>automatic (1) 0:12</p> <p>automatically (2) 0:1,21</p> <p>automation (2) 0:25,6</p> <p>availability (2) 0:18,11</p> <p>available (8) 0:9,12,25,8,8,16,3, 14</p> <p>Ave (2) 0:20,5</p> <p>Avenue (12) 0:21,24,15,17,22, 21,7,19,14,19,15,16</p> <p>avenues (2) 0:20,8</p> <p>average (6) 0:16,16,5,10,14,17</p> <p>avoid (8) 0:24,21,14,21,24,8, 18,17</p> <p>aware (12) 0:20,24,11,20,10, 18,15,15,16,10,15,23</p> <p>away (7) 0:15,19,23,22,5,21, 20</p> <p>awfully (1) 0:5</p>
B				
			<p>Bachman (4) 0:22,5,17,12</p> <p>back (29) 0:15,3,9,1,23,4,23, 19,21,22,11,18,18,17, 18,2,22,19,20,9,1,2,9, 6,13,20,22,7,24</p> <p>backdrop (2) 0:16,25</p> <p>backfill (6) 0:10,6,10,24,9,25</p> <p>backfilled (1) 0:16</p> <p>background (1) 0:7</p> <p>backs (1) 0:10</p>	

backseat (1) 0:2	0:22,1,14,19,5,11,6, 16,11	Betty (1) 0:7	boiler (3) 0:22,24,25	3,23,4,15,21,3,17,24, 13,20,3,22,10,24,11, 25,4,9,16,21,22		
backup (2) 0:12,22	bated (1) 0:9	beyond (11) 0:24,7,8,22,15,21,1, 7,19,19,25	bollards (1) 0:3	box (1) 0:11		
backyards (3) 0:12,23,18	battery (5) 0:19,16,18,9,23	bid (1) 0:20	bond (1) 0:18	boxes (1) 0:3		
bad (5) 0:24,15,23,1,8	bay (1) 0:3	BIDRA (9) 0:11,22,23,6,8,14, 18,19,10	bony (1) 0:5	BPV-2 (1) 0:23		
badly (1) 0:19	Bear (4) 0:13,8,25,7	big (8) 0:5,15,3,11,13,23, 13,23	book (1) 0:7	brand-new (1) 0:5		
BAIN (107) 0:12,16,21,23,20,3, 7,13,17,22,25,14,22,5, 13,23,2,24,9,21,24,7, 15,19,1,9,2,12,15,20, 24,9,13,17,24,7,14,19, 5,13,18,3,4,4,8,15,22, 1,11,23,7,10,24,6,11, 14,24,15,25,7,14,12, 18,7,14,22,2,4,18,24, 5,10,19,1,8,13,18,4, 12,22,13,22,25,5,17, 11,8,3,17,25,6,18,16, 20,9,16,2,9,14,8,10, 18,20,5,25,24,9	bearing (3) 0:10,13,17	bigger (2) 0:22,13	bore (1) 0:18	Branford (2) 0:20,21		
balance (5) 0:19,23,21,23,5	become (6) 0:21,10,4,8,3,5	biggest (1) 0:16	boring (2) 0:14,17	break (5) 0:1,17,22,9,17		
balanced (2) 0:16,2	becomes (2) 0:25,21	bill (2) 0:3,5	borings (18) 0:8,12,7,10,12,25,4, 7,9,10,2,11,12,4,24,7, 6,10	breakdown (2) 0:9,1		
balancing (1) 0:9	becoming (2) 0:18,10	billion (3) 0:18,11,10	Boston (1) 0:15	breaker (1) 0:19		
bales (1) 0:25	bedrock (3) 0:7,15,7	billion-dollar (1) 0:24	both (15) 0:14,8,7,6,11,23,4, 10,17,9,11,17,3,7,10	breaking (2) 0:3,19		
ball (1) 0:11	begin (5) 0:11,8,16,5,10	bills (1) 0:8	bottom (4) 0:10,11,24,9	breath (1) 0:10		
bank (9) 0:1,17,23,7,11,16, 17,1,24	beginning (3) 0:20,6,24	birthday (1) 0:11	Bowes (319) 0:1,21,12,4,11,16, 23,12,21,1,19,9,19,21, 10,20,1,8,13,20,24,3, 8,16,21,4,7,11,18,24, 13,19,23,2,14,20,23,8, 12,21,17,25,8,13,20, 24,3,10,19,2,10,14,25, 6,13,20,25,3,14,23,4, 14,19,3,12,17,11,21, 24,6,11,18,21,4,8,13, 25,7,12,16,23,17,22,9, 14,19,7,13,17,21,2,8, 12,25,17,6,16,14,17,4, 8,13,7,4,6,17,22,8,1,4, 20,7,16,22,6,17,4,9, 16,21,8,18,24,3,9,15, 20,6,12,15,21,3,10,17, 5,8,20,25,3,7,19,25,4, 13,17,23,10,20,15,23, 25,15,22,1,6,12,17,24, 12,6,10,14,18,1,5,13, 20,11,19,2,20,25,9,12, 3,7,4,5,11,20,6,12,20, 6,16,20,17,7,1,13,3, 21,3,17,24,4,10,17,23, 5,11,15,20,23,2,8,19, 24,7,14,1,5,14,20,3,8, 11,8,12,2,13,23,4,9, 17,23,7,11,13,18,10,4, 9,17,2,9,13,11,15,18, 2,10,16,21,24,15,1,8, 3,9,17,25,15,2,1,7,14, 18,1,17,8,23,12,20,12, 3,19,4,7,15,10,15,11, 15,20,4,8,11,3,9,12,7, 1,6,10,15,18,1,16,23, 25,2,8,1,12,25,18,22,	behalf (2) 0:4,4	bit (33) 0:12,3,7,6,5,2,25,3, 18,9,21,1,6,21,14,2, 17,6,5,23,11,24,23,10, 21,21,6,16,4,24,1,1,3	brick (2) 0:17,20
balance (5) 0:19,23,21,23,5	behavior (1) 0:18	blast (1) 0:3		bridge (1) 0:5		
balanced (2) 0:16,2	beings (1) 0:25	blasted (1) 0:24		brilliant (1) 0:9		
balancing (1) 0:9	believer (1) 0:25	blasters (1) 0:4		bring (10) 0:3,21,6,13,13,2,6, 21,22,16		
bales (1) 0:25	Bella (1) 0:1	blasting (12) 0:17,18,20,23,2,4, 10,21,22,19,7,22		brings (3) 0:16,7,4		
ball (1) 0:11	below (2) 0:6,19	block (3) 0:7,18,16		brink (1) 0:10		
bank (9) 0:1,17,23,7,11,16, 17,1,24	benchmark (1) 0:8	blowout (6) 0:5,10,24,5,16,13		broadly (1) 0:19		
banks (1) 0:17	beneficiaries (1) 0:3	blowouts (3) 0:20,25,2		broke (1) 0:10		
Barbino (1) 0:19	benefit (8) 0:13,23,5,10,5,4,6, 12	blue (1) 0:11		brokers (1) 0:15		
barrels (2) 0:6,18	benefited (1) 0:15	blueprint (1) 0:1		Brooklyn (4) 0:18,24,23,22		
barrier (1) 0:5	benefits (2) 0:20,15	blunt (1) 0:15		brought (5) 0:10,18,7,1,8		
barriers (1) 0:15	bentonite (6) 0:10,14,15,2,5,5	board (3) 0:15,6,11		Bruce (37) 0:12,18,7,13,17,12, 1,8,12,15,15,16,19,7, 15,1,14,9,17,23,15,13, 24,11,18,24,10,5,20, 17,22,23,23,9,18,13, 14		
base (8) 0:7,12,9,2,15,7,6,15	BERGAMO (2) 0:23,4	boards (2) 0:6,17		bucks (5) 0:20,12,1,6,9		
based (22) 0:11,20,5,8,4,25,17, 2,3,1,15,5,22,18,10, 23,8,20,2,7,1,17	best (9) 0:20,1,23,3,9,18,4, 5,25	bodies (4) 0:1,17,4,6		budget (1) 0:4		
baseline (2) 0:11,25	beta (1) 0:22	body (3) 0:20,24,22		budgeted (1) 0:23		
baseload (1) 0:13	Bethel (1) 0:21			budgeting (1) 0:7		
basically (8) 0:6,13,15,4,8,10,2,4	Bethel-Norwalk (1) 0:7			budgets (1) 0:5		
basing (2) 0:14,21	better (8) 0:5,13,10,5,5,14,11, 8					
basis (9)						

<p>buffer (5) 0:11,16,24,10,11</p> <p>buffered (1) 0:10</p> <p>build (18) 0:13,14,17,6,4,19, 24,7,22,5,18,19,14,2, 21,15,14,17</p> <p>building (34) 0:16,2,3,10,17,11,1, 1,6,25,20,15,23,7,18, 19,1,9,13,9,20,25,16, 20,24,17,21,23,4,20, 20,9,15,12</p> <p>buildings (5) 0:9,17,2,6,9</p> <p>built (15) 0:7,18,20,5,2,3,16, 10,13,15,21,19,25,16, 2</p> <p>bulk (10) 0:20,15,5,18,18,8, 22,3,6,18</p> <p>bump (4) 0:1,2,5,7</p> <p>bunch (2) 0:4,24</p> <p>burdensome (1) 0:13</p> <p>burn (3) 0:3,13,13</p> <p>bury (1) 0:12</p> <p>bus (1) 0:22</p> <p>buses (1) 0:2</p> <p>business (2) 0:22,16</p> <p>busy (1) 0:20</p> <p>buy (3) 0:18,15,16</p>	<p>call (13) 0:2,25,4,22,6,9,6, 24,6,10,8,2,12</p> <p>call-before-you-dig (1) 0:15</p> <p>called (3) 0:3,1,4</p> <p>calling (1) 0:3</p> <p>calm (1) 0:15</p> <p>came (9) 0:2,24,10,2,20,7,21, 4,4</p> <p>cameras (1) 0:25</p> <p>camp (1) 0:11</p> <p>campaign (3) 0:17,9,20</p> <p>campaigns (1) 0:13</p> <p>can (95) 0:21,7,4,3,19,22,25, 22,21,10,3,24,2,9,7, 21,10,8,15,12,6,22,20, 13,6,8,3,6,9,4,20,1,10, 5,23,14,10,16,1,16,20, 1,18,3,1,17,16,25,13, 22,2,7,11,16,17,7,11, 3,6,4,5,21,6,2,8,9,12, 7,22,15,24,7,18,25,17, 25,8,6,12,6,23,12,14, 8,9,13,14,18,7,3,20, 21,12,15,1</p> <p>cap (3) 0:1,24,25</p> <p>capabilities (3) 0:4,3,8</p> <p>capability (10) 0:23,2,1,13,16,18, 20,13,14,11</p> <p>capable (2) 0:5,13</p> <p>capacitor (1) 0:7</p> <p>capacitors (4) 0:23,9,10,7</p> <p>capacity (26) 0:12,15,14,18,5,7, 11,23,9,2,3,7,12,18, 24,18,21,3,2,19,17,23, 14,13,18,20</p> <p>capita (1) 0:1</p> <p>capital (2) 0:9,12</p> <p>caps (1) 0:11</p> <p>carcinogen (1) 0:5</p> <p>care (1) 0:10</p>	<p>careful (5) 0:6,5,13,2,6</p> <p>CARMODY (2) 0:4,20</p> <p>Carolina (2) 0:23,21</p> <p>CARON (8) 0:11,4,1,2,10,13,16, 4</p> <p>carry (2) 0:12,13</p> <p>carrying (2) 0:9,1</p> <p>Case (51) 0:9,1,21,21,24,3,6, 17,2,7,22,11,16,24,19, 22,23,24,12,13,8,16,7, 2,2,25,7,12,17,7,17, 23,7,2,9,13,6,16,10, 18,12,22,13,19,25,13, 12,6,24,22,23</p> <p>cases (1) 0:5</p> <p>Case's (1) 0:9</p> <p>casing (3) 0:18,23,11</p> <p>catastrophic (1) 0:12</p> <p>catch (1) 0:14</p> <p>catching (1) 0:23</p> <p>category (6) 0:13,5,9,5,20,20</p> <p>catenaries (1) 0:7</p> <p>cathodic (7) 0:6,7,7,18,22,4,14</p> <p>caught (2) 0:1,1</p> <p>Caused (2) 0:12,3</p> <p>CB (1) 0:5</p> <p>CBYD (2) 0:24,3</p> <p>CDOT (3) 0:13,18,24</p> <p>Cedar (3) 0:12,14,8</p> <p>cell (1) 0:14</p> <p>cells (1) 0:12</p> <p>center (3) 0:2,14,2</p> <p>central (5) 0:11,23,3,15,16</p> <p>certain (18) 0:13,19,5,6,9,15,5, 5,7,7,21,7,2,6,7,22,23, 6</p>	<p>certainly (27) 0:16,7,23,1,1,20,8, 25,18,6,14,22,25,1,16, 1,2,5,18,8,11,20,22, 13,5,18,16</p> <p>certificate (2) 0:17,3</p> <p>cetera (1) 0:7</p> <p>Chair (2) 0:18,25</p> <p>CHAIRMAN (94) 0:1,8,11,2,6,19,7, 18,12,23,3,7,11,15,19, 24,23,25,4,7,9,13,15, 3,7,15,16,22,4,21,24, 25,3,4,5,9,16,25,1,23, 14,22,15,16,24,17,22, 14,21,21,7,11,23,13, 24,1,25,20,9,4,15,2, 17,19,23,21,11,24,24, 9,11,13,24,5,6,15,11, 18,6,10,18,2,7,18,24, 20,3,1,9,1,5,8,13,23</p> <p>chairs (1) 0:7</p> <p>challenges (1) 0:16</p> <p>chance (3) 0:18,9,25</p> <p>chances (1) 0:17</p> <p>change (7) 0:21,13,8,16,21,5,6</p> <p>changed (3) 0:17,22,24</p> <p>changes (8) 0:23,25,9,12,25,8, 19,19</p> <p>changing (2) 0:14,23</p> <p>channels (1) 0:13</p> <p>characterization (2) 0:25,10</p> <p>characterize (4) 0:25,19,4,5</p> <p>charge (2) 0:7,23</p> <p>charged (1) 0:16</p> <p>charges (3) 0:9,19,7</p> <p>chat (1) 0:13</p> <p>cheap (1) 0:10</p> <p>cheaper (3) 0:16,16,2</p> <p>check (2) 0:2,14</p> <p>checked (1) 0:7</p>	<p>checkpoints (1) 0:3</p> <p>chemical (1) 0:24</p> <p>chemicals (2) 0:9,16</p> <p>Chester (2) 0:17,19</p> <p>chew (1) 0:10</p> <p>child (1) 0:17</p> <p>chillers (2) 0:5,6</p> <p>chime (2) 0:20,18</p> <p>chipping (1) 0:18</p> <p>Chiropractic (1) 0:4</p> <p>choice (1) 0:5</p> <p>choosing (1) 0:22</p> <p>chose (4) 0:3,5,9,9</p> <p>chosen (1) 0:6</p> <p>cinderblock (1) 0:7</p> <p>circuit (15) 0:7,10,11,12,15,16, 9,13,12,14,19,11,9,14, 16</p> <p>circuits (8) 0:22,2,4,7,5,16,20, 22</p> <p>circulate (2) 0:19,1</p> <p>circumstance (2) 0:7,18</p> <p>circumstances (1) 0:21</p> <p>cite (1) 0:1</p> <p>citizens (1) 0:23</p> <p>city (1) 0:16</p> <p>civil (1) 0:9</p> <p>CL&P (10) 0:21,5,25,3,16,1,10, 25,5,5</p> <p>claim (1) 0:7</p> <p>claims (2) 0:25,22</p> <p>clarification (1) 0:12</p> <p>clarifications (2) 0:14,24</p> <p>clarify (4)</p>
C				
<p>cable (34) 0:13,14,16,17,1,5, 23,3,14,15,12,2,23,4, 8,3,7,11,17,14,16,17, 22,20,20,7,9,17,14,21, 18,4,12,14</p> <p>cables (12) 0:25,1,18,20,23,3, 14,20,10,8,8,7</p> <p>cabling (1) 0:13</p> <p>calculate (1) 0:2</p> <p>calculated (2) 0:25,5</p> <p>calculation (3) 0:18,17,17</p>	<p>call (13) 0:2,25,4,22,6,9,6, 24,6,10,8,2,12</p> <p>call-before-you-dig (1) 0:15</p> <p>called (3) 0:3,1,4</p> <p>calling (1) 0:3</p> <p>calm (1) 0:15</p> <p>came (9) 0:2,24,10,2,20,7,21, 4,4</p> <p>cameras (1) 0:25</p> <p>camp (1) 0:11</p> <p>campaign (3) 0:17,9,20</p> <p>campaigns (1) 0:13</p> <p>can (95) 0:21,7,4,3,19,22,25, 22,21,10,3,24,2,9,7, 21,10,8,15,12,6,22,20, 13,6,8,3,6,9,4,20,1,10, 5,23,14,10,16,1,16,20, 1,18,3,1,17,16,25,13, 22,2,7,11,16,17,7,11, 3,6,4,5,21,6,2,8,9,12, 7,22,15,24,7,18,25,17, 25,8,6,12,6,23,12,14, 8,9,13,14,18,7,3,20, 21,12,15,1</p> <p>cap (3) 0:1,24,25</p> <p>capabilities (3) 0:4,3,8</p> <p>capability (10) 0:23,2,1,13,16,18, 20,13,14,11</p> <p>capable (2) 0:5,13</p> <p>capacitor (1) 0:7</p> <p>capacitors (4) 0:23,9,10,7</p> <p>capacity (26) 0:12,15,14,18,5,7, 11,23,9,2,3,7,12,18, 24,18,21,3,2,19,17,23, 14,13,18,20</p> <p>capita (1) 0:1</p> <p>capital (2) 0:9,12</p> <p>caps (1) 0:11</p> <p>carcinogen (1) 0:5</p> <p>care (1) 0:10</p>	<p>careful (5) 0:6,5,13,2,6</p> <p>CARMODY (2) 0:4,20</p> <p>Carolina (2) 0:23,21</p> <p>CARON (8) 0:11,4,1,2,10,13,16, 4</p> <p>carry (2) 0:12,13</p> <p>carrying (2) 0:9,1</p> <p>Case (51) 0:9,1,21,21,24,3,6, 17,2,7,22,11,16,24,19, 22,23,24,12,13,8,16,7, 2,2,25,7,12,17,7,17, 23,7,2,9,13,6,16,10, 18,12,22,13,19,25,13, 12,6,24,22,23</p> <p>cases (1) 0:5</p> <p>Case's (1) 0:9</p> <p>casing (3) 0:18,23,11</p> <p>catastrophic (1) 0:12</p> <p>catch (1) 0:14</p> <p>catching (1) 0:23</p> <p>category (6) 0:13,5,9,5,20,20</p> <p>catenaries (1) 0:7</p> <p>cathodic (7) 0:6,7,7,18,22,4,14</p> <p>caught (2) 0:1,1</p> <p>Caused (2) 0:12,3</p> <p>CB (1) 0:5</p> <p>CBYD (2) 0:24,3</p> <p>CDOT (3) 0:13,18,24</p> <p>Cedar (3) 0:12,14,8</p> <p>cell (1) 0:14</p> <p>cells (1) 0:12</p> <p>center (3) 0:2,14,2</p> <p>central (5) 0:11,23,3,15,16</p> <p>certain (18) 0:13,19,5,6,9,15,5, 5,7,7,21,7,2,6,7,22,23, 6</p>	<p>certainly (27) 0:16,7,23,1,1,20,8, 25,18,6,14,22,25,1,16, 1,2,5,18,8,11,20,22, 13,5,18,16</p> <p>certificate (2) 0:17,3</p> <p>cetera (1) 0:7</p> <p>Chair (2) 0:18,25</p> <p>CHAIRMAN (94) 0:1,8,11,2,6,19,7, 18,12,23,3,7,11,15,19, 24,23,25,4,7,9,13,15, 3,7,15,16,22,4,21,24, 25,3,4,5,9,16,25,1,23, 14,22,15,16,24,17,22, 14,21,21,7,11,23,13, 24,1,25,20,9,4,15,2, 17,19,23,21,11,24,24, 9,11,13,24,5,6,15,11, 18,6,10,18,2,7,18,24, 20,3,1,9,1,5,8,13,23</p> <p>chairs (1) 0:7</p> <p>challenges (1) 0:16</p> <p>chance (3) 0:18,9,25</p> <p>chances (1) 0:17</p> <p>change (7) 0:21,13,8,16,21,5,6</p> <p>changed (3) 0:17,22,24</p> <p>changes (8) 0:23,25,9,12,25,8, 19,19</p> <p>changing (2) 0:14,23</p> <p>channels (1) 0:13</p> <p>characterization (2) 0:25,10</p> <p>characterize (4) 0:25,19,4,5</p> <p>charge (2) 0:7,23</p> <p>charged (1) 0:16</p> <p>charges (3) 0:9,19,7</p> <p>chat (1) 0:13</p> <p>cheap (1) 0:10</p> <p>cheaper (3) 0:16,16,2</p> <p>check (2) 0:2,14</p> <p>checked (1) 0:7</p>	<p>checkpoints (1) 0:3</p> <p>chemical (1) 0:24</p> <p>chemicals (2) 0:9,16</p> <p>Chester (2) 0:17,19</p> <p>chew (1) 0:10</p> <p>child (1) 0:17</p> <p>chillers (2) 0:5,6</p> <p>chime (2) 0:20,18</p> <p>chipping (1) 0:18</p> <p>Chiropractic (1) 0:4</p> <p>choice (1) 0:5</p> <p>choosing (1) 0:22</p> <p>chose (4) 0:3,5,9,9</p> <p>chosen (1) 0:6</p> <p>cinderblock (1) 0:7</p> <p>circuit (15) 0:7,10,11,12,15,16, 9,13,12,14,19,11,9,14, 16</p> <p>circuits (8) 0:22,2,4,7,5,16,20, 22</p> <p>circulate (2) 0:19,1</p> <p>circumstance (2) 0:7,18</p> <p>circumstances (1) 0:21</p> <p>cite (1) 0:1</p> <p>citizens (1) 0:23</p> <p>city (1) 0:16</p> <p>civil (1) 0:9</p> <p>CL&P (10) 0:21,5,25,3,16,1,10, 25,5,5</p> <p>claim (1) 0:7</p> <p>claims (2) 0:25,22</p> <p>clarification (1) 0:12</p> <p>clarifications (2) 0:14,24</p> <p>clarify (4)</p>

