1 1 STATE OF NEW HAMPSHIRE 2 SITE EVALUATION COMMITTEE 3 June 14, 2016- 1:30 p.m. Public Utilities Commission 21 South Fruit Street Suite 10 4 Concord, New Hampshire DAY 2 5 {Afternoon Session ONLY} 6 7 IN RE: SEC DOCKET NO. 2015-05 SITE EVALUATION COMMITTEE: Joint Application of New England 8 Power Company d/b/a National Grid and Public Service Company of 9 New Hampshire d/b/a Eversource Energy for a Certificate of 10 Site and Facility. 11 [Adjudicative Hearing] 12 13 **PRESENT:** SITE EVALUATION COMMITTEE: Public Utilities Commission 14 F. Anne Ross, Esq. (Presiding as Presiding Officer) 15 Cmsr. Kathryn Bailey Public Utilities Commission 16 Cmsr. Jeffrey Rose Dept. of Resources and Economic Development Dr. Richard Boisvert 17 Dept. of Cultural Resources Division of Historical Res. Michele Roberge Dept. of Environmental Serv. 18 Patricia Weathersby Public Member Alternate Public Member 19 Rachel Whitaker 20 Also Present for the SEC: 21 Michael J. Iacopino, Esq. (Brennan... 22 Pamela G. Monroe, SEC Administrator 23 Susan J. Robidas, NH LCR 44 COURT REPORTER: 24

1 APPEARANCES (CONT'D) 2 3 **OTHER APPEARANCES:** FOR THE APPLICANTS: 4 5 Reptg. Eversource Energy: Barry Needleman, Esq. (McLane Middleton) 6 Adam Dumville, Esq. (McLane Middleton) Jeremy Walker, Esq. (McLane Middleton) 7 Christopher Allwarden, Esq. (Eversource) 8 Reptg. National Grid: 9 Mark Rielly, Esq. (National Grid) 10 11 COUNSEL FOR THE PUBLIC: 12 Christopher G. Aslin, Esq. Assistant Attorney General 13 N.H. Department of Justice 14 15 **INTERVENOR:** 16 Margaret Huard, pro se 17 18 19 20 21 22 23 24

1 INDEX 2 WITNESS PANEL: ALFRED MORRISEY LISA SHAPIRO 3 JAMES CHALMERS ROBERT VARNEY 4 Cross-examination(cont'd) by Ms. Huard 6 5 QUESTIONS FROM SUBCOMMITTEE MEMBERS AND SEC COUNSEL: 6 7 By Cmsr. Bailey 26, 31 29, 42 8 By Cmsr. Rose 9 By Ms. Weathersby 29, 37 10 By Ms. Roberge 30 11 By Ms. Whitaker 33, 42 By Mr. Iacopino 34 12 13 By Dr. Boisvert 39 14 15 WITNESS PANEL: WILLIAM BAILEY GARY JOHNSON 16 Direct Examination by Mr. Walker 17 43 Cross-examination by Mr. Aslin 44 18 Cross-examination by Ms. Huard 50 19 20 QUESTIONS FROM SUBCOMMITTEE MEMBERS AND SEC COUNSEL: 21 22 95 By Ms. Roberge 23 By Cmsr. Bailey 100 24 By Ms. Weathersby 106

3

1	WITNESS: DAVID PLANTE	
2	QUESTIONS FROM SUBCOMMITTEE MEMBERS AND SEC COUNSEL:	
3	AND SEC COUNSEL:	
4	By Ms. Whitaker	111
5		
6	WITNESS: MARGARET HUARD	
7	Huard 52 Prefiled Testimony of 1 Margaret Huard	.13
8	(MARKED FOR IDENTIFICATION)	
9		
10	Direct Examination by Mr. Iacopino	113
11	Cross-examination by Mr. Needleman	116
12	CONFIDENTIAL PORTION OF HUARD EXAMINATION	145
13	Cross-examination by Mr. Needleman	145
14	QUESTIONS FROM SUBCOMMITTEE MEMBERS AND SEC COUNSEL:	
15	By Mr. Iacopino	150
16		
17		
18		
19		
20		
21		
22		
23		
24		`
	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-	14-16

EXHIBITS ADMITTED/EXCLUDED: Applicants Ex. 1 thru 27, 30 Admitted Applicants Ex. 28, 29 Excluded Counsel for Public Ex. 1 Admitted Huard Ex. 1-9, 12-14, 16-52 Admitted Huard Ex. 10, 11, 15 Excluded CLOSING STATEMENTS BY PARTIES: By Mr Aslin 164, 178 By Ms. Huard By Mr. Needleman

1	AFTERNOON SESSION
2	(Resumed at 1:30 p.m.)
3	
4	PRESIDING OFFICER ROSS: All right.
5	We will go back on the record this afternoon.
6	We were in the midst of Ms. Huard's
7	cross-examination of the witnesses. But before
8	we resume, I understand there's a minor
9	correction that needs to be made in the
10	testimony, so let's do that now.
11	WITNESS SHAPIRO: Yes, thank you.
12	For the record, Lisa Shapiro. I just wanted to
13	correct the communication between Mr.
14	Morrisey's testimony and my testimony.
15	The property taxes, there's four
16	different types of property taxes that the
17	Project will pay: Local municipal taxes, local
18	education, county and the state. For Mr.
19	Morrisey's REMI analysis, I provided him with
20	just the municipal, local education and county.
21	That was what was included in his testimony,
22	and his supplemental testimony is in fact
23	correct. And that was the \$678,850. So, his
24	supplemental testimony was correct and didn't

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	need correcting. However, for the stipulation,
2	point No. 51 on Page 8 of the stipulation, the
3	total taxes paid in the first year, however,
4	does include that state tax. So the corrected
5	number, instead of \$1,557,550 is just rounded
6	to \$1.5 million.
7	PRESIDING OFFICER ROSS: All right.
8	Thank you for that.
9	MR. IACOPINO: Just for the record,
10	the stipulation referenced by Dr. Shapiro is
11	actually designated as Applicants' Exhibit
12	No. 23.
13	PRESIDING OFFICER ROSS: All right.
14	Thank you.
15	Ms. Huard, you may continue.
16	MS. HUARD: I believe I was starting
17	to ask Mr. Chalmers about the case study.
18	CROSS-EXAMINATION (CONT'D)
19	BY MS. HUARD:
20	Q. And you have stated that three are corridors,
21	and one of those corridors went from Littleton,
22	New Hampshire to Pelham, New Hampshire;
23	correct on the Mass. border; correct?
24	A. (Chalmers) That's correct.
ļ	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

1	Q.	And that is the one that the MVRP falls in;
2		correct?
3	Α.	(Chalmers) Yes.
4	Q.	And then the second corridor went from Dummer
5		to Deerfield; correct?
6	Α.	(Chalmers) Correct.
7	Q.	And is that the corridor proposed for the
8		Northern Pass?
9	Α.	(Chalmers) Yes, it is.
10	Q.	Thank you.
11		And is it correct that the third corridor
12		of the case study represents the coastal areas
13		of Southern New Hampshire, in and around
14		Portsmouth?
15	Α.	(Chalmers) Yes.
16	Q.	And is that the area proposed for the Seacoast
17		Reliability Project?
18	Α.	(Chalmers) Yes, it is.
19	Q.	Thank you.
20		How many sales that were identified in
21		this case were from the towns affected by the
22		MVRP?
23	Α.	(Chalmers) In the four towns, there were four
24		case studies, I believe.
	L	$\int GEC 201E_0E \int Day 2/Afternoon ONIX \int 06-14-16 \int$

1	Q.	So, 4 out of 58 properties proposed for the
2		MVRP?
3	A.	(Chalmers) Correct.
4	Q.	Thank you.
5		And Mr. Chalmers, do you recall claiming
6		in your prefiled testimony that the HVTL
7		corridors that were selected for the case study
8		represented much of the state of New Hampshire?
9	A.	(Chalmers) Yes.
10	Q.	And is it correct that the case study did not
11		consider any property that did not have an
12		abutting or crossing HVTL?
13	A.	(Chalmers) Yes.
14	Q.	Is it correct that the case study did not
15		consider the dangerous health effects of the
16		new line?
17	A.	(Chalmers) That's correct.
18	Q.	And is it correct that the study did not extend
19		more than 100 feet from the right-of-way
20		proposed for the MVRP?
21	Α.	(Chalmers) No.
22	Q.	Okay. So you have considered homes outside of
23		that 100-foot area?
24	Α.	(Chalmers) Yes.

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Q.	And in what area did you study those? Do you
2		recall?
3	A.	(Chalmers) The case study properties were all
4		either crossed by or adjacent to the
5		right-of-way. But some of them were 10-acre,
6		15-acre, 40-acre parcels on which the homes
7		might be as much as a mile or, you know, some
8		fraction of a mile from the boundary of the
9		right-of-way.
10	Q.	Okay. I see. Does the case study capture
11		homes that were placed on the market and were
12		unsuccessfully sold?
13	Α.	(Chalmers) No.
14	Q.	And are you aware that, although the proposed
15		MVRP would fall into the first corridor in the
16		case study, the project has proposed not to go
17		any further north in that corridor than
18		Londonderry, New Hampshire, at Wiley Hill Road?
19	Α.	(Chalmers) Yes.
20	Q.	And did the case study consider any sales on
21		either side of the utility corridor that turns
22		off from Corridor 1 at Wiley Hill Road and runs
23		towards Scobie Pond?
24	Α.	(Chalmers) I don't believe so, no.
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Q.	And did this case study consider any properties
2		in close proximity to the final destination of
3		the Merrimack Valley Reliability Project's
4		Scobie Pond Substation?
5	A.	(Chalmers) No. No, we were limited. We looked
6		for every sale along the in terms of
7		corridor, what we call Corridor No. 1, every
8		sale that was adjacent to the corridor within
9		which the Phase 1, Phase 2 lines were located.
10	Q.	Okay. So, who chose those corridors?
11	A.	(Chalmers) I'm sorry?
12	Q.	Who chose those three corridors?
13	A.	(Chalmers) I did.
14	Q.	So you had the opportunity to study the area
15		from Wiley Road [sic] to Scobie Pond? Is that
16		your choice not to?
17	A.	(Chalmers) Yeah, I'm not sure what the corridor
18		configuration is there. That issue never
19		arose.
20	Q.	Okay. So that ROW actually separates from
21		Corridor 1, which you did study.
22	A.	(Chalmers) Correct.
23	Q.	And you chose not to study the continue to
24		study that corridor. You did no testing in
		$\{SEC, 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