0:24,21,11,19 classified (1) 0:5 classifies (1) 0:18 clean (5) 0:4,9,20,4,15 cleaned (1) 0:24 cleanup (2) 0:11,1 clear (8) 0:19,4,13,20,2,21, 18,23 clearance (1) 0:1 clearing (5) 0:22,23,25,15,21 clearly (4) 0:1,25,8,17 clerk's (2) 0:5,10 climate (3) 0:20,24,6 close (9) 0:21,24,24,23,1,15, 17,3,14 closer (5) 0:24,19,10,10,11 closes (1) 0:8 closest (1) 0:21 clothes (2) 0:17,18 cloud (2) 0:23,24 cluster (1) 0:16 CNG (1) 0:9 coating (7) 0:1,7,19,23,25,1,12 Cob (48) 0:24,15,21,18,23, 25,25,23,11,13,15,3, 22,15,17,18,10,16,17, 2,8,20,10,20,18,5,6, 10,18,25,6,3,24,5,9, 18,21,19,11,10,8,12, 14,8,10,11,2,16 cofferdam (5) 0:17,12,23,25,14 cofferdams (3) 0:12,4,1 cognizant (1) 0:2 coincident (1) 0:14 collaboratively (1) 0:2 collector (1) 0:5	co-locate (1) 0:4 color (1) 0:12 colorless (1) 0:2 combination (2) 0:7,21 combine (1) 0:22 combined (7) 0:4,25,5,16,20,22, 25 comfortable (1) 0:4 coming (8) 0:10,4,1,13,11,17, 22,24 COMM (5) 0:11,4,2,10,16 comment (4) 0:20,10,10,12 comments (3) 0:24,22,20 commercial (10) 0:15,6,15,13,19,1,5, 8,9,10 commission (3) 0:11,23,8 Commissioner (2) 0:25,13 committed (1) 0:12 common (4) 0:14,15,25,2 commonly (1) 0:6 communications (2) 0:6,17 communities (7) 0:24,25,2,5,7,5,15 community (3) 0:14,22,13 companies (2) 0:1,2 company (26) 0:3,8,12,16,25,25, 22,11,12,12,7,25,7,5, 13,22,4,5,14,19,16,12, 19,5,11,12 comparable (4) 0:5,3,7,6 compared (1) 0:15 compares (1) 0:13 comparing (2) 0:12,1 compatibility (1) 0:17 competent (2) 0:3,3 competitive (1)	0:20 compiled (1) 0:7 complete (5) 0:10,18,22,24,21 completed (4) 0:16,25,5,19 completely (2) 0:18,12 complex (1) 0:6 complications (2) 0:22,4 component (3) 0:7,16,4 components (3) 0:13,23,5 compounding (1) 0:15 comprehensive (4) 0:9,7,1,20 compress (1) 0:10 compressor (1) 0:12 Con (9) 0:1,20,22,6,7,17,19, 5,15 conceivable (2) 0:8,13 concept (1) 0:6 concern (6) 0:1,22,12,2,4,12 concerned (5) 0:15,6,4,22,3 concerning (2) 0:6,16 concerns (11) 0:6,1,10,12,5,10,14, 24,16,15,1 concluded (2) 0:22,15 conclusion (1) 0:21 conclusions (1) 0:9 concrete (22) 0:19,17,4,6,7,3,9, 14,9,10,3,8,14,15,2,2, 17,15,1,5,2,11 conductor (2) 0:8,25 conditioners (1) 0:4 conditions (10) 0:19,12,4,5,23,3,1, 15,18,20 conduct (3) 0:25,2,25 conducted (8) 0:20,6,9,21,12,16,8, 18	conductor (2) 0:11,16 conductors (1) 0:23 cones (1) 0:3 conference (1) 0:8 confidential (10) 0:10,20,25,14,17, 20,8,10,14,18 configuration (2) 0:17,22 confined (1) 0:6 confines (1) 0:9 confusion (1) 0:12 congested (2) 0:16,22 conjunction (1) 0:11 connected (5) 0:10,6,7,15,3 Connecticut (41) 0:7,21,3,12,14,25, 17,17,10,6,7,2,14,17, 23,25,12,17,8,3,24,6, 8,20,5,15,14,9,2,10, 21,20,24,7,6,15,15,5, 24,18,18 connecting (1) 0:24 connections (2) 0:2,2 conscience (3) 0:20,1,4 consecutive (1) 0:18 consequences (3) 0:21,23,2 conservation (10) 0:21,11,23,20,24,1, 9,10,14,14 conservative (1) 0:25 conserve (5) 0:23,8,9,22,7 consider (5) 0:3,21,11,12,24 considerably (1) 0:15 consideration (10) 0:21,9,17,11,18,15, 25,16,14,5 considered (2) 0:5,19 consistent (1) 0:8 constrain (1) 0:16 constrained (1)	0:23 constraints (2) 0:14,12 constricted (1) 0:1 constructed (5) 0:4,23,20,18,24 construction (66) 0:18,24,25,18,8,9, 13,14,25,24,5,2,2,4,9, 13,20,6,7,24,5,2,6,10, 24,2,24,13,11,20,3,16, 17,1,7,14,17,20,23,9, 14,17,19,25,18,6,3,4, 6,9,22,25,5,5,12,13, 14,21,14,11,12,22,1, 15,16,1 Consultation (1) 0:22 consumable (1) 0:14 CONSUMER (10) 0:10,9,20,4,13,16, 23,20,24,14 consumption (3) 0:23,12,22 contact (7) 0:15,21,12,13,15, 16,23 contacted (2) 0:12,14 contacting (1) 0:17 contain (1) 0:21 contained (5) 0:19,19,23,16,22 containment (1) 0:9 content (1) 0:17 contention (1) 0:5 contiguous (2) 0:20,7 contingencies (7) 0:23,24,15,7,10,15, 11 contingency (6) 0:25,10,2,16,1,20 contingent (1) 0:19 continually (1) 0:24 continuation (1) 0:10 continue (10) 0:8,14,23,8,6,22,20, 16,17,24 continued (1) 0:11 continues (3) 0:25,17,10
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

continuous (4) 0:16,19,6,8	Cos (48) 0:24,15,21,18,23, 25,25,23,11,13,15,3, 22,14,17,18,10,15,17, 2,7,20,9,20,18,5,6,10, 18,25,6,3,23,5,9,18, 20,19,11,10,8,11,13,8, 10,11,2,16	0:4 covers (1) 0:4 crane (1) 0:11 crapshoot (1) 0:16 crash (1) 0:13 crazy (1) 0:8 create (5) 0:19,7,8,14,4 creating (3) 0:11,4,14 credit (1) 0:6 credits (1) 0:21 crews (2) 0:20,20 criteria (3) 0:13,2,4 critical (2) 0:20,10 cross (4) 0:8,9,13,4 cross-examination (5) 0:6,23,5,17,3 cross-examine (1) 0:22 crossing (6) 0:18,15,1,7,14,14 cross-section (2) 0:8,21 crucial (1) 0:14 cry (1) 0:3 CT (1) 0:4 cubic (4) 0:24,3,19,20 culvert (3) 0:15,19,24 cumulative (1) 0:10 curious (7) 0:2,15,21,24,2,8,10 current (4) 0:5,12,7,8 currently (1) 0:16 curtailing (1) 0:20 curtailment (1) 0:8 curtain (1) 0:5 custom (1) 0:8 customer (20) 0:23,9,14,13,22,22,	24,16,22,2,15,18,11, 10,19,24,2,23,2,18 customers (53) 0:1,9,10,12,19,7,9, 10,16,7,8,11,12,14,25, 3,1,11,6,15,16,8,15, 17,10,16,18,19,19,20, 21,3,5,23,4,6,16,3,5, 13,15,20,7,3,24,14,14, 21,10,10,19,9,6 customized (1) 0:14 cut (3) 0:15,17,5 cycle (2) 0:25,3 cycles (1) 0:1	decade (1) 0:5 decades (3) 0:14,11,15 December (1) 0:2 decibel (3) 0:2,16,11 decide (1) 0:18 deciding (1) 0:15 decision (7) 0:6,25,21,16,3,19,9 decisions (1) 0:13 deck (1) 0:6 declarative (1) 0:1 declare (1) 0:11 decorating (1) 0:5 decreased (3) 0:22,5,5 decreasing (1) 0:14 deeds (1) 0:3 deenergize (1) 0:4 DEEP (5) 0:12,11,4,25,6 defer (5) 0:6,17,17,17,25 deferred (2) 0:22,24 deferring (1) 0:18 deficiency (2) 0:5,7 define (2) 0:22,8 defined (5) 0:22,2,4,23,23 definitely (4) 0:13,19,19,12 definition (1) 0:1 definitive (2) 0:7,16 degradation (1) 0:22 degrees (3) 0:18,24,24 delay (5) 0:21,11,12,21,12 delayed (3) 0:20,13,6 delaying (1) 0:13 delete (2)
contract (2) 0:1,8 contractor (12) 0:9,16,3,6,22,22,24, 14,18,22,11,7 contractors (6) 0:2,14,11,10,18,21 contributing (4) 0:6,17,25,15 control (4) 0:1,14,8,8 controls (1) 0:19 conundrum (1) 0:21 convenience (1) 0:6 conversations (1) 0:24 conversion (1) 0:3 converted (1) 0:6 converting (2) 0:8,16 cooking (3) 0:17,17,22 cool (1) 0:2 cooldown (1) 0:3 cooler (1) 0:25 cooling (4) 0:22,23,4,11 cools (1) 0:20 Cooper (16) 0:10,2,7,10,15,17, 12,15,8,14,18,22,4,14, 21,25 Cooper's (1) 0:12 copied (1) 0:12 copies (4) 0:8,8,12,8 copy (2) 0:8,3 corner (1) 0:17 corporate (1) 0:20 corrected (3) 0:4,16,21 corrections (2) 0:14,24 corridor (3) 0:18,19,3 corrosion (3) 0:17,22,11	cost (73) 0:6,19,21,8,9,13,19, 13,3,10,25,12,15,12,1, 13,18,24,24,25,1,6,21, 19,17,22,25,1,13,1,4, 6,4,5,20,24,10,21,13, 18,9,18,22,19,3,22,8, 9,9,12,16,18,17,1,10, 18,6,16,12,14,18,2,7, 16,11,21,9,12,24,13, 20,9,21 cost-conscious (1) 0:1 cost-effective (1) 0:14 cost-effectiveness (1) 0:13 costing (1) 0:9 costs (25) 0:4,24,22,10,10,11, 8,18,20,22,22,9,13,21, 1,16,23,2,14,19,25,7, 12,13,18 Council (39) 0:4,3,23,13,9,9,20, 6,9,17,9,9,12,7,22,15, 23,5,12,6,20,1,15,21, 7,19,9,10,15,16,9,14, 8,13,3,12,16,7,8 councilmembers (1) 0:22 Council's (3) 0:15,1,9 COUNSEL (10) 0:10,9,20,17,24,20, 24,7,9,11 counted (1) 0:21 country (1) 0:6 country's (1) 0:9 County (1) 0:25 couple (13) 0:10,8,2,2,16,8,5, 18,6,11,12,12,6 course (3) 0:14,10,17 court (2) 0:14,14 cover (3) 0:15,23,24 covering (1)	0:4 0:4 0:11 0:16 0:13 0:8 0:19,7,8,14,4 0:11,4,14 0:6 0:21 0:20,20 0:13,2,4 0:20,10 0:8,9,13,4 0:6,23,5,17,3 0:22 0:18,15,1,7,14,14 0:8,21 0:14 0:3 0:4 0:24,3,19,20 0:15,19,24 0:10 0:2,15,21,24,2,8,10 0:5,12,7,8 0:16 0:20 0:8 0:5 0:8 0:23,9,14,13,22,22,	D dam (1) 0:12 damage (5) 0:3,7,15,19,14 damaged (2) 0:25,22 dark (1) 0:10 darn (1) 0:20 dashed (1) 0:6 data (7) 0:23,3,4,4,5,6,15 date (3) 0:2,18,10 dated (10) 0:24,2,5,7,10,14,18, 21,1,17 daunting (1) 0:7 Davis (1) 0:15 day (16) 0:8,15,15,18,20,23, 1,16,2,3,17,15,25,7,7, 21 days (2) 0:13,25 daytime (1) 0:2 dead-end (1) 0:4 deaf (1) 0:10 deal (7) 0:11,13,22,23,19, 22,16 dealing (4) 0:16,19,14,3 dealt (1) 0:8	