1		that area; correct?
2	A.	(Chalmers) That's correct.
3	Q.	Thank you.
4		And Mr. Chalmers, do you recall claiming
5		in your prefiled testimony that, based on the
6		research, those properties that could
7		potentially be affected are homes very close to
8		the right-of-way that do not have clear
9		visibility of existing lines, but will have
10		clear visibility of existing new or
11		relocated lines after the project is
12		constructed, and the number of properties
13		potentially affected is small?
14	Α.	(Chalmers) Yes.
15	Q.	How many homes did you estimate that would have
16		a change in visibility in the area from the
17		point of demarcation in Hudson, New Hampshire,
18		on David Drive, to the turn-off at Wiley Road
19		in Londonderry?
20	А.	(Chalmers) The number of homes within 100 feet
21		of the the number of properties that had
22		homes within 100 feet of the boundary of the
23		right-of-way which would potentially have a
24		change in visibility we estimated to be
	L	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		13
1		approximately 40 percent of 52, or about 20.
2	Q.	And so, for these homes, even though they're a
3		small portion of the town, the state, would you
4		agree that, for those pieces of property, the
5		potential for a potential buyer to view that
6		property differently after the construction is
7		great?
8	Α.	(Chalmers) No.
9	Q.	There is no potential after the trees come down
10		or a three-pole structure or two-pole
11		structure? The views are exposed. You feel
12		that there is no potential for a buyer to come
13		along and view that property differently?
14	Α.	(Chalmers) I didn't say that.
15	Q.	I'm asking you that question.
16	Α.	(Chalmers) It's certainly possible. It would
17		depend on the facts of the property.
18	Q.	But it is possible.
19	Α.	(Chalmers) Yes.
20	Q.	Thank you.
21		Mr. Varney, do you recall making the
22		conclusion in your prefiled testimony that the
23		project will have little impact on local land
24		use, tourism or property values, and that
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		positive impacts are anticipated for local,
2		regional and state tax revenues and the
3		economy?
4	Α.	(Varney) Yes.
5	Q.	And did you review the land patterns, local
6		master plans and zoning ordinances for Pelham,
7		Hudson, Londonderry, Windham, New Hampshire, to
8		assist you in making these conclusions?
9	Α.	(Varney) Yes.
10	Q.	Do you recall reviewing the master plan for
11		Hudson, New Hampshire?
12	Α.	(Varney) Yes, I do.
13	Q.	And do you recall that in your summary,
14		Appendix A1 [sic], you claimed that the project
15		was consistent with the master plan for the
16		Town of Hudson?
17	A.	(Varney) Yes.
18	Q.	And do you recall whether the project is
19		consistent with all of the goals in the master
20		plan for population, housing, natural
21		resources, community facilities and future land
22		use for Hudson, New Hampshire?
23	Α.	(Varney) Just a moment.
24		(Witness reviews document.)
I		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Α.	(Varney) In reviewing the master plan, the
2		report notes on Page 17 of the appendix that
3		the town wishes to encourage commercial growth
4		in already developed areas, limited areas with
5		adequate utility services, direct access to
6		highways, utilizing already developed
7		right-of-way. The project supports the town's
8		desire to protect the town's open space and its
9		goal to encourage growth in already developed
10		areas. It does not interfere with
11		implementation of the master plan
12		implementation strategies.
13	Q.	And did that opinion include the goal of
14		natural resources, of preserving natural
15		resources?
16	Α.	(Varney) I reviewed the goals and objectives
17		for all of the chapters in the Town of Hudson
18		Master Plan.
19	Q.	Then why don't you have anything listed under
20		Conservation Land or Natural Resources on
21		Page 10 or 11 of Appendix AI for Hudson, New
22		Hampshire?
23		(Witness reviews document.)
24	Α.	(Varney) Pages 10 and 11, there are there's
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		a discussion under Conservation Lands and
2		Outdoor Recreation for three parcels in the
3		Town of Hudson.
4	Q.	Do you have the watershed for Robinson Pond
5		listed in there?
6	Α.	(Varney) No.
7	Q.	Are you aware that a considerable piece of
8		the a considerable portion of the
9		right-of-way proposed for the Merrimack Valley
10		Reliability Project runs through the watershed
11		for Robinson Pond?
12	A.	(Varney) I discussed in this land-use analysis
13		a review of parcels that were along and
14		adjacent to the project right-of-way.
15	Q.	Right. And along that project right-of-way,
16		and within that project right-of-way, are you
17		aware that there are water bodies that feed a
18		conservation piece of land that you don't have
19		noted in your appendix in your analysis?
20	Α.	(Varney) There again, I want to reinforce that
21		we reviewed parcels of land that were along the
22		right-of-way. We didn't try to discuss every
23		watershed. And there are various sizes of
24		watersheds throughout the state of New
		$\int dEC = 201E - 0E \int Dow 2/Afternoon ONLY \int 0E - 14 - 1E \int$

	Hampshire. We stuck to the guidance that is
	embedded in the state statute and
	administrative rules for the SEC, in terms of
	reviewing land-use impacts. And going well
	beyond the project area, as you've suggested,
	is, in my view, inappropriate and not a good
	use of time.
Q.	So it's inappropriate to consider one of
	Hudson's finest pieces of conservation land?
Α.	(Varney) No. It's appropriate to consider that
	the project will be subject to state and
	federal permitting requirements which are
	designed to protect those resources, regardless
	of where they may be located.
Q.	Do you recall claiming in Appendix AI that less
	than one percent of the Town of Hudson's total
	land area is affected by the project?
Α.	(Varney) I believe it indicates that less than
	one percent is part of the right-of-way for the
	project, the right-of-way for the transmission
	lines.
Q.	Is that any reason to overlook and ignore the
	negative, detrimental effects for those in the
	one percent?
L	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$
	A. Q. A.

		10
1	А.	(Varney) No, they're not ignored.
2	Q.	Are you aware that a large portion of this mere
3		one percent houses never mind.
4		Do you remember discussing the Robinson
5		Pond watershed with the Town of Hudson?
6	Α.	(Varney) No.
7	Q.	Did you discuss any of this with the Town of
8		Hudson?
9	Α.	(Varney) Yes.
10	Q.	And who did you discuss that with?
11	A.	(Varney) The town's planning director.
12	Q.	And who would that be?
13	Α.	(Varney) John Cashell.
14	Q.	John Cashell. Does John Cashell hold a
15		volunteer position within the town?
16	Α.	(Varney) He's a professional planner.
17	Q.	Is he a volunteer?
18	Α.	(Varney) No.
19	Q.	What is his position?
20	Α.	(Varney) I don't recall his exact title, but
21		he's Planning and Community Development
22		Director for the Town of Hudson.
23	Q.	Does the Town of Hudson have the right to make
24		a decision that will affect people's private
l		SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

1		property?
2		MR. NEEDLEMAN: I'll object. I think
3		that's calling for a legal conclusion.
4		PRESIDING OFFICER ROSS: I'll sustain
5		that objection.
6	BY	MS. HUARD:
7	Q.	Well, you claimed in your prefiled testimony
8		that there would be no crossing of the
9		Merrimack River designated corridor. Are you
10		aware of the inter-connectivity between the
11		bodies of water associated with this Robinson
12		Pond watershed that I discussed and the
13		Merrimack River?
14	Α.	(Varney) My reference was to the
15		state-designated lower Merrimack River, which
16		includes the river itself and an area on either
17		side of the river. And this is three miles
18		from the river, so it's well beyond the area
19		that the state has designated as part of the
20		area that would be covered by a river
21		management plan by the lower Merrimack River
22		Advisory Committee.
23	Q.	Do you recall claiming that the project will
24		not have an impact on tourism because there are
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		no tourist-related resources in or near the
2		project area?
3	Α.	(Varney) Yes.
4	Q.	And what would you consider to be "near the
5		project corridor"?
6	Α.	(Varney) I actually looked broadly in the area
7		using materials that were developed by the
8		state office of travel and tourism, by the
9		local chambers of commerce, by the towns, and
10		also my own recognizance of the project area.
11	Q.	Do you have a distance that you looked?
12	Α.	(Varney) No. I primarily focused on the area
13		immediately adjacent to the right-of-way. But
14		I also noted some that were in project area
15		towns that were some distance away.
16	Q.	And did you consider Robinson Pond at all?
17	Α.	(Varney) No. I'm very familiar with Robinson
18		Pond, and it's not what I would consider to be
19		a significant tourist attraction. And I didn't
20		see it advertised by any of the chambers of
21		commerce or state agencies.
22	Q.	So, because a chamber doesn't advertise, are
23		you would it satisfy you to know that
24		Robinson Pond attracts tourism tourists from
	L	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		all over for various events, including ice
2		fishing derbies and voting, and many cub scout
3		events?
4	Α.	(Varney) My conclusion would be that this
5		project will not interfere with or affect
6		tourism if it is applied as you've suggested to
7		Robinson Pond. I do not believe this project
8		will have any effect on tourism in the area.
9	Q.	Do you recall claiming that the operation
10		can you see the wait a second. Let me get
11		my thoughts here.
12		Are you claiming that there is no evidence
13		that the project will have a discernible effect
14		on property values or marketing times in local
15		or regional real estate markets? Did you make
16		that determination on your own?
17	Α.	(Varney) I reviewed the report of Mr. Chalmers.
18	Q.	And so you relied on his opinion?
19	Α.	(Varney) Yes.
20	Q.	You had claimed in your prefiled testimony that
21		the height of the proposed structures is
22		consistent with the structures currently
23		present. I guess Counsel for the Public has
24		already addressed that with you.
	[