0:3,4 demand (18) 0:1,2,10,8,13,10,20, 24,19,25,17,23,24,10, 5,4,13,21 demolition (1) 0:13 demonstrated (1) 0:20 demonstration (1) 0:12 dense (1) 0:3 density (1) 0:3 department (1) 0:5 dependent (1) 0:10 depending (1) 0:21 Depends (3) 0:18,2,12 depicted (1) 0:14 deposited (1) 0:5 depressions (1) 0:13 depth (5) 0:1,5,5,9,5 depths (1) 0:9 derived (1) 0:3 description (1) 0:17 design (23) 0:3,1,14,2,5,15,23, 22,13,5,8,1,2,5,16,15, 6,10,18,19,23,6,13 designated (1) 0:4 designed (7) 0:13,3,14,6,12,23, 14 designs (3) 0:23,12,17 desirability (1) 0:6 desirable (2) 0:13,5 desire (1) 0:19 desired (1) 0:20 desires (1) 0:6 despite (1) 0:25 destroy (1) 0:5 detail (12)	0:25,1,11,14,23,19, 17,1,16,9,18,16 detailed (9) 0:13,17,3,25,13,17, 18,9,10 details (4) 0:8,23,6,23 detect (2) 0:20,21 detection (6) 0:20,24,24,17,23,18 determination (1) 0:22 determinations (1) 0:11 determine (5) 0:5,22,18,15,21 determined (4) 0:25,6,17,18 detriment (1) 0:14 develop (3) 0:7,22,24 developed (5) 0:6,16,10,17,6 development (3) 0:8,8,5 dewatering (1) 0:16 diagram (4) 0:19,3,7,8 dialogue (1) 0:11 dice (1) 0:24 dictated (1) 0:12 dictates (1) 0:10 dielectric (3) 0:4,14,1 difference (5) 0:21,19,22,15,8 different (30) 0:4,14,12,1,10,2,16, 14,15,22,25,1,19,1,3, 4,4,5,5,6,5,6,8,9,7,5, 24,23,17,7 differentials (1) 0:3 differs (1) 0:1 difficult (3) 0:1,14,18 difficulties (3) 0:13,16,13 difficulty (2) 0:2,10 dig (8) 0:17,21,25,2,14,9,7, 2 digging (3) 0:22,14,4	dig-in (1) 0:9 dig-ins (1) 0:7 diligence (1) 0:17 dimensions (1) 0:13 dip (1) 0:12 direct (3) 0:12,16,25 directed (1) 0:11 direction (4) 0:3,7,1,23 directional (6) 0:10,15,20,19,25,22 directly (2) 0:3,22 Director (2) 0:3,4 disagree (1) 0:4 disallowances (1) 0:7 discharge (1) 0:20 disclosed (1) 0:15 discomfort (1) 0:20 DISCOUNT (4) 0:17,16,23,23 discuss (1) 0:9 discussed (3) 0:20,17,23 discussion (8) 0:16,23,20,14,10, 18,15,19 discussions (3) 0:20,25,6 disingenuous (1) 0:23 disparate (1) 0:19 dispatched (6) 0:12,17,24,8,12,15 disposal (2) 0:11,19 disposing (1) 0:8 dispute (1) 0:8 disrupt (1) 0:17 disruption (1) 0:22 dissipating (1) 0:3 dissolved (1) 0:8	distance (3) 0:23,11,18 distribute (1) 0:10 distributed (4) 0:5,19,14,20 distribution (35) 0:18,3,2,7,4,15,8,7, 19,25,23,2,18,24,1,17, 5,6,12,14,13,4,8,15,7, 19,1,1,5,21,11,22,11, 20,23 district (1) 0:12 disturbance (1) 0:13 disturbing (2) 0:21,16 dive (2) 0:21,5 divided (1) 0:22 docket (4) 0:3,25,6,14 dockets (2) 0:5,17 document (5) 0:11,7,16,15,2 documentation (2) 0:21,9 documents (3) 0:7,1,3 dollars (10) 0:11,25,1,18,17,23, 11,16,19,3 domain (1) 0:18 done (47) 0:20,13,15,8,23,17, 22,13,4,6,25,1,2,2,20, 22,4,23,13,23,1,6,23, 20,11,10,5,5,21,7,7, 16,21,20,22,25,10,18, 22,4,4,24,11,21,8,12, 21 door (3) 0:10,8,23 DOT (2) 0:20,17 double (1) 0:19 doubled (1) 0:25 down (38) 0:5,24,24,11,3,22,4, 3,5,15,6,14,19,20,20, 5,10,25,1,6,3,8,14,22, 8,19,12,7,18,3,16,3, 21,16,23,5,13,17 downsides (1) 0:20 downtown (1) 0:9	dozen (2) 0:24,23 DPW (3) 0:13,14,24 Dr (76) 0:19,16,18,19,7,8, 10,20,8,12,16,20,3,8, 18,2,17,22,13,23,18, 11,6,6,23,8,3,3,4,11, 14,14,6,22,25,17,9,3, 1,15,21,22,11,10,13, 21,22,9,23,10,16,16, 17,16,23,11,23,9,11, 20,7,4,6,1,8,12,15,24, 1,22,11,13,14,25,1,3 drains (5) 0:5,9,21,6,4 dramatically (1) 0:22 drastic (1) 0:14 drawing (2) 0:22,15 drawings (1) 0:24 dreamed (1) 0:10 dress (1) 0:3 driest (1) 0:9 drill (4) 0:10,15,20,14 drilling (14) 0:4,2,3,12,19,23,25, 1,14,21,22,3,22,5 drills (2) 0:6,9 Drive (6) 0:23,5,6,1,1,7 driven (4) 0:16,18,22,12 drivers (1) 0:8 drops (1) 0:21 drugs (1) 0:14 dry (1) 0:8 drying (7) 0:14,17,17,8,10,4, 18 DUBUQUE (52) 0:8,18,19,7,19,1,5, 13,16,13,20,4,14,23,1, 6,11,24,3,15,2,6,19, 24,15,25,7,17,13,1,13, 23,8,15,21,16,25,6,10, 17,11,22,24,8,2,18,20, 5,13,18,3,7 duct (5) 0:17,17,23,15,24
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ductless (1) 0:20	0:24,14,15	elevation (2) 0:12,10	engineer (1) 0:3	0:24,10
due (7) 0:5,13,4,14,7,24,20	ecosystem (2) 0:24,20	elevations (1) 0:6	Engineering (14) 0:2,3,1,21,9,10,13, 19,8,9,17,24,17,10	ESQ (4) 0:8,11,22,23
dug (1) 0:16	Ed (9) 0:1,20,22,6,7,17,19, 5,15	eleven (3) 0:2,9,10	England (12) 0:20,17,11,13,17,8, 15,1,11,2,11,22	essence (4) 0:14,13,4,1
duly (1) 0:3	edge (1) 0:15	Elia (3) 0:17,21,20	enhance (1) 0:9	essentially (10) 0:22,10,6,18,16,5,9, 6,9,17
duration (1) 0:18	editorial (1) 0:23	elicit (2) 0:24,22	enough (4) 0:23,24,6,6	established (1) 0:14
during (21) 0:9,24,10,4,9,14,2, 4,6,3,17,20,16,22,17, 24,5,24,4,11,21	EDWARD (2) 0:22,3	eliciting (1) 0:2	ensure (5) 0:10,22,10,3,7	establishments (1) 0:10
duty (1) 0:21	effect (8) 0:6,7,23,1,3,25,3,3	Ellis (1) 0:6	enter (2) 0:11,14	Estate (7) 0:6,5,7,19,20,20,19
E	effected (1) 0:21	else (12) 0:16,20,24,21,15, 18,9,6,20,18,25,21	entire (5) 0:1,25,24,12,5	estimate (13) 0:24,3,7,14,15,13, 23,9,18,6,11,13,13
	effective (5) 0:20,13,22,13,7	elsewhere (1) 0:15	entirely (1) 0:1	estimated (2) 0:18,5
	effectively (1) 0:1	embarked (2) 0:10,8	entitled (1) 0:25	estimates (1) 0:18
E-1 (2) 0:24,25	effectiveness (2) 0:18,10	embeds (1) 0:7	entity (3) 0:8,15,4	estimating (1) 0:3
E-15 (3) 0:3,9,2	effects (1) 0:10	emergencies (1) 0:14	entry (1) 0:10	et (1) 0:6
E-3 (1) 0:15	efficiencies (1) 0:11	emergency (15) 0:18,12,13,6,17,18, 22,11,23,14,14,2,9,24, 13	entryways (1) 0:23	evaluate (1) 0:24
E-4.1.2 (1) 0:6	efficiency (32) 0:7,11,13,3,7,6,7, 11,14,4,6,14,15,21,14, 4,24,1,4,22,24,6,9,24, 6,17,25,20,11,18,24,2	eminent (1) 0:18	environment (5) 0:7,3,1,9,14	evaluating (1) 0:24
E-5 (6) 0:7,13,2,7,10,1	efficient (5) 0:24,21,24,1,20	employees (1) 0:21	environmental (8) 0:17,15,13,19,4,18, 23,24	evaluation (1) 0:13
E-6-E (1) 0:6	efficiently (1) 0:23	encased (3) 0:10,1,15	environmentally (1) 0:20	even (27) 0:13,21,24,23,17, 19,11,23,9,3,8,25,1,3, 10,22,14,9,11,1,19,17, 5,13,18,19,7
earlier (12) 0:1,21,16,5,2,4,19, 11,21,3,16,13	efforts (1) 0:1	encompassing (1) 0:23	epoxy (3) 0:1,22,1	event (14) 0:2,11,12,1,17,16, 22,14,11,12,25,19,9, 20
early (2) 0:21,10	eight (3) 0:18,21,3	encourage (6) 0:22,14,17,10,14,9	equate (1) 0:15	events (2) 0:3,7
earth (2) 0:8,9	Eighty (1) 0:8	end (17) 0:2,23,25,6,10,10, 23,8,13,3,8,15,17,11, 22,6,22	equated (1) 0:13	EVERSOURCE (58) 0:3,16,12,22,23,25, 3,8,11,15,19,22,16,22, 13,20,8,12,22,25,1,4, 5,25,1,16,8,14,8,18, 22,6,11,12,22,6,8,20, 8,25,13,11,8,19,15,2, 8,9,23,8,14,17,12,14, 18,23,16,18
ease (1) 0:7	either (14) 0:21,5,15,13,17,15, 17,11,11,7,2,10,13,25	ended (2) 0:12,17	equates (1) 0:8	Eversource's (5) 0:10,6,18,8,7
easement (1) 0:2	elaborate (2) 0:6,24	ends (2) 0:25,11	equipment (29) 0:12,7,7,21,5,17,1, 13,4,8,14,4,3,21,17,5, 5,23,21,1,19,21,8,10, 15,20,3,2,15	everybody (2) 0:23,15
easements (1) 0:7	electric (18) 0:3,9,13,14,22,11,7, 20,4,16,11,3,20,24,16, 21,4,5	Energize (5) 0:3,4,16,4,7	equity (1) 0:8	everyone (2) 0:13,1
easier (1) 0:5	electrical (5) 0:9,23,23,14,13	ENERGY (55) 0:3,16,12,22,3,6,10, 13,16,24,25,14,21,24, 11,6,6,7,11,14,4,5,9, 13,20,11,14,4,23,1,1, 3,21,5,6,22,23,6,9,24, 6,12,17,16,5,25,20,4, 8,10,15,18,24,2,13	EROSION (1) 0:16	evicted (1) 0:20
easily (2) 0:20,2	electricians (1) 0:16	energy-efficient (1) 0:15	ES-3 (1) 0:14	eviction (1) 0:2
east (2) 0:22,23	electricity (12) 0:2,4,17,19,1,5,21, 4,16,13,9,14	enforce (1) 0:23	ES-7 (1) 0:11	evidence (3) 0:13,22,1
Eastern (2) 0:17,19	electronics (1) 0:25	engage (1) 0:18	escorted (1) 0:4	
easy (5) 0:2,2,4,17,6	element (2) 0:20,22		especially (2)	
eat (1) 0:19	elements (1) 0:17			
ebbs (1) 0:24				
ecological (1) 0:12				
economic (5) 0:21,7,4,11,15				
economy (3)				

evident (1) 0:12	0:24,15,9,7,16,20, 14,13,8,16,24,6,11,13, 3,22	extract (1) 0:6	0:18	0:9
evidentiary (1) 0:25	exists (2) 0:14,16	extreme (2) 0:4,12	fault (6) 0:20,14,21,13,21,24	filled (2) 0:5,19
exact (7) 0:2,4,13,14,15,17, 23	exit (1) 0:13	extremely (3) 0:18,21,18	faulted (1) 0:20	final (4) 0:4,22,22,23
exactly (8) 0:14,20,22,20,20, 20,9,7	expand (9) 0:24,14,16,19,21, 18,2,12,3	eye (1) 0:15	faults (3) 0:14,16,14	finalized (1) 0:7
examined (4) 0:17,5,13,24	expanding (2) 0:1,21	F	favor (1) 0:24	finally (1) 0:21
example (18) 0:8,12,14,9,8,4,16, 12,9,10,23,15,12,19, 25,4,11,16	expansion (7) 0:13,11,9,16,25,20, 20	facade (1) 0:14	feasible (3) 0:16,19,23	financing (1) 0:8
examples (1) 0:6	expect (3) 0:14,18,13	face (1) 0:9	features (1) 0:17	find (11) 0:18,4,5,20,20,18, 19,2,11,10,21
excavate (3) 0:23,17,15	expected (1) 0:23	faces (1) 0:9	fed (2) 0:10,11	findings (1) 0:23
excavated (3) 0:10,18,9	expended (1) 0:17	facilities (9) 0:25,1,17,14,11,20, 4,4,13	federal (3) 0:11,25,16	fine (1) 0:5
excavating (3) 0:24,3,13	expense (2) 0:12,7	facility (7) 0:21,8,4,14,9,10,22	feed (1) 0:2	finer (1) 0:25
excavation (3) 0:10,12,13	expensive (6) 0:21,10,16,16,24,7	facing (2) 0:19,21	feeder (2) 0:15,20	finish (1) 0:2
excavations (2) 0:7,4	experience (13) 0:24,2,9,1,19,9,15, 24,25,5,15,18,17	fact (29) 0:18,9,2,23,21,19,3, 19,11,3,12,18,13,25,2, 25,22,22,24,14,20,1,3, 8,5,20,3,1,2	feeders (7) 0:24,23,9,13,17,2, 10	finite (1) 0:19
exceeded (1) 0:22	experienced (2) 0:15,10	factor (12) 0:23,17,23,19,22, 21,25,3,5,21,23,7	feeding (1) 0:20	fire (9) 0:8,3,6,18,20,1,5,6, 14
excellent (1) 0:5	expert (5) 0:5,18,25,9,16	factors (2) 0:17,3	feeds (1) 0:24	firefighters (1) 0:5
except (3) 0:4,8,16	explain (7) 0:19,2,11,23,6,8,7	facts (1) 0:19	feel (7) 0:12,6,14,17,19,9, 20	fires (5) 0:17,20,23,17,18
exception (1) 0:10	explore (2) 0:12,2	fail (2) 0:23,23	feeling (2) 0:5,18	firewall (4) 0:18,19,24,11
exclude (1) 0:18	exploring (1) 0:6	failure (2) 0:16,13	feet (36) 0:22,24,22,20,22,1, 6,8,5,3,23,5,7,15,17, 18,20,6,8,14,15,1,6,8, 12,14,18,2,5,10,10,18, 8,12,15,16	FIRM (5) 0:19,19,25,4,17
exclusively (1) 0:13	explosive (1) 0:6	failures (3) 0:19,18,7	felt (5) 0:1,2,13,22,18	firms (1) 0:18
Excuse (5) 0:6,16,22,13,3	exposed (1) 0:8	fair (23) 0:23,10,3,19,13,19, 18,18,24,10,8,4,12,2, 4,21,5,23,1,7,13,21,24	fenced (1) 0:9	First (31) 0:23,3,17,11,17,1, 10,8,12,23,2,7,14,23, 4,18,15,12,14,18,14, 21,16,19,17,23,6,13, 19,18,18
excused (1) 0:14	expressing (1) 0:1	Fairfield (1) 0:25	few (3) 0:15,22,1	fish (1) 0:25
Executive (1) 0:4	extend (1) 0:3	fairly (13) 0:4,11,14,25,7,6,9, 5,6,24,22,6,7	fewer (2) 0:10,10	fit (2) 0:5,19
executives (1) 0:12	extended (1) 0:9	faith (1) 0:17	Field (9) 0:6,19,21,9,9,14,15, 15,11	fits (1) 0:4
exempt (5) 0:10,14,1,6,11	extending (2) 0:22,16	fall (2) 0:24,24	figure (12) 0:17,16,5,5,22,22,9, 18,17,23,2,19	five (22) 0:19,2,4,8,11,22,1, 19,18,20,24,12,24,22, 9,13,19,1,10,10,16,3
exhausted (1) 0:18	extensive (2) 0:22,12	fans (1) 0:10	figured (1) 0:20	five-year (2) 0:7,17
Exhibit (19) 0:20,2,7,14,25,3,5, 8,11,14,19,22,15,20,3, 7,18,11,10	extent (2) 0:7,5	far (16) 0:1,1,7,7,23,12,17, 24,11,17,3,8,4,11,18,3	file (4) 0:5,7,2,7	fix (2) 0:7,4
exhibits (16) 0:13,10,17,22,3,6, 22,5,7,14,14,16,1,4, 21,24	external (1) 0:23	fast (1) 0:1	filed (12) 0:4,11,11,16,21,4,6, 23,8,13,11,9	fixing (1) 0:12
exist (3) 0:22,24,4	extinguish (1) 0:6	fat (1) 0:1	filing (1) 0:9	flagship (1) 0:11
existing (16)	extinguished (1) 0:6		fill (1)	flair (1) 0:4

flat (3) 0:12,14,9	0:11	Franklin (1) 0:1	19,22,4,17,23,4,5,16, 1,4,15,2,18,25,20,3,17	0:1,20,21,5,5,24,11, 15,22,13,15,4,6,21,24, 19,12,15,20,23,15,12, 1,4,18,23,20,25,4,7, 22,18		
flavor (1) 0:1	0:15,15,16,19,17,4, 11,11,24,15,18,21,8	frankly (2) 0:18,8	Gardell (45) 0:4,22,13,4,9,18,2, 10,6,21,3,5,11,5,2,9,6, 9,13,9,15,21,3,8,14, 11,16,20,8,22,3,1,13, 20,25,6,13,2,11,1,5, 14,23,9,6	Google (1) 0:15		
fleet (1) 0:9	footage (1) 0:5	French (1) 0:3	frequency (2) 0:25,9	government (3) 0:4,25,16		
flexible (1) 0:21	football (1) 0:24	frequency (2) 0:25,9	frequenting (1) 0:9	Governor (1) 0:18		
flipping (1) 0:13	footings (1) 0:22	front (4) 0:5,4,19,6	front (4) 0:5,4,19,6	gradient (1) 0:21		
flipside (1) 0:16	force (4) 0:21,22,23,24	fuel (5) 0:9,9,12,16,12	fuel (5) 0:9,9,12,16,12	granted (3) 0:21,6,15		
flood (13) 0:1,12,13,23,18,20, 23,25,9,11,18,8,9	Forced (8) 0:19,20,23,5,5,22, 22,22	fueled (1) 0:16	fueled (1) 0:16	grants (1) 0:17		
floodplain (5) 0:23,1,7,15,3	forecast (9) 0:21,4,16,1,5,3,10, 3,4	fuels (1) 0:16	fuels (1) 0:16	grass (1) 0:6		
floods (3) 0:15,24,5	forecasted (3) 0:15,5,15	full (6) 0:14,6,15,1,12,13	full (6) 0:14,6,15,1,12,13	grassland (1) 0:23		
flow (8) 0:20,23,8,9,14,16,8, 9	forefront (1) 0:9	fully (3) 0:9,2,19	fully (3) 0:9,2,19	gravel (2) 0:19,18		
flow-able (1) 0:9	foresee (2) 0:13,25	funded (1) 0:10	funded (1) 0:10	great (7) 0:24,14,11,9,19,22, 7		
flowing (2) 0:18,2	forest (5) 0:9,25,5,10,17	funding (1) 0:6	funding (1) 0:6	Greater (2) 0:15,11		
flows (2) 0:20,24	forested (1) 0:18	further (17) 0:16,14,23,9,9,6,7, 14,3,24,16,8,16,9,16, 7,7	further (17) 0:16,14,23,9,9,6,7, 14,3,24,16,8,16,9,16, 7,7	greatest (1) 0:12		
fluid (7) 0:5,18,22,1,24,2,19	Forget (3) 0:8,2,4	future (23) 0:20,9,3,24,13,23,4, 7,1,9,14,20,10,3,13, 13,23,4,9,12,6,9,3	future (23) 0:20,9,3,24,13,23,4, 7,1,9,14,20,10,3,13, 13,23,4,9,12,6,9,3	greatly (2) 0:2,5		
fluid-filled (1) 0:1	forgetting (1) 0:8			Green (6) 0:7,11,16,16,1,11		
fluidized (2) 0:10,25	form (5) 0:20,10,15,17,12			greener (1) 0:23		
fluids (3) 0:20,21,9	formal (2) 0:6,7			Greenwich (117) 0:11,12,21,25,6,3,1, 4,24,10,18,22,6,20,23, 18,21,5,18,4,6,25,15, 20,20,23,3,13,24,11,7, 13,15,8,3,7,17,18,1, 16,10,17,5,9,17,5,23, 14,7,16,25,4,4,18,20, 20,21,20,6,14,18,22, 11,2,6,10,8,1,19,13,2, 6,10,25,14,7,17,24,1, 5,8,15,20,9,12,14,17, 22,25,6,11,22,19,19,2, 22,2,4,14,16,19,13,16, 20,1,2,13,10,17,9,12, 19,9,21,14,19,10		
fly (1) 0:25	formidable (1) 0:25			grew (1) 0:18		
FOA (9) 0:18,23,7,1,1,5,5,6, 6	forth (13) 0:15,3,16,3,3,2,24, 18,4,8,19,16,6	G	G	grid (4) 0:1,4,7,10		
focus (2) 0:11,15	forum (1) 0:18	G-8 (3) 0:22,4,6	G-8 (3) 0:22,4,6	ground (8) 0:5,3,11,1,25,20,15, 15		
focuses (1) 0:12	forward (15) 0:21,3,1,2,2,5,13,1, 12,17,8,10,16,12,21	Gabor (2) 0:19,16	Gabor (2) 0:19,16	groundwater (10) 0:25,23,2,13,10,20, 21,2,11,12		
focusing (1) 0:8	found (3) 0:24,21,9	Gagnon (181) 0:3,22,13,4,7,15,25, 8,18,25,14,1,10,22,20, 1,5,12,13,22,15,4,10, 14,7,7,11,17,21,1,5, 19,11,22,1,7,11,21,5, 11,15,20,1,8,19,19,21, 8,18,22,3,19,18,24,16, 9,24,8,15,12,19,25,5, 11,19,23,23,13,24,13, 20,17,6,16,7,18,4,9, 14,19,1,25,10,22,22,9, 16,5,19,25,11,16,24,9, 13,16,24,2,10,15,24, 20,15,14,12,5,11,21, 20,4,5,22,25,14,20,5, 19,2,2,24,11,11,6,16, 20,21,1,4,18,23,2,7, 16,22,7,10,14,24,8,13, 18,24,4,10,20,25,4,8, 3,9,11,15,22,5,3,3,19, 14,23,18,19,11,8,12,	Gagnon (181) 0:3,22,13,4,7,15,25, 8,18,25,14,1,10,22,20, 1,5,12,13,22,15,4,10, 14,7,7,11,17,21,1,5, 19,11,22,1,7,11,21,5, 11,15,20,1,8,19,19,21, 8,18,22,3,19,18,24,16, 9,24,8,15,12,19,25,5, 11,19,23,23,13,24,13, 20,17,6,16,7,18,4,9, 14,19,1,25,10,22,22,9, 16,5,19,25,11,16,24,9, 13,16,24,2,10,15,24, 20,15,14,12,5,11,21, 20,4,5,22,25,14,20,5, 19,2,2,24,11,11,6,16, 20,21,1,4,18,23,2,7, 16,22,7,10,14,24,8,13, 18,24,4,10,20,25,4,8, 3,9,11,15,22,5,3,3,19, 14,23,18,19,11,8,12,	gets (2) 0:15,11	GIS (6) 0:1,1,25,25,22,10	group (7)
folks (4) 0:3,11,14,7	foundation (1) 0:22					
follow (10) 0:17,4,13,19,19,17, 10,7,25,10	four (7) 0:11,25,2,6,21,19, 20					
followed (1) 0:8	fourth (2) 0:17,1					
following (1) 0:8	frac (1) 0:19					
follow-on (2) 0:18,22	fracking (2) 0:15,2					
follows (3) 0:18,6,25	fragment (1) 0:11					
follow-up (6) 0:23,5,14,16,1,3	framing (1) 0:2					
follow-ups (1)						