1		But to reiterate, that exhibit Counsel for
2		the Public has shows structures to exceed
3		anywhere between 20 and 50 feet above what's
4		already there. How does that fall into this
5		opinion?
6		MR. NEEDLEMAN: I think that's been
7		asked and answered.
8		MS. HUARD: Not to my satisfaction.
9		MR. NEEDLEMAN: Nevertheless, it's
10		been asked and answered.
11		PRESIDING OFFICER ROSS: I'll allow
12		the question. This witness can answer it
13		again.
14	A.	(Varney) The right-of-way for the Merrimack
15		Valley Project is an existing transmission line
16		right-of-way with several lines and structures
17		within it. Many of those are what are there
18		are various sizes, but they are they're
19		significant structures. And these taller
20		structures are within that right-of-way
21		already, and there's no change in land use. It
22		would continue as a right-of-way supporting
23		transmission structures for reliability of the
24		electric system.

1	Q.	Did I hear you correctly, that you're saying
2		the taller structures are actually in the
3		right-of-way did I hear that correctly
4		and that the one coming in is shorter? Did I
5		misunderstand that?
6	A.	(Varney) No.
7	Q.	No. Okay.
8		So you looked at his exhibit. And do
9		you do you honestly feel that you can
10		actually claim that the height of the proposed
11		structures are consistent and
12		PRESIDING OFFICER ROSS: I think that
13		that question has definitely been asked and
14		answered. We may need to take just a
15		five-minute break here.
16		MS. HUARD: And I'm almost done. I
17		have
18		PRESIDING OFFICER ROSS: I'm sorry.
19		I just lost a Committee member.
20		MS. HUARD: Oh, I'm sorry. I didn't
21		know. Thank you.
22		PRESIDING OFFICER ROSS: We'll just
23		give her a few minutes. Just take five. Thank
24		you.
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

(Whereupon a brief recess was taken at 1 2 1:52 p.m., and the hearing resumed at 2:00.) 3 PRESIDING OFFICER ROSS: Okay. 4 We're 5 back on the record. Sorry for the interruption. 6 7 MS. HUARD: I was just about to 8 close. I didn't see her coughing. BY MS. HUARD: 9 So, Mr. Varney, you claimed that the project 10 0. 11 will have -- in your prefiled testimony, you 12 claimed that your project will have positive impacts on employment and economy, locally, 13 regional and statewide; correct? 14 15 (Varney) Yes. Α. Would that be any reason to overlook other 16 Q. 17 goals in the town master plan or other negative effects of the project for the small one 18 percent that will be affected? 19 20 (Varney) I reviewed the entire master plan for Α. 21 each community. 22 And would it be a reason to overlook the 0. 23 negative effects of the project for the small percent that will be affected? 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Α.	(Varney) I considered the entire master plan in
2		each community.
3	Q.	That master plan does not take into
4		consideration the small percentage of homes
5		that will be affected. Do you think that's
6		appropriate to ignore that small percentage for
7		the sake of positive growth and positive
8		revenue for the state of Massachusetts and
9		local taxes?
10	A.	(Varney) The project my review of the
11		project was reviewing the town master plans and
12		zoning ordinances, as well as looking at the
13		area along the proposed right-of-way.
14	Q.	So, so long as you've done your work, then you
15		feel that your conclusion is accurate,
16		regardless of the small percent
17	Α.	(Varney) I reviewed the reports of the other
18		experts who are seated at this table, as well
19		as their testimony, and all of the other
20		information that's fully described in my
21		testimony and in Appendix AI.
22	Q.	So if there's the potential for even one person
23		to die as a result of this project, is that
24		acceptable?
	I	$\int SEC 2015 - 05 \int Day 2/Afternoon ONLY \int 06 - 14 - 16 \int$