0:10,7,3,13,15,3,2 grout (2) 0:1,21 grow (2) 0:4,5 growing (2) 0:24,7 grown (2) 0:2,3 growth (9) 0:3,11,15,18,11,18, 18,19,17 guarantee (4) 0:18,1,2,22 guess (21) 0:6,9,10,4,24,3,23, 15,14,22,6,9,11,22,6, 22,9,23,20,19,3 guestimated (1) 0:8	Harbor (8) 0:14,9,17,13,20,11, 24,16 hard (4) 0:9,12,20,7 hardens (1) 0:11 harder (1) 0:2 hardset (1) 0:13 Hartford (3) 0:9,6,5 hate (1) 0:2 Haven (2) 0:23,20 hay (1) 0:25 hazard (1) 0:4 HDD (2) 0:23,13 heading (1) 0:1 health (1) 0:13 hear (15) 0:7,8,12,10,11,18,9, 2,14,9,13,16,5,1,11 heard (7) 0:25,5,1,2,23,4,9 hearing (21) 0:9,10,4,14,20,3,13, 22,19,8,22,13,18,2,21, 7,22,25,3,9,12 heart (1) 0:16 hearts (1) 0:16 heat (7) 0:20,16,22,25,2,12, 13 heating (5) 0:13,16,6,4,16 heck (1) 0:5 height (1) 0:19 Heights (3) 0:12,14,9 Helco (1) 0:25 held (4) 0:10,12,24,13 hell (2) 0:5,10 help (14) 0:17,20,21,17,4,14, 13,23,8,13,1,8,10,7 helped (1) 0:4 helpful (1)	0:16 helps (2) 0:15,10 hence (1) 0:4 HENNESSEY (2) 0:5,21 hereby (1) 0:11 hidden (2) 0:5,5 high (13) 0:8,22,17,20,2,9,1, 15,3,19,18,17,20 high-efficiency (6) 0:21,24,19,3,3,17 higher (8) 0:21,6,15,4,23,24, 11,8 highest (2) 0:5,8 highly (1) 0:22 high-pressure (1) 0:5 high-strength (1) 0:1 high-tension (3) 0:20,14,16 high-voltage (1) 0:2 Highway (18) 0:1,7,22,12,17,13, 14,5,15,12,19,15,19, 22,24,16,1,2 hire (1) 0:10 historical (1) 0:9 historically (1) 0:6 history (3) 0:16,1,2 hit (3) 0:19,21,18 hitting (1) 0:6 hold (3) 0:25,11,10 holder (1) 0:3 holding (3) 0:20,25,11 hole (2) 0:5,2 home (2) 0:12,20 homeowner (2) 0:15,15 homes (4) 0:21,22,13,19 homework (2) 0:4,21	hopeful (1) 0:13 hopefully (2) 0:20,1 horizon (1) 0:7 horizontal (6) 0:10,5,12,19,22,5 horse (1) 0:11 hose (1) 0:24 Hospital (4) 0:9,11,11,11 hospitals (2) 0:10,14 host (1) 0:9 hot (9) 0:14,13,16,6,4,13, 16,7,13 hotter (1) 0:1 hour (4) 0:8,20,19,17 hours (12) 0:10,24,24,21,22, 11,25,25,15,2,3,21 House (8) 0:18,24,2,3,25,2,21, 23 houses (3) 0:24,12,23 housing (1) 0:8 HPF (1) 0:17 HPFF (9) 0:3,2,19,19,9,15,2, 18,3 huge (3) 0:1,4,21 hundred (16) 0:2,19,21,21,8,6,3, 5,5,22,23,5,24,15,22, 18 hundreds (1) 0:10 hundred-year (1) 0:9 hypothetically (1) 0:7	0:14 identical (1) 0:6 identified (2) 0:7,2 identify (3) 0:10,10,16 identifying (1) 0:15 ie (1) 0:25 ifs (1) 0:14 ignored (1) 0:16 illuminate (1) 0:1 illuminating (5) 0:6,9,13,25,4 illustrates (1) 0:25 imagination (1) 0:23 immediately (1) 0:17 impact (27) 0:23,6,5,24,24,15, 18,10,20,13,23,7,17,6, 3,24,1,19,2,24,24,20, 13,12,12,15,13 impacted (4) 0:4,6,18,13 impacting (1) 0:4 impacts (12) 0:6,15,21,1,14,4,3, 19,19,11,9,12 impervious (2) 0:15,18 important (1) 0:16 impossible (1) 0:10 improve (1) 0:2 improved (1) 0:6 improvement (2) 0:1,10 improvements (6) 0:1,11,10,19,20,22 inactive (1) 0:13 incentive (6) 0:23,19,9,11,13,13 incentives (4) 0:20,8,21,25 inch (1) 0:25 inches (1) 0:5 incident (1) 0:25
H				
H2OA (1) 0:6 habitat (1) 0:2 Haddam (1) 0:5 half (10) 0:20,5,19,19,24,11, 9,1,2,3 Hall (1) 0:6 hammer (1) 0:13 Hampshire (3) 0:16,12,20 hand (1) 0:9 handle (1) 0:13 hands (2) 0:1,23 hang (2) 0:12,18 hanging (1) 0:11 Hannon (29) 0:2,3,16,1,18,22,22, 7,17,10,18,9,20,8,12, 11,4,11,18,9,19,19,16, 17,8,15,9,10,19 Hannon's (1) 0:23 happen (7) 0:3,18,22,5,25,2,21 happened (3) 0:2,15,11 happening (2) 0:18,20 happens (8) 0:3,3,6,7,10,11,13,6				
			I	
			I-90 (1) 0:1 I-95 (3) 0:16,18,2 idea (7) 0:11,4,15,23,14,2, 17 ideas (1)	

include (9) 0:15,23,23,10,22,8, 25,10,21	0:16,5,8	insulator (1) 0:13	0:23	0:10,13,21,15,20
included (3) 0:1,14,21	inflationary (1) 0:21	integral (1) 0:7	intersection (1) 0:9	items (3) 0:14,19,25
includes (4) 0:9,3,13,18	influencing (1) 0:13	integrated (4) 0:16,11,16,9	interstate (8) 0:22,18,17,23,25, 17,25,11	J
including (5) 0:2,9,14,20,21	information (23) 0:21,2,11,9,23,9,17, 3,13,22,8,15,1,18,21, 25,3,15,23,1,8,13,16	intend (1) 0:5	intervener (3) 0:24,2,5	jack (1) 0:18
income (1) 0:8	infrastructure (6) 0:13,23,10,20,16,25	intended (1) 0:18	Intervenor (1) 0:14	Jacqui (2) 0:4,5
incorrect (1) 0:8	in-general (1) 0:14	intense (1) 0:5	into (53) 0:13,10,18,6,20,14, 18,10,20,21,11,23,25, 23,22,10,20,20,21,17, 25,11,14,17,5,24,11, 16,11,4,3,23,14,12,10, 10,17,12,11,15,6,9,12, 15,13,20,5,13,25,11, 13,7,2	January (1) 0:12
increase (7) 0:1,23,1,3,2,10,10	initial (5) 0:23,24,20,14,13	intent (1) 0:1	intrinsically (1) 0:7	Jaqueline (1) 0:13
increased (6) 0:25,14,22,20,25,24	initially (1) 0:18	intention (1) 0:3	introduce (1) 0:16	jarring (1) 0:24
increasing (3) 0:1,13,5	initiated (2) 0:4,8	intercepting (1) 0:19	introducing (1) 0:8	job (5) 0:23,14,9,11,9
increasingly (1) 0:10	injurious (3) 0:12,15,3	interconnect (1) 0:3	intrusive (2) 0:19,5	jobs (2) 0:15,17
incredible (1) 0:3	innovative (1) 0:9	interconnecting (1) 0:5	inundation (1) 0:9	John (3) 0:9,1,21
increment (2) 0:23,1	input (1) 0:4	interconnection (1) 0:25	invest (1) 0:1	judge (1) 0:4
incremental (3) 0:6,25,23	inquire (3) 0:19,7,17	interdicted (1) 0:8	invested (2) 0:11,14	judgment (1) 0:22
incurred (1) 0:14	inquiring (1) 0:1	interest (2) 0:3,1	investing (1) 0:9	July (5) 0:9,24,18,21,24
independent (3) 0:10,4,2	inquiry (1) 0:1	interested (3) 0:23,24,2	invest (1) 0:1	jump (1) 0:20
independently (1) 0:8	insert (2) 0:3,5	interesting (7) 0:25,21,22,3,17,18, 4	invested (2) 0:11,14	junction (1) 0:3
Indian (8) 0:13,9,17,13,20,11, 23,16	inside (6) 0:7,2,16,2,17,11	interference (1) 0:21	investigation (2) 0:16,5	June (1) 0:3
indicate (4) 0:16,6,18,9	Insofar (1) 0:10	interferences (1) 0:3	investigations (3) 0:19,1,2	jurisdiction (1) 0:24
indicated (1) 0:7	inspection (1) 0:19	interim (1) 0:18	investment (3) 0:3,14,5	justice (2) 0:13,13
indicates (1) 0:24	install (4) 0:5,20,10,23	interior (1) 0:5	investments (5) 0:7,5,5,18,19	K
indicating (2) 0:19,9	installation (3) 0:8,10,8	internal (3) 0:13,16,7	involved (6) 0:3,20,23,22,18,1	keep (11) 0:20,13,11,6,17,18, 2,15,19,7,20
indication (2) 0:18,21	installations (1) 0:12	internet (1) 0:13	involves (1) 0:3	keeps (1) 0:8
indifferent (1) 0:23	installed (11) 0:17,17,2,12,14,14, 6,4,3,7,2	interpret (1) 0:1	ionizing (2) 0:12,22	Ken (1) 0:1
individual (3) 0:13,11,4	installing (3) 0:24,15,25	interpretation (1) 0:17	irrelevant (1) 0:8	Kenneth (1) 0:12
individually (1) 0:12	instance (7) 0:8,15,17,7,18,2,12	interpreting (1) 0:4	ISO (13) 0:20,16,10,12,17,5, 15,11,21,1,11,23,1	key (1) 0:17
indoor (1) 0:5	instead (4) 0:10,9,6,18	interrogatories (12) 0:24,2,4,7,10,16,20, 24,13,18,18,19	isolate (1) 0:6	keyword (1) 0:7
industrial (6) 0:7,13,20,1,9,9	instituted (1) 0:25	interrogatory (3) 0:9,13,15	issue (22) 0:15,15,18,7,13,12, 6,22,9,21,12,22,1,4, 23,25,4,14,1,21,25,16	kick (1) 0:14
industry (1) 0:20	insulated (1) 0:14	interrupt (1) 0:12	issues (19) 0:17,18,8,18,21,16, 21,13,16,7,3,20,13,5, 20,20,20,18,22	Killingly (1) 0:5
inefficient (1) 0:9	insulating (2) 0:15,18	interrupted (2) 0:1,11	item (5)	kilowatt (3) 0:8,15,19
infiltrates (1) 0:6	insulation (7) 0:8,23,14,24,19,14, 14	interrupting (1) 0:1		kind (28) 0:1,19,4,24,14,19,6, 20,2,9,20,2,11,15,15,
inflation (3)		interruption (1)		

20,20,2,22,12,15,18, 18,15,2,12,6,2 kinds (3) 0:16,13,5 Kinsman (6) 0:25,1,1,20,10,21 Klemens (71) 0:7,8,10,20,8,12,16, 20,3,8,18,2,17,22,13, 23,18,11,6,6,23,8,3,3, 4,11,14,14,6,22,25,18, 9,3,1,15,21,22,11,10, 13,21,22,9,23,10,16, 16,17,16,23,11,23,9, 11,20,7,4,6,1,8,12,24, 1,22,11,13,14,25,1,3 Klemens' (1) 0:15 knew (1) 0:13 knife (1) 0:9 knock (2) 0:10,2 knowable (1) 0:8 knowledge (4) 0:21,2,12,4 known (4) 0:4,17,9,6 knows (5) 0:16,23,7,5,7 kV (17) 0:9,14,18,15,10,11, 13,20,18,18,10,11,13, 2,3,4,8 kW (1) 0:25	0:13,17,25,14,8,9 large-scale (1) 0:23 largest (8) 0:9,4,9,20,3,24,2,11 last (14) 0:22,5,11,20,6,22, 23,10,14,19,21,24,20, 8 lastly (2) 0:14,21 late (1) 0:13 later (7) 0:12,5,23,17,21,25, 15 launched (1) 0:14 LAUREN (4) 0:11,23,8,18 LAW (3) 0:19,4,16 laws (3) 0:23,7,9 lay (1) 0:12 layer (3) 0:1,13,23 layers (2) 0:2,4 laying (3) 0:25,25,1 leaders (1) 0:9 leads (1) 0:10 leak (9) 0:15,18,16,17,23,6, 18,18,17 leaks (1) 0:23 learn (2) 0:7,6 learned (1) 0:21 lease (5) 0:5,7,12,1,25 leased (1) 0:12 leases (1) 0:25 least (11) 0:3,21,14,19,2,21,2, 19,16,15,15 leave (2) 0:20,4 Leavenworth (1) 0:6 led (1) 0:20 ledge (2) 0:6,8 left (7)	0:1,1,2,22,4,16,22 leftover (1) 0:5 legacies (1) 0:4 legal (5) 0:12,8,4,5,18 legislation (2) 0:17,10 length (4) 0:16,3,20,14 less (16) 0:4,7,10,1,9,16,11, 5,14,22,4,2,19,5,10,13 letter (10) 0:13,23,21,3,10,12, 16,24,17,21 letters (2) 0:25,25 level (10) 0:15,8,24,16,23,11, 10,10,22,15 levels (5) 0:25,5,2,17,11 leverage (2) 0:17,21 Libertine (45) 0:6,19,8,17,10,12,3, 8,10,15,1,12,24,4,8,4, 5,12,15,20,24,12,18, 22,3,12,7,11,25,23,4, 20,5,24,7,25,17,4,9, 19,24,9,4,4,13 Library (1) 0:11 license (4) 0:13,22,1,7 licensed (1) 0:4 life (4) 0:20,22,15,16 lifecycle (6) 0:23,2,14,16,18,19 lift (1) 0:12 Light (4) 0:5,6,20,19 lightbulb (2) 0:25,25 lighting (10) 0:17,19,22,4,6,3,25, 2,12,13 lights (3) 0:8,15,16 like-for-like (1) 0:15 likely (5) 0:4,6,4,6,23 limited (5) 0:9,13,12,18,20 limits (1) 0:18 line (43)	0:4,25,6,25,17,17, 12,9,21,24,3,15,24,15, 20,19,8,13,7,19,22,12, 22,19,5,9,18,18,19,7, 4,14,8,1,12,3,5,5,9,17, 24,6,11 linear (2) 0:19,17 lines (24) 0:13,17,25,20,10,3, 20,14,5,16,24,1,22,11, 20,15,3,16,21,3,11,5, 25,1 linked (1) 0:3 liquids (1) 0:9 Lisa (2) 0:10,2 list (3) 0:10,13,1 listed (7) 0:9,9,13,1,5,15,8 listen (1) 0:21 lists (3) 0:10,4,9 little (49) 0:12,5,3,23,5,20,12, 25,25,3,18,4,18,9,21, 1,19,3,6,20,2,14,5,18, 2,12,17,18,6,10,5,23, 11,24,23,25,7,10,9,6, 16,16,24,24,1,3,22,3, 16 live (4) 0:10,1,2,9 lived (1) 0:14 living (1) 0:25 LLC (3) 0:18,16,24 LLP (1) 0:5 LNS (1) 0:19 load (62) 0:5,1,3,2,11,23,11, 13,22,4,13,15,20,20,6, 15,25,1,6,10,23,10,10, 14,14,17,10,4,11,5,17, 1,4,23,2,10,13,24,13, 17,25,10,11,24,3,13, 14,5,24,8,14,25,6,6, 11,13,17,24,16,22,2,3 loaded (1) 0:9 loading (4) 0:22,3,10,9 loads (4) 0:2,14,16,6 local (7)	0:1,5,22,3,8,7,14 located (4) 0:20,23,9,21 location (12) 0:19,5,4,18,18,2,23, 13,25,3,12,16 locations (9) 0:15,5,14,22,25,18, 18,25,20 logic (1) 0:13 long (11) 0:3,17,7,10,2,2,12, 9,11,23,16 longer (2) 0:16,5 longevity (1) 0:14 longitudinal (2) 0:7,19 longitudinally (1) 0:25 longterm (1) 0:4 long-term (6) 0:17,18,21,21,8,9 look (62) 0:16,9,8,8,23,15,9, 20,7,14,21,8,21,5,25, 6,13,17,22,23,9,7,15, 7,22,21,25,2,6,7,5,13, 1,8,22,9,12,22,16,23, 17,7,11,11,5,21,15,17, 4,22,13,21,25,1,22,12, 13,10,3,10,8,7 looked (35) 0:15,24,14,23,24,5, 1,12,21,25,21,25,12, 15,15,20,19,18,10,10, 8,16,6,4,24,9,21,11, 20,24,25,7,8,14,10 looking (47) 0:25,16,21,23,22, 25,11,2,16,17,18,19,1, 2,3,5,13,9,23,15,18,4, 10,21,21,25,11,1,24, 24,16,17,11,13,8,12, 12,25,11,17,12,11,24, 24,17,5,14 looks (3) 0:17,3,22 loss (5) 0:3,4,5,13,17 losses (1) 0:12 lost (3) 0:11,10,20 lot (42) 0:5,18,17,5,7,2,1, 23,20,21,21,20,23,16, 8,20,19,9,10,2,10,16, 18,18,17,19,4,6,20,1, 2,10,4,25,11,14,8,10,
L				
L-3 (1) 0:21 labor (1) 0:20 lack (2) 0:10,24 ladies (1) 0:2 lakes (1) 0:11 land (4) 0:6,22,13,24 landscape (1) 0:3 Lane (6) 0:25,1,20,10,1,21 lanes (1) 0:25 large (11) 0:10,3,4,25,14,16, 24,5,11,6,21 larger (6)				

<p>10,17,13,12 lots (2) 0:17,7 loud (1) 0:17 louder (4) 0:7,7,24,8 love (1) 0:12 low (2) 0:10,2 lower (7) 0:4,16,16,23,2,5,9 lowered (1) 0:13 lowering (1) 0:17 lowers (1) 0:12 low-level (5) 0:17,19,22,24,4 low-lying (1) 0:3 low-pressure (1) 0:2 low-strength (2) 0:3,7 luck (4) 0:20,15,16,19 lumped (1) 0:16 lunch (2) 0:17,17 Lynch (10) 0:4,5,11,17,9,13,16, 3,9,8</p>	<p>maintenance (7) 0:19,3,21,3,6,8,9 major (3) 0:13,19,9 majority (2) 0:2,12 maker (1) 0:25 makes (3) 0:12,7,18 making (4) 0:25,1,17,25 malfunctioning (1) 0:21 man (2) 0:17,3 manage (1) 0:5 managed (1) 0:10 management (5) 0:25,10,19,9,6 Manager (1) 0:5 manifest (1) 0:15 manmade (1) 0:16 many (15) 0:11,5,22,12,19,1,1, 7,12,9,15,13,13,3,22 map (7) 0:16,19,7,14,3,4,22 maps (2) 0:15,16 MARCUS (132) 0:19,22,3,3,4,12,17, 3,13,17,23,6,13,3,10, 6,15,5,18,8,23,2,8,11, 19,4,11,20,25,5,16,21, 4,8,13,16,23,4,14,21, 4,9,11,22,1,11,15,21, 2,7,16,22,2,6,11,19,7, 10,13,18,3,10,2,8,12, 21,20,5,12,2,20,24,11, 21,5,3,10,15,10,23,5, 24,7,14,20,13,20,25, 13,25,8,22,14,22,16,1, 6,6,10,14,21,2,19,24, 22,17,5,9,21,25,6,12, 2,7,14,22,3,6,12,19, 24,3,8,19,6,2,8,25,5, 11,15,19 MARGARET (2) 0:12,23 MARIANNE (2) 0:8,19 MARK (4) 0:23,23,4,9 marked (1) 0:13 market (9) 0:12,17,19,7,9,23,2,</p>	<p>11,19 Massachusetts (4) 0:21,12,19,19 masts (1) 0:11 material (11) 0:8,10,23,19,21,25, 16,19,13,15,9 materials (8) 0:22,18,14,20,6,6, 15,24 math (1) 0:22 matter (7) 0:4,13,16,16,19,5, 12 maximum (3) 0:16,1,20 may (43) 0:8,9,14,20,5,10,10, 10,19,10,10,19,23,1,3, 13,14,9,21,22,23,14, 24,12,13,10,19,22,3,9, 12,4,20,19,3,4,6,11, 25,1,3,21,7 Maybe (26) 0:1,12,21,9,3,15,3, 21,23,10,2,8,9,17,22, 5,8,22,11,11,25,19,19, 5,9,7 MDC (1) 0:10 MDS (1) 0:10 mean (38) 0:12,10,11,21,5,6, 12,5,1,22,15,16,7,4, 20,22,8,13,12,24,20, 14,24,24,1,7,4,2,9,10, 22,15,19,13,23,1,17, 23 means (14) 0:20,15,25,1,6,12,5, 1,21,6,4,24,10,15 meant (1) 0:20 measure (6) 0:21,11,13,2,15,1 measures (13) 0:12,20,24,8,16,1,3, 5,4,10,25,18,21 measuring (1) 0:21 mechanical (1) 0:19 mechanism (3) 0:6,8,6 mechanisms (1) 0:8 median (1) 0:2 medication (1) 0:1</p>	<p>medicine (1) 0:20 meet (3) 0:4,20,25 meeting (6) 0:3,2,7,14,3,23 meetings (1) 0:11 meets (2) 0:3,21 megawatt (6) 0:1,2,7,12,20,21 megawatts (11) 0:24,2,16,24,3,15, 16,20,4,6,8 member (2) 0:20,14 members (5) 0:8,6,7,5,8 memory (4) 0:7,15,16,4 mention (3) 0:18,15,2 mentioned (12) 0:11,18,12,2,17,1, 13,2,24,7,17,3 mentions (1) 0:15 Mercier (29) 0:6,7,23,8,16,7,12, 24,14,23,3,8,14,25,8, 19,8,15,10,18,23,12,5, 13,4,15,17,5,25 mess (1) 0:23 message (2) 0:5,17 messages (2) 0:1,3 messy (1) 0:8 met (1) 0:3 method (1) 0:24 methodology (1) 0:7 Metro-North (5) 0:16,20,23,24,1 Mezei (8) 0:19,17,18,19,21, 25,4,9 mic (1) 0:14 microgrid (1) 0:21 micro-grid (9) 0:3,6,15,9,12,22,20, 23,8 microgrids (4) 0:11,25,4,5 microphone (2) 0:23,17</p>	<p>mics (5) 0:10,10,13,16,18 midafternoon (1) 0:22 middle (6) 0:22,15,17,4,23,17 Middletown (2) 0:21,7 Middletown-Norwalk (1) 0:7 might (27) 0:18,15,20,16,8,4, 19,23,15,6,12,13,16, 12,13,16,17,18,24,20, 4,20,10,25,23,1,22 Mike (3) 0:5,5,21 mile (1) 0:20 miles (5) 0:23,5,11,24,1 Milford (1) 0:16 million (45) 0:7,9,22,22,24,11, 12,11,19,22,25,25,7,4, 14,2,1,9,17,23,20,6,1, 2,6,6,11,17,20,20,21, 24,22,4,18,20,8,21,22, 9,12,14,21,25,5 million-dollar (4) 0:11,13,7,9 mimic (1) 0:15 mind (3) 0:19,20,17 minds (1) 0:9 mine (1) 0:12 mini (1) 0:2 minimal (5) 0:25,1,16,12,13 minimize (2) 0:19,18 minimized (2) 0:19,2 minimizes (1) 0:20 minimizing (1) 0:24 minimum (1) 0:25 minor (1) 0:12 minus (1) 0:1 minute (5) 0:15,14,10,11,3 minutes (2) 0:17,6 missing (3)</p>
M				
<p>machines (1) 0:21 magic (1) 0:12 magnitude (2) 0:10,14 magnitudes (1) 0:25 mail (1) 0:25 mailing (3) 0:2,2,6 main (5) 0:2,17,18,8,5 mainly (1) 0:18 mains (3) 0:24,16,20 maintain (7) 0:23,2,9,17,5,19,7 maintaining (1) 0:18 maintains (1) 0:25</p>				

0:12,9,11 mitigate (1) 0:19 mitigated (3) 0:25,18,20 mitigates (1) 0:8 mitigation (1) 0:25 mix (6) 0:7,24,16,13,15,13 mobilizes (1) 0:8 modifications (1) 0:19 moment (2) 0:18,20 money (3) 0:19,13,23 monolithic (1) 0:10 monopolize (1) 0:2 month (5) 0:22,23,24,24,18 months (1) 0:5 more (104) 0:17,2,4,11,20,12,9,24,19,22,4,18,13,20,21,1,25,1,21,24,24,4,7,8,8,15,24,20,20,25,17,9,1,6,6,7,5,25,19,15,18,20,14,1,6,10,18,17,25,21,17,14,19,24,22,5,3,18,3,14,23,21,16,21,13,13,12,15,15,6,9,6,17,23,7,10,22,23,2,16,19,12,15,3,3,5,21,7,7,1,5,17,18,5,9,9,16,8,7,7,14,14,24,20 morning (12) 0:1,3,10,25,11,6,15,19,11,25,10,19 Most (23) 0:8,23,24,21,5,25,1,1,24,23,19,23,25,1,14,3,15,16,15,6,21,4,16 mostly (2) 0:7,19 motion (1) 0:17 mounted (3) 0:10,11,23 move (17) 0:15,8,19,10,17,13,17,19,19,20,20,16,6,16,18,1,8 moved (1) 0:16 movement (1) 0:24 moves (1)	0:13 moving (8) 0:3,7,6,7,9,5,15,13 much (28) 0:4,8,9,15,12,12,24,11,19,2,15,16,12,10,3,13,15,15,6,13,12,2,25,14,10,24,15,20 mud (2) 0:15,18 mudding (1) 0:3 multi-disciplinary (1) 0:17 multipart (1) 0:10 Multiple (4) 0:1,16,4,18 multiyear (1) 0:15 municipal (3) 0:13,6,4 MURPHY (8) 0:25,3,4,16,24,11,16,14 Museum (4) 0:20,11,14,10 must (8) 0:16,23,11,11,8,25,25,6 must-run (1) 0:24 MVA (17) 0:12,14,15,16,6,19,13,15,16,15,7,8,10,21,11,18,8 myself (1) 0:9	N	name (3) 0:6,8,18 nameplate (3) 0:24,8,11 narrative (3) 0:5,9,11 narrow (2) 0:19,5 narrowly (1) 0:25 national (1) 0:16 natural (7) 0:21,5,7,10,17,15,17 naturally (1) 0:21 nature (11) 0:4,20,18,9,9,18,2,23,8,8,10 Naugatuck (1) 0:20	near (7) 0:9,2,23,14,13,21,5 nearby (2) 0:16,18 nearest (3) 0:8,8,16 necessarily (5) 0:25,8,24,1,7 necessary (5) 0:4,2,19,13,18 need (52) 0:18,6,14,14,10,12,22,10,12,21,23,1,9,3,22,6,12,20,4,23,15,16,5,5,8,8,15,24,1,22,3,20,18,13,17,17,19,8,12,21,8,19,2,22,16,23,6,22,15,19,23,8 needed (10) 0:9,2,20,24,21,12,5,9,4,1 needs (18) 0:9,7,7,14,24,25,21,12,24,17,22,22,19,1,13,14,3,24 negative (1) 0:23 negatives (1) 0:19 negligible (1) 0:24 negotiate (1) 0:1 negotiation (1) 0:13 neighbors (2) 0:25,10 neither (1) 0:12 network (2) 0:22,9 new (63) 0:9,13,1,2,3,14,15,17,7,16,5,7,20,11,16,17,8,12,16,22,14,16,11,12,17,23,20,5,6,22,6,17,10,21,17,13,1,19,7,15,22,16,11,1,11,1,16,12,19,23,2,4,11,14,22,15,3,17,10,25,5,20,2 next (15) 0:15,23,16,5,24,7,2,3,2,24,25,2,22,11,22 nice (1) 0:13 night (3) 0:2,6,15 nighttime (1) 0:9 nine (3) 0:15,23,16 nobody (2)	0:19,22 noise (3) 0:22,5,21 nominal (3) 0:6,9,11 non (4) 0:11,20,24,1 none (5) 0:17,19,4,1,10 Nonetheless (3) 0:3,21,2 non-Eversource (1) 0:4 nonexisting (1) 0:8 nonhazardous (1) 0:6 non-mutagenic (1) 0:7 Nonna (1) 0:1 non-PTF (7) 0:6,7,11,13,15,6,7 nonquantitative (1) 0:16 non-sensitizing (1) 0:6 non-teratogenic (1) 0:7 nontoxic (1) 0:6 nontraditional (4) 0:25,4,2,18 non-transmission (3) 0:23,1,16 normal (6) 0:12,1,15,15,1,23 normalize (1) 0:13 normalized (14) 0:7,19,25,4,4,13,17,19,1,7,23,24,5,6 normally (6) 0:22,5,15,12,25,5 North (21) 0:21,18,8,9,6,9,10,11,16,3,8,14,20,3,4,14,17,24,11,4,6 Northeast (1) 0:2 northern (7) 0:13,12,15,9,18,17,18 Norwalk (9) 0:10,14,11,21,21,22,4,7,17 note (2) 0:3,4 notes (1) 0:3 notice (4) 0:19,15,25,17 noticed (3)	0:24,3,8 notify (1) 0:3 notwithstanding (1) 0:13 nowhere (3) 0:6,13,18 nuisance (1) 0:7 number (37) 0:21,14,14,4,2,7,12,24,1,2,20,2,18,9,18,3,17,19,2,10,15,1,3,6,16,20,16,12,11,19,11,24,11,8,23,25,1 numbers (19) 0:6,8,22,10,22,4,18,3,10,4,5,6,6,6,12,17,17,21,16 numeral (1) 0:13 Nutrition (1) 0:4
O						
			oaths (3) 0:18,5,25 object (4) 0:25,24,23,25 obligation (8) 0:12,6,22,1,3,9,1,2 obtain (5) 0:13,13,1,12,11 obtained (1) 0:16 obvious (1) 0:7 obviously (16) 0:15,22,14,24,3,17,16,23,5,14,2,20,10,11,11,13 OCC (5) 0:8,23,9,24,1 OCC-11 (1) 0:20 OCC-17 (1) 0:14 OCC-19 (1) 0:3 OCC-2 (4) 0:4,1,7,11 OCC-20 (1) 0:4 OCC-22 (5) 0:4,9,10,18,22 OCC-24 (1) 0:16 OCC-25 (1) 0:2 OCC-26 (1) 0:24 OCC-28 (1)			

0:15 OCC-3 (1) 0:20 occasion (1) 0:2 occasions (1) 0:11 occupied (1) 0:14 occur (5) 0:14,2,20,11,15 occurred (6) 0:18,3,14,16,15,19 occurs (4) 0:1,2,11,23 October (2) 0:4,3 odd (1) 0:14 odds (1) 0:11 odorless (1) 0:3 off (16) 0:13,21,22,10,2,11,2,3,25,13,5,6,7,13,18,22 offensive (2) 0:13,13 offer (3) 0:20,14,25 offers (2) 0:13,19 OFFICE (8) 0:10,5,9,20,23,19,24,10 officials (1) 0:20 offload (1) 0:21 off-peak (1) 0:7 offset (1) 0:17 off-site (1) 0:7 often (2) 0:21,7 oil (14) 0:8,19,23,5,22,7,14,15,15,9,19,12,22,22 oil-filled (1) 0:2 oils (2) 0:22,24 old (12) 0:24,5,25,4,9,14,18,25,3,4,5,9 older (1) 0:21 once (28) 0:2,20,4,12,2,5,3,19,19,24,24,4,2,6,9,	10,6,15,8,4,16,5,20,20,23,25,24,13 one (124) 0:14,19,24,21,14,21,1,13,25,2,20,1,2,12,15,16,12,24,23,15,15,16,18,3,24,25,7,13,7,20,4,5,25,20,2,11,12,22,24,16,8,13,1,18,8,16,24,3,4,8,16,2,18,9,19,20,20,4,11,23,11,3,4,25,11,18,8,2,19,17,3,20,9,16,1,14,15,16,22,4,21,18,19,22,15,2,12,3,15,16,25,5,22,20,2,11,16,2,18,12,24,16,20,25,4,19,12,14,9,12,9,8,13,5,23,11,16,17,25,1,12,11,2,3 ones (3) 0:3,20,9 ongoing (3) 0:20,12,9 only (24) 0:14,18,10,25,3,22,22,5,12,12,6,24,13,21,1,5,4,16,22,10,3,22,10,22 on-peak (1) 0:8 on-site (1) 0:20 onto (3) 0:17,5,16 open (28) 0:17,23,2,2,14,17,22,5,7,10,13,14,15,25,5,24,15,23,7,10,22,18,14,19,13,13,15,15 open-air (1) 0:3 opened (1) 0:8 opening (2) 0:20,5 opens (1) 0:7 operate (3) 0:15,4,7 operated (2) 0:4,18 operates (1) 0:25 operating (7) 0:2,22,2,3,11,12,21 operation (12) 0:19,3,16,21,2,13,7,12,9,19,19,21 operational (2) 0:4,5 operations (2) 0:2,1	operator (1) 0:4 opine (2) 0:9,16 opinion (8) 0:5,11,20,10,2,9,12,25 opportunity (4) 0:5,5,11,15 opposed (4) 0:4,11,23,10 opposite (3) 0:18,11,20 opt (1) 0:7 optimization (2) 0:10,25 option (10) 0:22,13,2,9,14,1,13,15,18,1 options (12) 0:7,15,7,9,6,20,9,17,16,8,5,17 orange (8) 0:11,17,5,17,2,5,8,13 order (12) 0:3,16,10,17,15,16,4,18,2,14,22,17 ordered (1) 0:14 ordinances (1) 0:16 original (6) 0:12,19,21,20,8,10 originally (1) 0:22 ostensibly (1) 0:22 others (5) 0:16,13,18,4,14 Otherwise (3) 0:20,23,19 out (79) 0:6,1,2,5,7,4,16,8,9,19,17,17,20,2,5,24,4,5,18,4,4,16,20,11,10,7,16,17,19,14,19,11,6,4,25,4,1,17,14,2,16,10,8,18,3,10,23,1,12,25,18,8,10,18,10,11,13,21,20,22,7,3,7,9,18,7,23,4,21,1,25,9,16,22,10,18,19,8,13 outages (3) 0:17,10,7 outlook (1) 0:14 out-of-the-box (2) 0:9,16 outreach (1) 0:1 outside (8)	0:8,17,14,2,6,23,1,22 over (23) 0:11,2,17,15,14,18,5,11,14,11,20,22,3,24,22,7,24,3,11,11,21,7,16 overall (5) 0:4,3,4,13,17 overhead (36) 0:23,16,20,13,12,25,2,6,20,20,16,18,18,10,23,3,13,23,3,5,9,10,10,14,18,18,5,9,21,10,3,10,3,21,13,18 overload (6) 0:4,6,14,15,19,21 overloaded (1) 0:10 overloads (2) 0:24,16 overly (1) 0:12 overreaction (1) 0:2 overrun (1) 0:20 overruns (1) 0:17 oversee (2) 0:5,20 own (8) 0:16,17,12,14,18,11,14,21 owned (2) 0:23,11 owner (2) 0:2,23 owners (5) 0:3,16,17,24,2 ownership (1) 0:25 owning (1) 0:22 owns (2) 0:20,21	pamphlet (1) 0:25 panel (4) 0:24,23,6,23 panels (1) 0:2 panoply (1) 0:25 PANTRY (12) 0:17,15,23,15,23,1,5,14,19,10,17,5 paper (1) 0:1 paragraph (6) 0:11,22,21,15,19,9 parallel (6) 0:19,12,17,13,14,15 paralleling (1) 0:17 parens (2) 0:5,7 Park (58) 0:12,18,7,7,13,17,19,22,12,1,8,12,15,16,20,7,15,1,9,24,3,17,23,15,7,14,16,18,14,25,11,17,19,25,10,19,19,6,20,17,20,22,23,2,6,1,5,21,18,6,10,23,13,3,10,18,13,14 PARKER (2) 0:14,3 parking (3) 0:24,9,20 parkland (3) 0:6,5,7 part (47) 0:13,20,15,18,23,25,21,3,16,11,1,20,12,9,23,17,15,9,13,13,7,14,8,5,20,5,2,7,22,22,18,20,16,4,11,24,5,4,6,25,7,13,11,19,5,4,9 partial (2) 0:20,4 participate (2) 0:18,10 participating (2) 0:3,22 particular (17) 0:9,24,7,11,21,23,11,11,20,22,6,21,1,2,7,1,22 particularly (5) 0:25,18,3,25,13 parties (1) 0:24 partly (1) 0:19 parts (6) 0:21,18,24,22,1,3 party (3) 0:24,7,5
P				
			pack (1) 0:10 package (2) 0:14,2 packaged (2) 0:10,2 packages (1) 0:7 page (19) 0:21,3,11,7,5,7,4,9,12,2,1,22,19,15,19,20,3,9,2 pages (1) 0:19	

<p>pass (4) 0:16,24,15,22</p> <p>passes (1) 0:12</p> <p>passive (1) 0:19</p> <p>past (9) 0:15,2,3,7,3,8,8,20,5</p> <p>pathway (4) 0:3,5,19,5</p> <p>patiently (1) 0:4</p> <p>pattern (1) 0:14</p> <p>patterns (4) 0:7,9,19,21</p> <p>pause (1) 0:6</p> <p>pay (3) 0:23,17,11</p> <p>paying (4) 0:10,11,6,11</p> <p>pays (2) 0:8,7</p> <p>peak (39) 0:13,15,6,25,1,1,5,10,13,14,9,13,15,20,10,11,15,20,13,25,21,24,10,24,7,11,13,10,24,2,25,5,13,25,6,24,13,14,16</p> <p>peaks (2) 0:15,14</p> <p>penalized (1) 0:17</p> <p>penalties (5) 0:1,7,8,18,22</p> <p>pending (2) 0:23,21</p> <p>peninsula (1) 0:21</p> <p>people (23) 0:7,21,24,25,21,4,19,16,23,24,6,1,24,3,21,25,9,19,12,13,14,22,7</p> <p>people's (1) 0:20</p> <p>Pequonnock (1) 0:20</p> <p>per (20) 0:17,9,10,23,1,2,17,17,10,18,11,2,6,11,20,20,18,20,19,17</p> <p>percent (39) 0:19,19,20,4,5,11,17,1,3,5,4,5,22,9,18,1,9,18,21,12,1,19,23,9,22,16,20,21,21,22,25,4,5,7,8,21,5,12,1</p> <p>percentage (7) 0:24,23,20,4,15,3,</p>	<p>17</p> <p>percentages (2) 0:8,10</p> <p>perfect (3) 0:21,25,2</p> <p>per-foot (1) 0:16</p> <p>perform (1) 0:12</p> <p>performed (6) 0:6,7,2,5,19,17</p> <p>perhaps (2) 0:4,18</p> <p>period (10) 0:3,3,5,18,11,18,23,25,25,22</p> <p>periodic (1) 0:9</p> <p>periods (2) 0:21,9</p> <p>permission (5) 0:5,5,13,24,10</p> <p>permissions (2) 0:25,3</p> <p>permit (2) 0:17,21</p> <p>permits (2) 0:16,9</p> <p>person (2) 0:11,14</p> <p>personal (2) 0:24,22</p> <p>personally (1) 0:10</p> <p>personnel (6) 0:4,11,13,8,12,10</p> <p>perspective (4) 0:19,5,13,21</p> <p>pertains (1) 0:25</p> <p>PET (12) 0:17,15,23,15,23,1,5,14,19,10,17,5</p> <p>phase (8) 0:22,15,24,12,12,15,15,7</p> <p>Phil (1) 0:18</p> <p>philosophy (1) 0:4</p> <p>photo (2) 0:14,19</p> <p>photograph (1) 0:25</p> <p>photographs (2) 0:21,6</p> <p>physical (3) 0:11,14,24</p> <p>pick (5) 0:16,11,23,12,21</p> <p>picking (1) 0:22</p> <p>picture (3)</p>	<p>0:25,25,9</p> <p>piece (10) 0:13,14,17,25,9,4,15,9,16,24</p> <p>piecemeal (1) 0:12</p> <p>pieces (3) 0:2,2,4</p> <p>Piles (3) 0:25,25,1</p> <p>pilot (1) 0:17</p> <p>pilots (1) 0:12</p> <p>pinnacle (1) 0:19</p> <p>pipe (26) 0:7,23,25,3,8,1,19,5,15,18,21,23,25,25,21,22,25,24,3,7,8,11,12,18,9,23</p> <p>pipeline (2) 0:11,10</p> <p>pipelines (1) 0:13</p> <p>pipes (2) 0:12,18</p> <p>Pizzeria (1) 0:1</p> <p>place (13) 0:20,6,9,10,12,1,19,25,2,23,6,8,12</p> <p>placed (1) 0:19</p> <p>plan (28) 0:13,12,17,16,9,25,1,11,16,22,16,18,9,17,11,23,4,20,20,2,3,8,9,24,3,14,9,6</p> <p>planned (2) 0:24,19</p> <p>planner (3) 0:18,6,9</p> <p>planning (11) 0:16,7,15,1,8,3,6,7,2,23,23</p> <p>plans (7) 0:22,14,22,12,25,17,25</p> <p>plant (1) 0:6</p> <p>plates (1) 0:16</p> <p>play (2) 0:23,3</p> <p>please (18) 0:7,18,11,15,14,21,1,9,7,9,24,8,7,2,9,25,21,4</p> <p>pledge (2) 0:5,6</p> <p>plus (6) 0:15,16,18,18,20,13</p>	<p>pm (6) 0:21,21,25,22,22,15</p> <p>pneumatic (1) 0:25</p> <p>point (42) 0:7,6,19,21,9,25,8,18,24,19,24,12,13,9,12,13,13,22,15,4,25,21,20,7,1,23,4,18,15,14,2,4,6,25,4,16,19,20,4,22,21,18</p> <p>pointed (2) 0:11,24</p> <p>points (10) 0:23,13,18,19,19,10,16,24,1,17</p> <p>pole (2) 0:22,11</p> <p>poles (1) 0:10</p> <p>pole-top (2) 0:22,19</p> <p>police (1) 0:15</p> <p>poling (1) 0:16</p> <p>polluted (1) 0:10</p> <p>polybutene (2) 0:2,2</p> <p>pond (1) 0:10</p> <p>pooled (4) 0:20,24,2,8</p> <p>pops (1) 0:21</p> <p>porch (1) 0:4</p> <p>porosity (1) 0:12</p> <p>porous (2) 0:10,17</p> <p>Port (2) 0:16,19</p> <p>portable (1) 0:2</p> <p>portion (4) 0:18,14,13,25</p> <p>portions (1) 0:8</p> <p>porus (1) 0:15</p> <p>posed (2) 0:3,10</p> <p>position (2) 0:18,6</p> <p>positions (1) 0:1</p> <p>positive (1) 0:10</p> <p>positives (1) 0:18</p> <p>possibility (7)</p>	<p>0:4,14,17,13,23,18,20</p> <p>possible (15) 0:24,9,20,3,10,13,2,17,19,5,14,12,15,18,25</p> <p>possibly (6) 0:21,10,23,12,8,23</p> <p>postponement (1) 0:24</p> <p>potential (19) 0:17,24,21,23,16,23,6,4,3,17,6,14,15,20,9,16,8,14,24</p> <p>potentially (2) 0:17,18</p> <p>potluck (1) 0:17</p> <p>power (18) 0:2,23,16,23,19,22,18,3,20,25,2,5,6,16,21,23,1,1</p> <p>powerline (1) 0:18</p> <p>practical (1) 0:1</p> <p>practice (3) 0:4,5,10</p> <p>pragmatic (1) 0:13</p> <p>pre-blast (2) 0:20,22</p> <p>precise (1) 0:23</p> <p>predict (1) 0:11</p> <p>predicted (1) 0:23</p> <p>predictors (1) 0:22</p> <p>predicts (1) 0:14</p> <p>pre-done (1) 0:11</p> <p>prefer (1) 0:20</p> <p>preferable (1) 0:20</p> <p>preferably (1) 0:3</p> <p>preference (2) 0:8,22</p> <p>preferential (2) 0:4,5</p> <p>preferred (10) 0:17,19,21,13,7,3,21,3,1,5</p> <p>prefiled (1) 0:14</p> <p>preliminary (6) 0:1,4,6,22,15,21</p> <p>pre-loading (1) 0:23</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