MR. NEEDLEMAN: I'll object to the 1 form of the question. 2 I'm all set. Thank you. MS. HUARD: 3 PRESIDING OFFICER ROSS: Your 4 objection's sustained. 5 All right. We are now at the 6 Committee for any questions for these 7 8 witnesses. BY CMSR. BAILEY: 9 Mr. Chalmers, my first question is about 10 0. 11 something that you testified about and I've heard before, and that is that your case study 12 doesn't include homes on the market that were 13 never sold. Can you explain why that is and 14 15 why it wouldn't be appropriate? 16 (Chalmers) Sure. The only real evidence with Α. 17 respect to market value requires a sale -- that is, you can't use -- if you're doing an 18 19 appraisal, you can't use listing prices. You 20 can't -- that would be, I suppose, the other 21 possibility, to use listing prices. But, you 22 know, there was no transaction consummated. So 23 it's only when you actually have a transaction and conclude that that's a fair market sale 24

SEC 2015-05[Day 2/Afternoon ONLY]06-14-16

1		that you can then compare that. If that's a
2		sale next to a transmission line, you can
3		compare that, then, to other sales uninfluenced
4		by transmission lines and come to some
5		conclusion as to whether the transmission lines
6		had any impact on that transaction. But if
7		there's no transaction that actually occurs,
8		you don't have anything to you just don't
9		know where you are. You don't have a point of
10		comparison.
11	Q.	What about time on market?
12	Α.	(Chalmers) We looked at time on market, and
13		rather exhaustively for three years, 2013
14		two years, 2013, 2014. And we divided we
15		looked at every town through which Corridor 2
16		passed, okay, the proposed Northern Pass
17		corridor, and divided the sales into sales that
18		either abutted, okay, the way you used the
19		term, that "abutted" the corridor, sales that
20		were out to 500 feet, or sales that were
21		500 feet to a mile. And we didn't find any
22		difference in days on market in those three
23		distance groups, nor did we find any difference
24		in sale price to list price ratios. Those are
I		$\{SEC, 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		two indicators of market resistance, and we
2		didn't find any.
3	Q.	But did you include the houses that were on the
4		market but not sold in the calculation of how
5		long it took to sell them? I mean, my thought
6		is, if it's impossible and this is
7		hypothetical. But if somebody puts their house
8		on the market, and it's so affected by the
9		project that nobody's ever going to buy, it
10		sits on the market forever, it doesn't impact
11		either one of your calculations?
12	А.	(Chalmers) No.
13	Q.	Ms. Shapiro, your testimony is that the revenue
14		from taxes to the municipalities and counties
15		is providing a public interest or a public
16		interest consideration for this project?
17	Α.	(Shapiro) Yes.
18	Q.	And the same with the study on the REMI model?
19		The jobs that your conclusion is that this
20		project is in the public interest?
21	Α.	(Morrisey) Yes.
22	Q.	Thank you.
23		CMSR. BAILEY: That's all I have.
24		PRESIDING OFFICER ROSS: Other
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		members? Yes, go ahead.
2		CMSR. ROSE: Thank you.
3	BY C	MSR. ROSE:
4	Q.	I do have a question for Mr. Varney. I was
5		curious as to whether or not you considered
6		temporary impacts at all in your analysis in
7		concluding that there was not going to be any
8		adverse impact to the tourism industry.
9	Α.	(Varney) Yes, I did.
10	Q.	And you still reached the conclusion that there
11		would be no unreasonable adverse effect to the
12		tourism industry?
13	Α.	(Varney) Yes.
14	Q.	Thank you.
15		PRESIDING OFFICER ROSS: All right.
16		Seeing no further oh, I'm sorry.
17	BY M	S. WEATHERSBY:
18	Q.	Mr. Chalmers, seems that there's an agreement
19		that there will be some properties that will be
20		affected, the market value will be affected.
21		Actually, about 20 properties is what you said
22		will be affected by this new line going in.
23		Does the utility company, as part of a
24		mitigation strategy, attempt to compensate
		SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