premature (1) 0:12	0:24	22,8,13,13,13,14,1,22, 23,10,3,18,24,5,14,19, 7,11	protecting (1) 0:8	0:21
premise (1) 0:5	probable (1) 0:1		protection (14) 0:14,6,11,8,15,7,18, 19,23,5,10,15,20,7	purpose (2) 0:5,7
premium (1) 0:18	probably (48) 0:21,1,17,8,9,20,11, 5,10,5,17,18,24,6,8, 15,18,17,18,25,24,21, 11,22,22,13,10,17,10, 21,24,22,5,3,14,13,19, 12,3,18,1,21,10,7,10, 15,19,18	projected (3) 0:24,5,17	protective (12) 0:15,3,1,15,16,4,18, 2,14,25,18,25	purposes (1) 0:14
preparation (3) 0:5,20,17	problem (14) 0:17,6,11,25,17,2,2, 9,21,1,9,9,8,13	projecting (2) 0:25,19	protects (1) 0:20	pursuant (2) 0:13,16
prepare (3) 0:5,19,17	problematic (1) 0:18	projection (1) 0:14	protocols (1) 0:13	pursue (1) 0:23
prepared (1) 0:8	problems (4) 0:14,11,15,1	projections (2) 0:14,1	proven (1) 0:8	push (2) 0:19,24
prescriptive (1) 0:1	Procedure (2) 0:15,3	Projects (17) 0:4,4,4,4,4,19,16, 22,1,4,8,12,8,19,11,9, 4	provide (22) 0:2,17,7,21,23,17, 11,19,24,5,13,11,20, 22,4,2,12,21,20,2,5,7	pushing (1) 0:3
present (1) 0:7	proceed (1) 0:7	prolong (1) 0:12	provided (7) 0:13,8,11,16,19,10, 21	put (41) 0:9,15,4,2,2,21,19, 18,8,12,15,24,20,11, 20,18,21,4,5,25,7,8, 14,25,16,14,17,8,17,1, 9,22,4,23,5,15,25,12, 22,15,17
presented (3) 0:9,15,3	proceeding (2) 0:19,22	promise (1) 0:9	provides (2) 0:2,4	puts (1) 0:6
presently (1) 0:14	proceedings (1) 0:14	promote (3) 0:11,16,12	providing (1) 0:2	putting (17) 0:10,25,5,11,7,2,21, 10,17,10,7,22,15,23,5, 8,9
President (1) 0:2	process (21) 0:20,14,7,7,17,5,10, 18,25,5,20,9,14,6,12, 15,19,5,12,13,7	promoting (3) 0:16,18,1	provisions (4) 0:13,10,6,7	puzzled (1) 0:17
press (1) 0:7	producing (1) 0:20	proper (4) 0:5,12,14,10	proximately (1) 0:25	Q
pressure (2) 0:19,17	production (1) 0:22	properly (2) 0:21,11	proximity (3) 0:18,4,14	qualify (1) 0:12
pressures (1) 0:12	professional (1) 0:9	properties (8) 0:8,5,6,22,4,9,14,6	prudent (2) 0:17,9	quality (2) 0:3,6
pressurization (1) 0:23	profile (3) 0:9,9,7	property (27) 0:2,14,25,2,12,15, 19,2,24,3,16,8,21,5, 13,22,11,21,22,1,2,10, 16,22,24,11,1	PSI (1) 0:14	quantify (1) 0:17
pressurizing (1) 0:19	program (16) 0:15,20,18,25,4,9, 23,1,22,25,15,2,12,12, 18,24	proposal (7) 0:21,18,14,15,12, 14,10	PSNH (2) 0:6,15	quarter (1) 0:18
presumably (2) 0:3,9	programs (21) 0:5,21,14,13,22,9, 17,14,18,4,16,18,19,3, 4,10,19,25,7,1,17	proposals (5) 0:4,1,20,23,22	PTF (1) 0:11	quasi (1) 0:2
pretty (12) 0:20,10,2,11,16,19, 9,15,23,12,4,7	prohibit (1) 0:9	propose (3) 0:16,8,17	public (23) 0:18,7,10,7,21,21, 22,22,12,9,11,21,13, 13,5,16,12,4,7,16,11, 23,13	Queens (3) 0:17,24,22
prevent (2) 0:24,1	prohibitions (1) 0:6	proposed (21) 0:23,18,2,14,25,6, 11,25,24,5,21,4,4,7,3, 18,4,17,11,14,24	pull (4) 0:17,17,7,9	questioner (1) 0:5
preventative (1) 0:20	prohibitive (1) 0:17	proposing (12) 0:3,15,12,23,12,8, 11,17,23,15,8,10	pump (3) 0:6,1,21	quibble (1) 0:8
preventing (1) 0:7	Project (79) 0:5,21,6,2,25,2,25, 20,8,9,13,24,10,12,14, 8,2,16,19,1,25,22,15, 20,21,18,13,24,25,8, 10,19,12,18,18,24,2,9, 10,21,18,19,20,7,24, 19,20,2,4,7,17,22,25, 17,21,3,4,8,10,13,19,	protect (4) 0:7,16,19,10	pumphouse (1) 0:22	quick (3) 0:21,22,17
previous (3) 0:7,13,14			pumps (2) 0:9,3	quickly (1) 0:11
previously (7) 0:17,11,25,18,4,24, 18			puncture (2) 0:13,15	quite (11) 0:16,16,11,19,10, 17,21,21,12,14,4
price (1) 0:2			punctured (1) 0:16	quote (1) 0:12
prices (1) 0:17			PURA (2) 0:13,5	quoted (1) 0:2
primarily (4) 0:22,18,1,6			purchase (1) 0:15	R
prior (3) 0:25,16,11			purely (1)	
private (5) 0:24,2,3,11,24				
proactive (6) 0:14,16,6,6,14,17				
probabilities (1) 0:7				
probability (1)				

radiation (2) 0:12,22	0:12	red (1) 0:7	relative (5) 0:12,12,14,20,2	represent (1) 0:21
Railroad (32) 0:20,1,17,19,1,17, 18,20,5,18,20,4,5,17, 22,9,4,4,21,5,11,11, 19,1,7,18,14,19,14,16, 7,12	ready (5) 0:21,4,24,24,5	redone (1) 0:3	relatively (4) 0:7,10,11,16	representation (1) 0:17
rain (1) 0:21	real (11) 0:14,19,3,6,16,5,7, 19,20,20,19	reduce (7) 0:8,17,23,3,6,8,15	release (5) 0:7,7,17,2,4	representative (1) 0:14
rained (1) 0:8	realistic (1) 0:1	reduced (3) 0:11,17,7	releases (1) 0:24	Representatives (1) 0:1
raise (3) 0:23,6,24	realize (1) 0:19	reducing (2) 0:20,16	relevant (1) 0:11	request (4) 0:8,13,18,21
raised (9) 0:8,10,21,12,2,4,7, 21,2	really (37) 0:14,12,1,2,14,3,2, 16,2,7,7,24,9,17,18, 18,4,10,12,13,18,17, 15,25,5,21,2,15,17,22, 7,21,24,18,1,19,1	Reduction (4) 0:10,14,5,21	reliability (17) 0:7,1,3,7,2,25,3,15, 18,22,4,13,8,4,20,3,8	requests (2) 0:12,22
raises (1) 0:20	realm (1) 0:4	redundancy (1) 0:15	Reliable (7) 0:18,20,24,2,5,21, 10	require (2) 0:12,19
raising (1) 0:21	reason (7) 0:8,13,4,23,16,11, 25	refer (2) 0:21,22	relieved (1) 0:17	required (10) 0:8,9,24,8,1,3,7,1, 18,16
range (3) 0:18,24,5	reasonable (3) 0:14,4,19	reference (2) 0:24,9	relocate (2) 0:3,4	requirement (1) 0:7
rate (10) 0:7,7,7,5,8,1,2,2,17, 20	reasons (6) 0:7,21,22,4,19,8	referred (1) 0:4	rely (1) 0:22	requirements (6) 0:4,15,14,9,13,7
rated (3) 0:6,9,14	rebates (2) 0:19,2	referring (3) 0:2,23,17	relying (2) 0:1,2	requires (3) 0:6,21,3
ratepayer (6) 0:14,23,10,13,15,11	rebuild (2) 0:18,22	refine (1) 0:1	remained (2) 0:9,21	requiring (1) 0:15
ratepayers (3) 0:15,10,20	rebuilding (1) 0:22	regard (3) 0:4,10,6	remaining (2) 0:22,16	rereading (1) 0:21
ratepayers' (1) 0:19	rebuilt (1) 0:20	regarding (14) 0:17,23,1,23,10,20, 13,16,11,16,18,4,6,18	Remember (5) 0:25,16,21,1,13	reseeded (1) 0:21
rates (6) 0:16,21,6,8,17,4	recall (6) 0:24,2,5,6,24,20	regardless (3) 0:19,24,25	removal (1) 0:22	reserve (1) 0:2
rather (6) 0:11,10,25,21,17,19	recalled (2) 0:16,23	regards (2) 0:12,15	remove (6) 0:24,6,17,11,9,9	reset (1) 0:3
rating (19) 0:24,4,17,19,25,1,1, 2,2,5,8,12,15,16,19,3, 5,18,15	recalling (1) 0:3	region (2) 0:11,23	removed (8) 0:4,20,21,25,7,8,5, 24	residence (2) 0:23,23
ratings (7) 0:23,19,21,7,25,11, 23	received (8) 0:2,5,25,15,1,22,17, 24	regional (3) 0:14,16,3	removing (4) 0:20,7,5,4	residences (2) 0:22,21
ratio (1) 0:23	recent (2) 0:9,21	registration (1) 0:23	renewable (1) 0:21	resident (1) 0:6
Ray (1) 0:3	recently (2) 0:24,16	re-grass (1) 0:25	rental (1) 0:15	residential (12) 0:22,22,13,6,15,9, 11,20,9,4,14,14
Raymond (1) 0:12	recess (2) 0:20,21	regulate (1) 0:24	repair (2) 0:10,10	residents (5) 0:24,14,19,1,4
reached (1) 0:12	recognize (4) 0:24,25,1,13	regulation (1) 0:9	repeatedly (1) 0:23	resiliency (3) 0:19,19,6
reaches (1) 0:18	recommend (1) 0:23	regulations (1) 0:20	repeating (1) 0:25	resolved (1) 0:22
reaction (2) 0:22,5	recommending (1) 0:2	regulatory (1) 0:14	repetitive (2) 0:3,25	resort (1) 0:24
read (11) 0:16,14,25,20,20,1, 9,10,11,13,8	record (14) 0:22,21,20,2,23,2,8, 22,8,18,16,21,1,8	reintroduce (1) 0:24	replace (4) 0:24,17,8,19	resources (4) 0:10,16,16,9
reading (1) 0:9	records (3) 0:23,5,9	relate (2) 0:24,16	replaced (3) 0:2,25,4	respect (3) 0:8,19,6
reads (1)	rectangular (1) 0:11	related (2) 0:1,1	replacement (1) 0:11	respectfully (2) 0:8,12
	rectifier (1) 0:6	relates (2) 0:24,3	replaces (1) 0:13	respond (5) 0:10,21,20,14,16
		relating (1) 0:23	replacing (1) 0:16	responded (2) 0:2,24
		relationship (2) 0:24,15	reporting (1) 0:10	responder (1) 0:7
				responders (2)

0:13,13 responding (2) 0:16,4 response (50) 0:9,19,2,13,13,18, 13,9,14,10,24,23,4,18, 16,3,10,24,2,6,12,12, 13,21,2,24,15,4,20,20, 14,22,15,24,2,3,5,6, 14,12,3,5,11,20,15,13, 5,22,25,4 responses (12) 0:23,25,3,6,15,23, 10,5,1,15,14,24 responsibility (2) 0:8,8 rest (2) 0:24,15 Restaurant (1) 0:1 restored (1) 0:1 restrained (2) 0:23,16 restrictions (1) 0:12 result (1) 0:11 results (3) 0:22,14,8 resume (10) 0:9,12,20,22,2,8,14, 5,1,16 resumes (4) 0:8,16,11,17 retail (2) 0:16,20 retire (1) 0:6 retiring (1) 0:5 retrofit (1) 0:9 return (2) 0:8,10 revamp (1) 0:11 reveal (1) 0:25 revegetate (1) 0:21 revenue (1) 0:7 review (2) 0:5,18 revise (1) 0:21 revised (2) 0:25,9 revision (1) 0:4 RFP (3) 0:4,4,1	RFPs (2) 0:22,25 rial (1) 0:14 Richard (1) 0:6 rid (1) 0:9 ridiculous (1) 0:23 right (82) 0:4,5,5,23,17,19,19, 22,6,15,23,8,18,23,11, 19,20,4,15,3,21,17,18, 11,17,18,5,19,19,7,5, 4,12,4,21,22,25,16,17, 23,6,11,22,25,20,21, 12,18,20,4,22,2,13,14, 21,12,19,3,15,19,23, 12,1,13,10,15,23,12,3, 6,25,21,23,4,14,20,13, 22,10,12,2,2 right-of-way (17) 0:11,24,14,21,25, 18,14,24,12,24,23,24, 5,7,11,12,15 rights (10) 0:21,14,24,9,13,17, 21,25,1,1 ring (3) 0:24,9,11 rises (1) 0:10 risk (4) 0:23,23,21,14 risks (2) 0:20,23 River (1) 0:20 Riverside (1) 0:24 Road (20) 0:20,21,9,22,23,18, 11,2,4,11,13,23,6,15, 23,13,13,15,15,1 roads (1) 0:1 Roadside (1) 0:19 roadway (1) 0:9 robust (4) 0:15,24,14,5 rock (2) 0:21,17 rocks (1) 0:10 role (1) 0:24 roll (1) 0:24 roll-up (1) 0:6	Roman (1) 0:13 roof (1) 0:24 room (11) 0:19,24,18,22,2,4, 11,19,10,19,25 rooms (1) 0:3 rough (1) 0:8 roughly (8) 0:24,2,3,5,18,16,11, 20 round (3) 0:5,5,22 rounds (1) 0:22 route (50) 0:11,17,13,19,13, 14,19,21,13,18,22,24, 8,10,7,17,3,10,5,8,22, 2,19,21,3,3,5,21,21, 25,19,23,19,5,14,16,7, 17,16,8,23,5,17,23,1, 14,5,20,21,5 routes (11) 0:13,2,16,22,13,6,7, 2,7,10,14 routine (2) 0:1,19 routing (4) 0:14,18,23,16 run (5) 0:16,7,18,3,12 running (3) 0:15,23,2 runs (1) 0:23 Russians (1) 0:10 rusting (1) 0:9 Rye (2) 0:13,25	saltwater (1) 0:14 same (29) 0:6,15,18,16,17,19, 3,25,7,9,9,2,7,13,5,15, 14,5,9,14,17,9,20,5,8, 14,19,24,23 samples (5) 0:24,6,7,17,1 sand (2) 0:19,18 SANDAK (2) 0:4,21 Sandy (6) 0:18,20,1,18,24,4 sat (1) 0:4 satisfied (1) 0:1 satisfies (1) 0:21 satisfy (6) 0:11,12,9,19,17,1 save (5) 0:25,24,13,23,12 saved (2) 0:25,21 saving (1) 0:18 savings (1) 0:17 saw (4) 0:17,1,8,18 saying (25) 0:14,3,16,16,16,15, 10,25,14,9,17,8,12,7, 5,20,13,23,13,12,16,6, 1,7,8 scale (3) 0:13,17,11 scene (2) 0:21,5 schedule (3) 0:17,5,1 schemes (1) 0:3 scont'd (1) 0:1 scope (1) 0:13 screen (1) 0:5 se (2) 0:9,10 sealed (2) 0:2,4 sealing (2) 0:14,15 seals (1) 0:8 seams (1) 0:3 seating (1)	0:3 second (14) 0:18,23,15,2,4,18, 23,10,25,14,22,15,19, 6 secret (2) 0:13,24 section (9) 0:5,6,18,1,4,8,5,12, 18 sections (2) 0:3,4 seductively (1) 0:11 seeing (7) 0:4,13,21,12,12,18, 18 seek (1) 0:5 seeking (2) 0:19,15 seem (2) 0:24,15 seemed (2) 0:23,4 seems (8) 0:16,20,25,1,18,7, 16,19 segment (3) 0:21,7,4 seismic (1) 0:25 selected (4) 0:14,21,25,24 selecting (1) 0:2 selection (1) 0:1 Self (2) 0:15,22 self-cooled (1) 0:25 SEN (7) 0:25,4,16,24,11,16, 14 Senator (1) 0:3 sense (5) 0:4,24,7,5,10 sentence (6) 0:14,15,1,3,16,8 sentences (1) 0:11 separate (5) 0:14,18,9,5,11 separately (1) 0:20 separating (1) 0:24 September (19) 0:11,25,24,2,5,8,10, 14,18,21,1,17,18,15, 22,13,3,11,22
S				
		safe (3) 0:2,21,5 safer (1) 0:7 safety (7) 0:16,10,13,19,24,8, 19 sail (1) 0:20 sake (1) 0:6 sales (1) 0:7 saline (1) 0:8		

<p>septic (3) 0:8,6,7</p> <p>series (6) 0:4,19,24,10,4,9</p> <p>serious (5) 0:14,18,21,4,18</p> <p>serve (19) 0:1,11,22,24,20,19, 12,15,7,21,18,6,23,9, 1,2,3,13,20</p> <p>served (7) 0:9,9,15,8,11,9,4</p> <p>serves (1) 0:4</p> <p>service (31) 0:22,24,10,4,10,3, 12,13,11,22,6,16,14, 15,19,12,20,24,25,2,5, 16,22,8,16,21,22,2,11, 1,16</p> <p>services (5) 0:2,16,16,13,13</p> <p>serving (2) 0:10,22</p> <p>set (15) 0:24,10,21,10,12,2, 17,2,15,24,15,19,3,16, 16</p> <p>settle (1) 0:23</p> <p>setup (2) 0:3,12</p> <p>seven (3) 0:11,25,25</p> <p>Seventy-five (1) 0:10</p> <p>several (13) 0:1,1,21,5,13,7,12, 25,13,25,7,4,17</p> <p>sewer (7) 0:17,24,2,5,16,7,22</p> <p>shall (1) 0:3</p> <p>shallow (5) 0:4,11,24,7,10</p> <p>shape (1) 0:12</p> <p>share (1) 0:3</p> <p>sharing (2) 0:8,5</p> <p>sharply (1) 0:10</p> <p>shed (1) 0:24</p> <p>sheet (3) 0:7,4,22</p> <p>sheets (1) 0:11</p> <p>shift (2) 0:21,5</p> <p>shifting (1) 0:25</p>	<p>shocking (1) 0:18</p> <p>shoot (1) 0:13</p> <p>Shore (2) 0:23,5</p> <p>shoreline (1) 0:18</p> <p>short (5) 0:9,18,14,12,7</p> <p>short-term (3) 0:16,22,14</p> <p>show (7) 0:10,22,21,15,12,5, 17</p> <p>showing (3) 0:13,21,21</p> <p>shown (2) 0:6,23</p> <p>shows (2) 0:21,12</p> <p>shrubby (1) 0:24</p> <p>shut (1) 0:11</p> <p>side (27) 0:18,21,9,11,23,10, 4,6,9,10,11,16,22,17, 7,8,17,25,4,23,2,9,3,1, 22,22,23</p> <p>sides (2) 0:14,10</p> <p>signed (1) 0:4</p> <p>significant (3) 0:25,15,3</p> <p>significantly (1) 0:11</p> <p>signs (3) 0:6,17,18</p> <p>silt (5) 0:2,2,4,6,10</p> <p>similar (8) 0:20,18,5,6,5,15,16, 25</p> <p>Similarly (1) 0:25</p> <p>simple (1) 0:12</p> <p>simplistic (1) 0:16</p> <p>simply (1) 0:22</p> <p>simulation (2) 0:14,12</p> <p>simulations (1) 0:21</p> <p>single (8) 0:10,9,23,7,10,10,2, 16</p> <p>sister (1) 0:1</p> <p>sit (4)</p>	<p>0:2,13,18,11</p> <p>site (35) 0:22,4,17,14,1,10,6, 6,17,12,21,22,24,5,6, 11,24,10,2,11,21,6,14, 15,15,5,10,24,13,14, 17,19,25,9,8</p> <p>sites (5) 0:3,6,8,24,13</p> <p>Siting (22) 0:3,20,6,17,12,1,23, 5,12,20,25,15,21,7,9, 8,10,15,16,9,14,12</p> <p>situation (9) 0:25,3,25,19,24,23, 1,4,10</p> <p>situations (1) 0:18</p> <p>six (3) 0:11,5,19</p> <p>six-breaker (1) 0:11</p> <p>six-position (1) 0:24</p> <p>sixth (2) 0:9,9</p> <p>sixth-breaker (1) 0:9</p> <p>sizable (1) 0:18</p> <p>size (7) 0:12,2,8,22,1,16,15</p> <p>sized (1) 0:16</p> <p>skill (1) 0:24</p> <p>slash (1) 0:24</p> <p>sleep (1) 0:20</p> <p>slight (1) 0:2</p> <p>slip (1) 0:11</p> <p>slopes (1) 0:13</p> <p>slow (1) 0:7</p> <p>slurry (10) 0:3,8,2,17,3,14,15, 18,5,6</p> <p>smack (1) 0:17</p> <p>small (11) 0:17,1,24,7,23,1,18, 15,5,3,10</p> <p>smaller (7) 0:13,11,14,8,9,7,2</p> <p>small-scale (1) 0:16</p> <p>smiles (1) 0:24</p> <p>smoke (1)</p>	<p>0:24</p> <p>social (2) 0:12,20</p> <p>societal (1) 0:25</p> <p>soft (2) 0:17,12</p> <p>softer (2) 0:1,2</p> <p>soil (15) 0:23,6,23,8,10,12,1, 13,16,4,15,24,7,5,9</p> <p>soils (2) 0:3,18</p> <p>solar (13) 0:20,11,22,23,3,20, 20,23,1,2,19,21,25</p> <p>Solarize (8) 0:6,17,17,4,6,20,1, 24</p> <p>sole (2) 0:15,18</p> <p>solicit (2) 0:4,25</p> <p>solicitation (1) 0:19</p> <p>solicitations (2) 0:24,4</p> <p>soliciting (2) 0:3,23</p> <p>solid (2) 0:4,13</p> <p>solution (16) 0:9,25,14,13,19,20, 22,23,5,21,16,13,18, 11,2,16</p> <p>solutions (10) 0:25,25,4,9,14,22,7, 23,12,14</p> <p>solve (10) 0:5,6,2,9,20,1,9,1, 13,14</p> <p>solved (1) 0:9</p> <p>somebody (1) 0:19</p> <p>somebody's (2) 0:12,3</p> <p>somehow (2) 0:3,5</p> <p>someone (5) 0:19,12,20,10,8</p> <p>someone's (2) 0:20,22</p> <p>somewhat (3) 0:10,24,4</p> <p>somewhere (4) 0:23,12,16,21</p> <p>sorry (20) 0:6,3,9,16,16,21,9, 21,11,3,22,6,24,8,25, 22,25,2,18,19</p> <p>sort (14)</p>	<p>0:2,12,14,1,2,22,11, 19,18,15,12,13,3,9</p> <p>Sound (6) 0:22,5,3,15,12,9</p> <p>sounds (2) 0:11,3</p> <p>source (3) 0:4,16,9</p> <p>south (9) 0:2,16,23,8,23,4,2, 4,20</p> <p>southern (3) 0:22,23,15</p> <p>southwestern (1) 0:17</p> <p>space (5) 0:23,2,14,14,16</p> <p>spacing (1) 0:7</p> <p>span (3) 0:12,8,9</p> <p>spans (1) 0:10</p> <p>Speak (8) 0:9,16,8,2,9,20,1,24</p> <p>speaking (2) 0:22,14</p> <p>specialized (1) 0:23</p> <p>specific (7) 0:2,12,24,9,3,9,13</p> <p>specifically (13) 0:5,23,16,20,15,14, 21,21,5,16,8,16,3</p> <p>specifications (2) 0:7,25</p> <p>specify (1) 0:17</p> <p>spell (1) 0:8</p> <p>spelled (1) 0:12</p> <p>spend (4) 0:21,18,24,17</p> <p>spending (5) 0:11,14,4,10,19</p> <p>spent (2) 0:11,19</p> <p>spike (1) 0:16</p> <p>spill (1) 0:9</p> <p>spoils (1) 0:16</p> <p>spoke (3) 0:23,24,10</p> <p>Springfield (1) 0:15</p> <p>Square (1) 0:1</p> <p>square-foot (1) 0:2</p> <p>squeeze (2)</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

0:10,12 squeezed (1) 0:20 stability (1) 0:21 stable (2) 0:19,18 STACY (13) 0:14,3,4,1,20,22,9, 15,22,3,20,12,3 staff (4) 0:6,19,23,16 stage (1) 0:13 staging (1) 0:15 Stamford (33) 0:22,8,14,10,11,17, 9,20,9,11,9,10,6,8,25, 22,20,4,4,7,20,3,22,6, 5,24,8,10,16,20,4,15,3 stand (4) 0:10,3,15,21 standard (5) 0:25,16,4,4,6 standardized (1) 0:18 standards (1) 0:9 standby (1) 0:23 standing (5) 0:22,14,23,13,14 standoff (1) 0:13 standpoint (3) 0:21,4,25 start (14) 0:13,21,4,10,12,1, 25,14,7,8,11,13,16,21 started (4) 0:6,18,17,1 starting (17) 0:9,16,13,8,15,16, 17,20,22,4,18,19,20, 18,2,19,22 starts (2) 0:23,12 State (28) 0:6,13,1,10,17,6,23, 17,15,17,24,1,22,14, 17,18,2,11,24,24,8,24, 13,22,15,25,16,24 statement (3) 0:7,15,22 statements (3) 0:8,17,7 states (3) 0:22,1,19 station (12) 0:22,24,19,8,14,21, 11,22,12,4,12,12 stations (1)	0:19 statistics (2) 0:7,12 Statutes (2) 0:14,18 statutory (1) 0:10 stay (2) 0:17,18 staying (1) 0:16 steel (5) 0:6,25,1,5,16 Stein (1) 0:4 step (2) 0:17,21 steps (2) 0:6,14 stick (1) 0:5 sticking (1) 0:6 still (24) 0:2,20,6,16,12,3,11, 8,9,10,20,5,11,15,6, 25,12,12,3,7,6,7,11,20 stiller (1) 0:5 stop (2) 0:22,13 stopgap (1) 0:11 stops (1) 0:19 storage (8) 0:20,16,18,5,9,24, 18,20 Store (2) 0:23,6 STORES (3) 0:17,16,24 storm (14) 0:18,22,14,18,20, 21,1,18,24,4,17,5,2,7 straight (1) 0:4 strategy (1) 0:9 straw (2) 0:25,25 streams (1) 0:2 Street (7) 0:6,14,16,7,22,23,5 stress (1) 0:19 stressing (1) 0:22 stretches (1) 0:23 string (1) 0:12	strong (1) 0:10 structure (6) 0:18,24,12,25,10,15 structures (12) 0:12,16,16,9,17,2,9, 4,4,18,10,22 stuck (1) 0:21 studied (3) 0:18,1,18 studies (25) 0:9,18,23,5,9,12,17, 17,20,12,24,25,18,22, 5,15,16,2,25,18,14,9, 10,12,24 study (18) 0:23,7,8,20,7,22,8, 14,25,12,11,17,17,20, 20,24,3,25 stuff (1) 0:16 subarea (1) 0:4 subcontractor (1) 0:9 subject (7) 0:14,12,11,4,13,1, 21 submerged (1) 0:2 submissions (1) 0:3 submit (6) 0:19,8,5,3,14,18 submitted (15) 0:11,1,10,1,8,8,15, 24,2,5,19,9,1,14,11 subsection (1) 0:19 Subsequent (1) 0:10 subsidence (1) 0:3 subsiding (1) 0:8 subsiding (1) 0:17 substance (1) 0:3 substantial (2) 0:11,17 substantially (1) 0:23 substantive (1) 0:1 substation (102) 0:20,24,25,1,18,1,7, 18,17,24,3,11,16,18, 22,24,2,19,3,2,5,11, 19,4,15,17,18,10,14,5, 7,9,5,6,9,25,25,6,12,9, 12,16,7,17,9,9,10,19,	14,19,1,2,11,22,6,13, 24,12,6,11,17,13,16, 18,23,20,10,12,10,19, 20,12,23,24,6,8,13,23, 25,2,22,15,21,11,21, 15,20,14,17,2,10,6,16, 10,18,7,12,3,2,13,18,7 substations (23) 0:6,1,21,9,6,6,2,21, 1,2,4,6,3,18,24,11,9,9, 25,12,18,22,2 subsurface (4) 0:19,5,3,20 successful (1) 0:22 sudden (1) 0:16 sufficient (1) 0:16 suggesting (2) 0:20,7 suggestion (1) 0:4 summer (12) 0:15,15,15,13,20, 13,13,19,24,4,16,16 sun (1) 0:21 Sunday (1) 0:24 SUPER (5) 0:17,15,23,4,14 superannuated (1) 0:10 supervisor (1) 0:15 supplemental (2) 0:14,11 supplies (1) 0:8 supply (3) 0:4,14,18 supplying (1) 0:4 support (1) 0:9 suppose (1) 0:23 Supposedly (2) 0:19,2 sure (48) 0:13,2,3,4,23,21,23, 7,11,8,22,5,15,8,3,6,1, 18,6,16,20,10,18,6,22, 17,17,13,24,5,17,25,6, 13,6,1,16,20,6,19,11, 19,9,4,2,2,1,16 surface (5) 0:3,1,9,15,2 surfaces (1) 0:18 surge (2) 0:14,11	surprise (2) 0:1,24 surprising (1) 0:10 surrounding (1) 0:7 survey (3) 0:1,8,8 surveys (4) 0:6,7,21,22 swallow (1) 0:16 swath (2) 0:2,15 swear (1) 0:8 Swift (16) 0:25,3,17,2,4,5,13, 19,5,10,22,1,7,12,23, 25 swings (2) 0:4,11 switch (1) 0:9 switchgear (2) 0:25,7 switching (5) 0:16,2,12,8,11 sworn (14) 0:17,25,17,4,6,18,7, 22,25,24,2,19,23,9 system (46) 0:20,4,22,6,18,1,6, 19,21,20,20,9,14,14, 21,3,4,6,17,18,19,6, 22,25,20,1,4,19,25,3, 1,2,16,11,13,20,23,4, 18,7,20,18,8,6,7,11 systems (5) 0:3,22,2,19,6 systemwide (1) 0:19
T				
				table (12) 0:9,11,3,9,3,5,7,23, 25,9,10,14 tables (1) 0:25 tack (1) 0:10 talk (20) 0:7,4,10,13,7,24,25, 14,12,8,12,19,15,1,8, 15,2,12,12,19 talked (13) 0:17,5,23,15,1,15, 14,22,3,17,10,16,17 talker (2) 0:17,17 talking (31) 0:2,24,7,19,21,4,5,

6,5,10,3,25,3,16,17, 11,18,19,20,3,4,19,19, 25,19,16,4,11,17,9,16	0:15	0:16,16	topology (1) 0:14	transfers (1) 0:7
talks (1) 0:13	term (9) 0:19,25,14,12,5,2, 11,17,13	three (30) 0:5,9,14,2,4,13,24, 2,13,11,23,25,11,14, 25,16,25,23,23,24,25, 5,14,22,21,1,21,5,12,6	torn (2) 0:22,3	transformation (1) 0:21
tangent (1) 0:12	terminal (2) 0:4,10	three-line (3) 0:20,20,23	TORRANCE (2) 0:4,20	transformer (24) 0:19,8,17,22,24,23, 24,18,19,19,23,3,12, 15,16,17,18,19,21,9, 11,15,3,10
tanks (2) 0:19,25	terminate (1) 0:7	three-year (3) 0:16,12,11	total (12) 0:11,8,5,15,21,15, 17,16,5,5,9,10	transformers (10) 0:24,5,9,4,25,4,23, 9,10,6
tap (1) 0:20	terms (25) 0:11,18,22,1,6,7,12, 2,4,16,3,16,4,9,4,8,18, 24,6,7,19,2,3,5,8	thrilled (1) 0:23	totality (1) 0:8	transition (8) 0:19,23,8,11,17,10, 12,12
tape (2) 0:19,22	terrible (1) 0:2	throughout (7) 0:2,6,1,21,8,17,18	totally (2) 0:2,18	transmission (32) 0:22,3,20,21,25,16, 6,25,3,6,13,10,14,20, 3,16,24,21,16,24,3,17, 24,24,21,12,8,10,9,5, 17,23
target (1) 0:10	terrific (2) 0:22,22	throw (2) 0:20,25	touched (1) 0:6	transparent (2) 0:10,18
targeted (1) 0:24	territory (1) 0:6	thunder (1) 0:23	toward (3) 0:18,11,23	transverse (1) 0:18
targeting (1) 0:4	test (4) 0:24,13,14,17	thus (1) 0:12	towards (7) 0:19,10,15,12,23,2, 16	treated (1) 0:5
taskforces (1) 0:9	testified (5) 0:18,5,25,17,9	tides (1) 0:25	tower (2) 0:19,14	tree (4) 0:21,11,21,12
tasteless (1) 0:3	testify (1) 0:8	tight (3) 0:6,7,14	town (58) 0:5,6,4,16,25,2,23, 12,13,12,15,17,18,4, 24,25,6,24,1,8,21,19, 6,9,14,20,22,9,12,11, 2,6,6,12,15,1,11,4,9,9, 13,2,7,23,21,6,7,22, 22,17,8,13,10,12,18, 21,24,10	trees (10) 0:19,24,23,25,4,7, 22,13,14,7
team (3) 0:17,18,24	testimony (12) 0:14,12,5,6,16,7,8, 5,7,19,23,13	tighter (2) 0:9,10	Townhouses (1) 0:7	trench (36) 0:17,19,23,3,6,8,2, 12,22,5,5,6,8,14,15,1, 9,4,24,22,14,11,15,13, 15,10,6,8,2,6,19,21, 22,9,12,1
tear (1) 0:10	testing (8) 0:23,9,13,7,11,10, 11,7	timeframe (1) 0:10	towns (5) 0:9,16,9,3,3	trenches (7) 0:6,24,3,1,2,6,13
technical (3) 0:13,12,16	tests (1) 0:10	times (10) 0:11,5,4,14,21,19,6, 4,16,22	Town's (2) 0:4,7	trenching (5) 0:14,4,25,4,20
technically (3) 0:17,6,18	theater (1) 0:7	timewise (1) 0:3	track (1) 0:1	trick (1) 0:20
technician (1) 0:14	theoretical (1) 0:8	timing (1) 0:4	tracks (6) 0:24,1,23,1,19,10	tried (3) 0:10,18,18
technique (5) 0:1,1,6,6,13	Theoretically (2) 0:20,21	Title (1) 0:13	tractor-trailer (1) 0:23	tripped (1) 0:1
techniques (2) 0:1,4	therefore (2) 0:12,10	today (37) 0:4,2,14,11,4,15,8, 11,7,23,7,21,4,13,9,7, 15,15,10,8,6,2,17,21, 9,14,2,25,15,19,20,17, 23,25,12,21,14	traditional (4) 0:24,5,9,13	trouble (1) 0:2
technologies (1) 0:8	thermal (2) 0:9,13	today's (1) 0:7	traffic (15) 0:20,12,14,20,17, 18,25,8,14,16,6,16,18, 19,22	troubled (1) 0:10
technology (6) 0:3,1,19,14,10,1	thinking (6) 0:11,15,1,24,9,16	together (8) 0:2,6,3,17,25,8,4,17	train (3) 0:16,19,25	trucks (1) 0:10
telling (3) 0:23,21,21	third (7) 0:24,17,1,3,12,21, 25	told (1) 0:12	trained (2) 0:16,20	trucks (2) 0:24,3
tells (1) 0:15	third-largest (1) 0:5	tolerant (1) 0:7	training (1) 0:10	true (17) 0:22,25,8,11,22,3, 12,11,12,4,10,6,16,3, 1,24,14
temperature (3) 0:21,21,8	thorough (2) 0:4,4	tolerate (1) 0:18	transactions (1) 0:15	truly (1) 0:1
temperatures (3) 0:19,25,1	thoroughly (1) 0:14	Tomac (4) 0:21,24,25,24	transcript (4) 0:4,15,17,9	try (21)
temporary (1) 0:20	though (11) 0:18,17,20,21,19,2, 10,18,19,21,19	tomorrow (1) 0:23	transfer (6) 0:23,12,4,4,11,13	
ten (9) 0:19,2,9,11,8,18,15, 23,22	thought (17) 0:23,16,9,12,8,14,7, 8,20,23,20,4,2,20,7, 25,13	too-expensive (1) 0:9	transferring (1) 0:23	
tend (2) 0:25,7	thousand (3) 0:20,21,8	took (6) 0:14,8,9,12,13,5		
tends (3) 0:14,17,6	Thousands (2)	top (6) 0:4,15,6,9,24,13		
tensions (1) 0:17				
tenths (2) 0:5,18				
ten-year (1)				