1 those property owners in any way other than 2 payment for the easement right itself, which 3 may have been granted to an owner, perhaps 4 several owners ago, you know, down the chain, 5 but the present property owner who sees their 6 market value decline? Is there any attempt to 7 work with that property owner? 8 A. (Chalmers) Perhaps the Company would be better 9 suited to answer that. However, I'm aware that 10 there's no formal compensation arrangement. 11 But there's certainly a willingness to 12 entertain any discussion with a potentially 13 affected property owner to investigate whether 14 mitigation is possible, is feasible. But that 15 would be the extent of arrangements that I'm 16 aware of. 17 PRESIDING OFFICER ROSS: Any other 18 questions? Yes. 19 MS. ROBERGE: My question is more of 10 a clarification, and this goes to Mr. Chalmers. 15 BY MS. ROBERGE: 16 Q. Of those properties that you looked at, did it 17		
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23 come down to the fact that there may be	21	BY MS. ROBERGE:
-	22	Q. Of those properties that you looked at, did it
	23	come down to the fact that there may be
visibility of the line now because proximity	24	visibility of the line now because proximity
{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		you only looked at properties that had
2		proximity already, so it's just strictly the
3		fact that the tree clearing may now they may
4		have a view of the right-of-way now?
5	A.	(Chalmers) Correct.
6		PRESIDING OFFICER ROSS: Okay. I
7		think that takes care of the Committee. Does
8		the Applicant oh, sorry.
9		CMSR. BAILEY: I'm sorry.
10	BY C	MSR. BAILEY:
11	Q.	Sorry, Mr. Chalmers. Back to the point that
12		or the question that I was asking before. So
13		why isn't it reasonable to count the house that
14		has not sold in the time on the market?
15	A.	(Chalmers) Well, days on market, if it hasn't
16		sold, if it's an open listing, we don't know
17		what the days on the market are; right? It's a
18		running clock, and maybe it's at 170 right now
19		or maybe at just 30. We wouldn't want to enter
20		that into the analysis and assume it was 30,
21		because it may not sell until next month or the
22		month after. So you have to have a closed
23		period that is, you have to know what, in
24		fact, the days on market were. And with an
ļ		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		open listing, you wouldn't know what the days
2		on the market are. Does that help?
3	Q.	I'm having a hard time with I mean, if a
4		house really will never sell
5	A.	(Chalmers) Well, that's a slightly different
6		issue. I mean, people put their houses on the
7		market and they don't sell in a given period of
8		time and they take them off the market; right?
9		And we don't have any way I mean, I guess
10		one could try to identify those. But people
11		take their houses off the market for all kinds
12		of reasons. I don't know how one could what
13		sort of information one could usefully get out
14		of that exercise.
15	Q.	Maybe if the houses were on the market you
16		know, they were really close to the project,
17		and they were on the market for longer than the
18		average that you had calculated, then you may
19		include those. But that may skew it the wrong
20		way, too. I don't know. I have a hard time
21		with that whole thing.
22		MS. WHITAKER: Can I ask a
23		clarification question here?
24	BY M	S. WHITAKER:
L		$\{SEC, 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Q.	Is there a statistical analysis that you're
2		doing with these numbers, with the data that
3		you're collecting about houses having been on
4		the market or sold at fair market value?
5	A.	(Chalmers) Well, that's purely an average.
6		It's statistical in that sense. But it's
7		not nothing more than an average. So you're
8		looking at I don't know exactly what the
9		numbers are. But let's say there are 100 homes
10		that have been listed and sold that are located
11		either adjacent to or across a right-of-way.
12		There are another 500 that are within 500 feet,
13		but not across or adjacent, and then there are
14		another 5,000 that are 500 to a mile. We
15		simply calculated the average days on the
16		market for each of those three distance groups
17		for each quarter for 2013 and 2014 and graphed
18		them. And there was no disadvantage for the
19		more proximate categories as opposed to the
20		more distant ones, in terms of days on market.
21		You know, in other words, there didn't appear
22		to be any market resistance in terms of higher
23		days on market for the more proximate, or lower
24		sales price or list price ratio, which is

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		another indicator of market resistance.
2	Q.	So you were doing just a visual analysis of
3		those graphs that you just described?
4	Α.	(Chalmers) Correct.
5	Q.	Okay. Thank you.
6	BY M	R. IACOPINO:
7	Q.	Mr. Chalmers, follow-up on Commissioner
8		Bailey's question. In studying time on the
9		market, why wouldn't it be appropriate to close
10		the time period on the date that you close your
11		research, so that if there's a house on the
12		market during the time of your research for 100
13		days, that would be the time frame that you
14		would use and include that property in your
15		analysis?
16	Α.	(Chalmers) Because suppose a property were
17		listed two days before the time period ended.
18		We'd be comparing two days. That would imply a
19		property that sold very quickly, and we'd be
20		comparing that to other properties sold in 15
21		days, 30 days, 60 days. What we're asking is:
22		What's the average days on market for
23		properties that have sold? That's the only
24		kind of way you can formulate the question.
ļ		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		Otherwise, you'd have apples and oranges that
2		wouldn't be meaningful.
3	Q.	Let me ask you another question. I would think
4		that generally and I agree there's a number
5		of different reasons why somebody would put
6		their home on the market and then take it off.
7		But if a home is on the market and is not
8		commanding a price that is enough to cover the
9		mortgage that's the situation that comes to
10		mind first to me, and probably to most
11		people and if the fair market value of the
12		home is not going to cover the homeowner's
13		mortgage which indicates that at least at
14		the time the homeowner bought it, it was worth
15		more, fair market value was higher is there
16		not any way for you to capture that in your
17		research, or any way to capture that in order
18		to get a better assessment of whether there is
19		any effect from transmission lines on proximate
20		homes?
21	A.	(Chalmers) Well, it certainty wouldn't be the
22		first one, two, three or four ways we'd go
23		about it. There's quite a bit of research in
24		this area, and it's pretty standard in its
		$\left[\frac{1}{2} \right] = \left[\frac{1}{2} \right$

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

approach.