0:15,17,21,23,21, 22,14,6,19,1,4,17,17, 3,19,20,20,12,12,24, 25 trying (40) 0:23,10,13,17,13, 22,11,5,24,3,8,8,12, 14,22,13,14,4,12,9,21, 25,20,12,19,21,24,8, 12,14,15,23,23,2,6,15, 8,22,17,19 Tuesday (2) 0:4,1 turbines (4) 0:2,6,9,12 turn (4) 0:14,4,3,22 turning (4) 0:17,15,23,1 twain (1) 0:3 Twenty (1) 0:8 Twenty-one (1) 0:19 twice (1) 0:11 twiddling (1) 0:22 two (49) 0:21,14,8,24,10,21, 10,21,11,14,16,18,20, 22,6,19,1,8,12,24,18, 20,25,8,23,8,18,6,25, 18,21,24,18,14,22,14, 14,6,22,15,4,4,21,6, 20,5,8,4,2 two-edged (1) 0:9 two-line (2) 0:19,22 Two-part (1) 0:23 type (30) 0:19,14,18,19,24, 16,11,1,2,14,22,14,8, 22,22,17,21,15,21,2, 13,9,10,17,4,21,13,9, 16,12 types (5) 0:21,19,23,9,12 typical (4) 0:11,9,20,9 typically (11) 0:10,18,19,17,15, 22,22,8,8,25,13	ultimately (10) 0:5,12,7,9,12,18,19, 19,2,8 unaware (2) 0:17,20 unchanged (3) 0:9,18,21 uncomfortable (1) 0:22 under (18) 0:3,25,7,24,1,4,4, 12,18,2,2,20,21,1,2, 15,17,4 underground (18) 0:22,25,22,14,24,1, 13,24,6,17,19,12,21,8, 2,6,20,3 undergrounding (2) 0:24,1 underlying (2) 0:8,18 undermine (1) 0:20 underneath (2) 0:15,20 understands (1) 0:12 understood (1) 0:2 undertaken (1) 0:13 underwater (3) 0:7,11,19 undiscovered (1) 0:17 unfeasible (1) 0:5 unforeseeable (1) 0:2 unforeseen (3) 0:18,2,9 Uniform (1) 0:15 uni-grounded (1) 0:21 unique (3) 0:7,7,16 unit (5) 0:16,23,22,25,11 United (5) 0:5,8,12,25,4 units (14) 0:11,14,13,16,17, 20,24,2,2,12,20,21,4,5 Unity (3) 0:2,4,8 unknowable (2) 0:19,22 unknowingly (1) 0:8 unknown (2) 0:21,18 unknowns (1)	0:13 unless (2) 0:7,2 unreliable (1) 0:11 unsightly (1) 0:7 unusual (1) 0:19 unwind (1) 0:1 up (84) 0:16,22,24,25,17, 23,19,2,25,3,24,10,11, 8,3,7,17,17,18,12,2, 19,15,13,17,1,21,17,5, 10,7,22,3,19,23,17,19, 9,3,8,12,15,8,12,19,9, 16,19,21,8,2,10,11,13, 17,8,11,17,22,1,17,16, 18,21,25,10,5,22,9,20, 5,9,11,14,3,16,16,1, 21,2,1,25,16,21 upgrade (1) 0:10 upgraded (1) 0:16 upgrades (2) 0:13,25 upon (13) 0:15,4,1,10,17,22,2, 3,22,10,6,16,2 upside (1) 0:21 urban (2) 0:18,3 urge (1) 0:19 urgency (1) 0:16 usage (9) 0:1,3,9,10,22,1,8,1, 5 usages (1) 0:7 use (56) 0:25,25,25,12,5,15, 3,7,19,21,4,24,2,22,2, 13,8,2,15,16,14,15,3, 5,23,5,1,23,14,14,2, 20,12,7,18,24,21,5,25, 6,1,10,11,21,2,4,11, 16,11,18,18,8,15,9,16, 20 used (22) 0:3,3,23,20,23,15, 23,6,18,23,23,11,12, 15,19,3,8,7,17,8,14,12 useful (1) 0:24 user (1) 0:5 uses (2)	0:24,22 using (18) 0:3,8,14,1,20,24,8, 4,8,9,8,18,12,13,1,1,8, 7 Usually (10) 0:15,23,1,20,9,11,3, 5,9,8 utilities (9) 0:5,7,12,10,2,6,2, 21,1 utility (10) 0:15,4,17,1,11,23,4, 23,25,5 utilized (1) 0:17 utilizes (1) 0:14 utilizing (1) 0:11	V	0:3 verify (6) 0:13,25,3,17,10,1 version (1) 0:12 versus (12) 0:13,12,25,14,19,8, 25,25,10,4,24,2 viable (6) 0:7,19,16,13,17,20 Vice (1) 0:1 view (4) 0:9,18,6,9 views (1) 0:6 violations (1) 0:10 vis-a-vis (1) 0:3 visibility (3) 0:18,7,8 visible (1) 0:8 visual (2) 0:22,19 visually (4) 0:18,23,13,17 VOICE (10) 0:6,20,23,25,13,7, 24,8,19,20 vol (1) 0:6 volt/VAR (2) 0:18,24 voltage (18) 0:5,6,19,2,16,18,14, 17,25,3,5,9,14,17,20, 4,10,11 volume (2) 0:4,5 voted (1) 0:22 vulnerability (1) 0:20 vulnerable (1) 0:18
U				W	
UI (1) 0:6 ultimate (1) 0:17				wait (4) 0:20,10,11,15 waiting (2) 0:9,13 wall (2) 0:17,2 wand (1) 0:12 wants (4) 0:20,24,10,12 warming (1) 0:19 warrant (1)	

0:10 waste (3) 0:4,5,12 wasteful (1) 0:17 water (37) 0:3,6,24,6,10,16,5, 13,16,6,4,1,23,7,18, 13,20,24,17,4,7,9,22, 3,23,1,3,9,6,18,9,5,15, 13,14,17,21 Waterbury (1) 0:7 Waterside (6) 0:23,3,6,20,24,19 way (44) 0:17,17,24,5,6,13, 25,5,23,4,18,11,17,22, 20,18,14,5,6,4,3,17, 20,12,21,20,5,5,10,8, 6,18,1,12,23,17,6,14, 20,16,14,16,4,10 ways (5) 0:2,5,9,7,8 weather (15) 0:7,12,22,3,4,12,13, 17,19,1,7,13,12,20,23 weatherization (1) 0:13 weatherize (1) 0:18 week (4) 0:11,2,2,3 weekend (2) 0:23,20 weigh (1) 0:18 weld (7) 0:1,3,5,8,4,1,3 welds (1) 0:19 well-confined (1) 0:10 Weren't (1) 0:4 west (5) 0:17,23,7,9,19 Western (5) 0:20,22,24,6,19 westward (1) 0:10 wetlands (3) 0:18,3,11 What's (12) 0:2,23,23,14,10,16, 14,6,23,7,8,14 whenever (2) 0:4,22 Whereupon (3) 0:20,21,13 whiskers (1) 0:3 white (1)	0:17 whole (9) 0:5,16,14,3,17,3,21, 25,21 wide (4) 0:2,6,1,16 width (12) 0:13,13,15,24,6,17, 22,24,2,10,5,12 wife (1) 0:7 wildlife (1) 0:1 willing (1) 0:12 wind (1) 0:20 windings (1) 0:10 windless (1) 0:15 window (2) 0:5,24 winds (1) 0:24 winter (2) 0:16,17 wires (8) 0:16,20,14,11,12, 16,22,5 wish (4) 0:22,9,3,18 within (16) 0:18,3,17,18,23,17, 19,23,13,16,8,2,21,24, 10,8 without (6) 0:18,3,21,10,7,9 withstand (1) 0:13 witness (587) 0:24,24,3,10,15,7,9, 11,15,16,18,23,25,2,8, 10,12,21,25,4,9,18,25, 14,1,10,22,6,20,1,5, 12,21,3,13,5,11,22,5, 15,21,1,19,9,19,21,10, 20,1,8,13,20,24,3,8, 10,14,16,21,4,7,11,18, 24,7,13,19,23,2,12,15, 2,9,14,20,23,8,12,21, 17,25,8,13,20,24,3,10, 19,2,10,14,25,6,13,20, 25,6,9,13,3,7,11,17, 21,1,5,14,19,23,4,14, 19,3,12,17,9,11,15,21, 24,11,17,22,1,7,11,21, 5,11,15,20,1,8,19,6, 11,18,21,4,8,13,25,7, 12,16,23,17,22,9,14, 19,7,13,17,21,2,8,12, 25,17,6,16,21,8,14,17, 4,8,13,18,22,3,7,4,19,	6,17,22,8,1,4,20,7,16, 22,6,17,4,9,16,21,8, 18,24,3,9,15,20,6,12, 15,21,3,10,17,18,5,21, 3,8,14,8,20,25,3,7,19, 25,4,13,17,23,10,20, 15,23,25,15,22,1,6,12, 17,24,12,6,10,14,18,1, 5,13,20,11,19,2,20,25, 9,12,3,7,24,11,16,20, 16,9,24,8,15,8,22,3, 12,19,25,5,11,19,23,1, 13,20,25,6,13,23,2,11, 1,5,14,17,12,25,13,24, 13,20,17,3,10,15,6,16, 7,18,9,14,19,1,7,12, 17,25,10,22,22,9,16,5, 4,5,12,24,4,8,20,6,12, 20,16,20,17,7,1,13,3, 21,3,17,24,4,10,23,4, 5,13,19,17,23,5,11,15, 20,23,2,8,19,24,7,14, 1,5,14,20,3,8,11,8,12, 2,13,23,4,9,17,23,7, 11,18,8,14,18,22,4,10, 14,21,25,19,25,16,24, 9,13,16,4,9,17,2,9,13, 11,15,18,2,10,16,24, 15,1,8,3,9,17,25,15, 10,22,1,7,12,24,2,10, 15,1,7,14,18,1,17,8,4, 15,20,24,18,22,20,3, 15,23,14,12,5,11,21, 20,4,12,20,5,22,12,25, 12,14,20,5,7,11,3,19, 7,15,23,25,19,2,2,24, 11,25,4,20,24,7,25,17, 10,15,11,15,20,4,11,3, 11,6,16,21,1,4,9,12, 23,7,9,18,23,2,9,19, 24,1,6,10,15,18,1,7, 16,22,7,10,14,24,8,13, 18,24,4,9,20,25,4,8, 16,23,3,9,11,15,22,5, 3,3,6,19,14,23,18,25, 19,2,8,1,12,25,18,22, 1,3,23,4,15,3,17,24, 13,20,3,11,8,12,19,22, 4,22,13,4,17,23,4,10, 24,5,11,16,25,4,9,16, 21,1,4,15,22,2,18,25, 20,3,17 witnesses (6) 0:17,9,16,3,22,13 WMECO (2) 0:7,16 woman (1) 0:17 Wonderful (2) 0:14,11 wondering (6) 0:15,13,9,4,19,10 wood (1)	0:18 word (5) 0:19,22,1,1,4 worded (1) 0:16 words (5) 0:6,5,13,10,5 work (37) 0:20,6,6,9,18,14,1, 21,19,23,12,6,23,13, 13,3,19,2,2,7,18,19,3, 7,21,16,17,17,4,6,15, 17,19,23,16,16,6 worked (1) 0:25 workhours (1) 0:14 working (8) 0:14,16,17,17,2,21, 11,12 works (3) 0:8,11,10 workspace (3) 0:6,8,14 worried (3) 0:16,24,2 worse (1) 0:20 worth (1) 0:20 Wow (1) 0:8 write (2) 0:16,11 written (3) 0:5,7,7 wrong (3) 0:7,22,13	years (47) 0:2,2,21,1,7,9,17,8, 16,15,18,3,18,20,24, 12,24,22,9,19,16,4,5, 25,14,22,14,17,19,9,1, 6,8,20,13,21,25,22,14, 12,22,9,11,16,18,13, 16 yesterday (1) 0:15 York (5) 0:21,17,12,25,5
Z				
zero (2) 0:6,7 zeroes (1) 0:18 zone (7) 0:6,13,15,11,19,24, 19				
0				
0.998 (1) 0:25 000160-kilowatt (1) 0:21 000458 (1) 0:19 01 (1) 0:4 0302 (1) 0:16 06 (1) 0:14 06471 (1) 0:21 06702 (1) 0:7				
1				
1 (21) 0:11,16,15,19,5,1, 11,4,19,8,8,10,9,18, 21,12,22,25,1,24,19 1.1 (1) 0:17 1.5 (2) 0:3,5 1.8 (1) 0:8 1:49 (1) 0:21 10 (12) 0:11,9,7,17,9,22,16, 20,21,16,13,1 10,000 (2) 0:24,19 10,400 (1) 0:25				
X				
XLPE (10) 0:1,18,21,23,23,15, 2,15,14,1 x-ray (3) 0:8,10,20 x-rayed (1) 0:2				
Y				
Ya (1) 0:6 Yankee (2) 0:20,3 yard (4) 0:18,19,7,25 yards (4) 0:24,3,19,21 year (20) 0:9,18,12,1,2,7,2, 17,21,6,10,18,11,19,3, 11,6,2,4,18				

100,000 (1) 0:25	1-35 (1) 0:21	0:13	0:7,19	
100.0 (1) 0:18	135.5 (1) 0:11	2010 (3) 0:3,5,9	29 (13) 0:14,17,2,5,8,10,18, 22,3,6,17,14,21	4
100-foot (1) 0:7	135.8 (5) 0:15,10,12,17,22	2011 (2) 0:19,9	290 (6) 0:20,7,18,14,18,14	4 (1) 0:7
100-year (1) 0:15	13-8 (2) 0:20,2	2012 (2) 0:16,8	29th (1) 0:14	4.5 (1) 0:22
107.7 (2) 0:9,18	14 (3) 0:22,6,8	2013 (8) 0:13,13,1,2,8,14,25, 8	2-megawatt (1) 0:24	40 (10) 0:12,12,14,23,4,11, 23,16,24,1
10-D (3) 0:10,20,16	14,000 (2) 0:3,20	2014 (7) 0:8,1,1,25,21,15,8	2X (1) 0:15	400 (1) 0:25
10-K (3) 0:13,8,16	140 (14) 0:22,22,11,25,4,9,7, 9,20,8,21,22,13,21	2015 (20) 0:4,11,3,25,2,5,8, 11,14,19,22,1,17,9,10, 14,2,4,21,12	3	400-foot (2) 0:8,9
11 (8) 0:5,13,5,9,21,3,16,2	140-million-dollar (1) 0:7	2016 (3) 0:14,6,1	3:51 (1) 0:22	40-foot (1) 0:21
114 (1) 0:4	14-E (1) 0:16	2017 (2) 0:4,12	3:55 (1) 0:22	40-some (1) 0:14
114.8 (8) 0:11,14,18,4,9,17,3, 18	15 (2) 0:16,20	20-year (1) 0:9	30 (14) 0:17,22,1,12,25,23, 15,17,8,2,5,8,12,14	41 (2) 0:24,15
115 (4) 0:20,19,22,3	15-inch (1) 0:22	21 (3) 0:25,9,5	30.2/40.3/50.4 (1) 0:12	43 (1) 0:17
115-cable (1) 0:21	16 (3) 0:13,14,15	21st (1) 0:11	300,00 (1) 0:21	43.5 (1) 0:6
115-kilovolt (2) 0:19,21	160 (1) 0:20	22 (1) 0:3	30-day (1) 0:8	44 (2) 0:24,6
115-kV (6) 0:17,13,12,14,15,17	16-50P (1) 0:18	23 (6) 0:5,13,2,8,12,18	30-degree (1) 0:14	45 (3) 0:17,13,17
11-megawatt (1) 0:5	17 (2) 0:1,4	24 (5) 0:8,23,24,5,12	31 (1) 0:24	46 (2) 0:17,17
11R (1) 0:12	18 (1) 0:5	24-hour (2) 0:14,18	31,835,000 (1) 0:17	47 (5) 0:25,14,15,6,15
11-S1 (1) 0:23	19 (1) 0:5	25 (15) 0:24,11,21,1,3,5,16, 10,11,19,1,1,18,7,18	32 (2) 0:24,19	48 (1) 0:17
11-watt (1) 0:25	190 (1) 0:11	25,444,000 (1) 0:18	33 (1) 0:17	48.7 (1) 0:15
12 (2) 0:6,9	1934 (1) 0:16	250 (2) 0:22,11	330 (3) 0:16,7,11	49 (1) 0:17
12:54 (1) 0:21	1969 (2) 0:8,12	26 (7) 0:3,18,15,20,3,7,8	345 (2) 0:21,18	4-kV (1) 0:3
120 (1) 0:3	1-megawatt (1) 0:25	26.7-kV (1) 0:21	345-kV (1) 0:22	5
13 (4) 0:12,3,10,11	1-percent (1) 0:4	27 (12) 0:14,3,5,9,14,15,15, 11,18,18,10,13	35 (2) 0:6,7	5 (3) 0:4,8,12
13.2 (3) 0:18,10,18	1st (6) 0:25,18,22,13,3,2	27.6 (2) 0:9,24	350 (1) 0:13	5,000 (3) 0:2,15,25
13.2-kV (3) 0:20,20,4	1X (2) 0:19,12	275 (1) 0:20	35-foot (1) 0:16	5:00 (2) 0:25,15
13.8 (1) 0:4	2	276 (1) 0:18	36 (2) 0:5,9	50 (9) 0:6,25,20,6,8,12,7, 18,12
131.8 (1) 0:8	2 (5) 0:13,19,9,21,7	27-6 (1) 0:10	37 (1) 0:17	50.4 (2) 0:19,20
13-2 (4) 0:16,23,24,24	2.3 (1) 0:23	27-kV (16) 0:23,24,9,9,18,17,2, 13,21,2,6,21,22,20,25, 8	37.3 (1) 0:15	500 (4) 0:9,11,16,13
133.1 (1) 0:10	20 (18) 0:14,17,22,3,5,14,7, 24,3,6,11,6,15,17,6, 14,23,4	28 (2) 0:19,24	38 (1) 0:24	500,000 (1) 0:9
134 (1) 0:20	200 (6) 0:21,25,17,16,9,21	28,000 (2)	39 (1) 0:17	500-year (8) 0:17,22,13,22,25,7, 2,8
134.5 (1) 0:6	2008 (1)		3X (1) 0:15	50-odd (1) 0:7
135 (4) 0:3,16,18,13				

<p>51 (3) 0:18,14,1</p> <p>52 (1) 0:16</p> <p>53 (1) 0:18</p> <p>54 (1) 0:25</p> <p>55 (1) 0:25</p> <p>56 (1) 0:18</p> <p>57 (2) 0:18,23</p> <p>58 (1) 0:25</p> <p>5800 (1) 0:20</p> <p>59 (2) 0:18,2</p> <p>5X (2) 0:16,18</p>	<p>0:15,23</p> <p>75 (3) 0:15,12,18</p> <p>76 (1) 0:21</p>			
	8			
	<p>8 (2) 0:20,22</p> <p>80 (3) 0:19,4,6</p> <p>800 (1) 0:24</p> <p>81 (3) 0:9,16,12</p> <p>87 (1) 0:19</p> <p>89 (1) 0:1</p>			
	9			
6	<p>9 (5) 0:8,14,4,22,16</p> <p>9.7 (1) 0:21</p> <p>90 (3) 0:18,18,21</p> <p>90/10 (1) 0:21</p> <p>90-foot (2) 0:23,4</p> <p>92 (1) 0:14</p> <p>95 (9) 0:17,19,20,23,11, 10,25,25,24</p> <p>98 (2) 0:2,3</p> <p>99 (3) 0:20,19,22</p>			
<p>6 (7) 0:4,20,7,14,4,22,19</p> <p>6.5 (1) 0:3</p> <p>60 (4) 0:25,6,13,12</p> <p>60-watt (1) 0:24</p> <p>60-year-old (1) 0:21</p> <p>61 (1) 0:18</p> <p>62 (1) 0:25</p> <p>63 (1) 0:25</p> <p>64 (1) 0:6</p> <p>65 (1) 0:24</p> <p>66 (1) 0:12</p> <p>69 (1) 0:5</p>				
7				
<p>7 (1) 0:22</p> <p>7,000 (1) 0:15</p> <p>70 (3) 0:23,1,14</p> <p>700 (2) 0:13,22</p> <p>700-kilowatt (1) 0:17</p> <p>70-foot (2)</p>				