1

If you thought days on market was a really 2 critical variable, and if it showed up in the 3 analysis that I just described, then maybe 4 there would be a case for -- you know, if there 5 was a sense that the market had been frozen and 6 nothing was selling in certain areas, maybe 7 8 some case-by-case analysis along those lines would be warranted. But it's never been 9 suggested. There's nothing along those lines 10 11 in the literature. And I've been thinking about this a lot for 35 years and never have 12 gone after, you know, unsold properties. 13 I mean, there are enough properties that sell 14 15 next to the lines, and that really is the evidence that answers the question, which is: 16 17 Do these lines have a negative impact on the market value of real estate? And generally the 18 19 way you approach that is by comparing the price 20 at which that property sold to otherwise 21 similar properties that sold but were 22 unaffected by transmission lines. And even though we pursue two or three different 23 24 approaches, they all basically come down to {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[MORRISEY/SHAPIRO/CHALMERS/VARNEY]

1		that. If you don't have a sale, I just don't
2		know where you are, other than doing some kind
3		of an in-depth case study. And again, I think
4		you'd only do that if there were some
5		extenuating circumstances; namely, a situation
6		in which no properties were selling. But there
7		have been many, many properties that have sold
8		along the lines.
9	Q.	Thank you.
10		PRESIDING OFFICER ROSS: Okay. You
11		and then you. You go first.
12	BY M	S. WEATHERSBY:
13	Q.	Mr. Chalmers, rather than looking at the sale
14		of an affected, potentially affected property
15		with the market as a whole in that geographic
16		region, have you done analysis of the sale
17		price of a property, just for that individual
18		property? For example: Since the project was
19		announced, have any of the identified affected
20		properties, of the 20 or so, have those
21		properties gone on the market? Have they sold?
22		And if so, if they have sold, the percentage
23		appreciation or depreciation in their sales
24		price compared to what they purchased it, how
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		does that compare to the average in the
2		community, looking at a property-by-property,
3		specific analysis?
4	Α.	(Chalmers) Right. I have not in the New
5		Hampshire context. There's been a little bit
6		of work done along those lines in some context.
7		But it's typically been statistical, where you
8		have very large databases on sales and look at
9		appreciation rates and properties that are
10		differentially located relative to transmission
11		lines. There's not a density of sales in New
12		Hampshire to make that easy, particularly in
13		the northern half of the state. Southern half
14		of the state, I suppose you could do it,
15		possibly.
16		The question of effects in the pre-project
17		period, you say "announcement period," is
18		generally not addressed because it's so
19		fact-specific and so variable. The market is
20		changing. The question typically before a
21		licensing board is: What will be the effects
22		of the project if built? And, you know, the
23		whole period during which it's planned,
24		announced and licensed, subject to all kinds of
		$\{SEC, 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

[MORRISEY/SHAPIRO/CHALMERS/VARNEY]

1		vagaries, is simply, therefore, a period about
2		which is very difficult to generalize.
3	Q.	But since the project route has been finalized,
4		no one's gone back and looked at
5		acknowledging there will be some properties
6		that are affected, no one's gone back and
7		looked at whether those properties have sold,
8		and if so, whether the appreciation or
9		depreciation is typical for the area?
10	A.	(Chalmers) That's correct.
11	Q.	BY DR. BOISVERT:
12	Q.	I think my question is very similar, but I'm
13		going to ask it anyway.
14		You've been in this profession for quite
15		some time, have a lot of experience. Are you
16		aware of any post-construction studies that
17		have been done where there was a transmission
18		line or similar kind of project, where someone
19		has looked at the sales, days on market, sales
20		prices, et cetera, along a given transmission
21		line or whatever, to see what the pattern was
22		before and after the transmission line?
23		Because what we're concerned with here is
24		change is in the future to property values, to
ļ	<u>.</u>	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		property tax collection, et cetera. And the
2		embedded concern is that is's property may lose
3		value; either they get a lower sale price or it
4		takes much longer to get to it.
5		Are you aware of any studies that
6		have gone to where they have looked at sales
7		for a one-year or two-year or five-year period
8		after that project was completed, so that data
9		could be compared with other time periods
10		before the construction or to other projects?
11		Have there been full studies?
12	A.	(Chalmers) Well, there are two studies in the
13		literature, which are both referenced in my
14		report. In the longer report, the 100-page
15		report or so that is submitted as part of the
16		application, in the survey in the literature,
17		one of those is in Las Vegas, where a 15-year
18		period was studied four or five years prior to
19		construction, four or five years after, and
20		there weren't effects found in either case.
21	Q.	What kind of project was this? Transmission
22		line or
23	A.	(Chalmers) Yeah, it was a high-voltage
24		transmission line. I don't recall the voltage,
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

but a large line in Las Vegas. 1 2 And there was another study, and I'm afraid I don't recall the context. But it did 3 identify an effect post-construction for two or 4 three years which then disappeared. Those are 5 the two studies I'm aware of. The work that I 6 did would refer to the after period -- that is, 7 8 once MVRP is built, the conclusions that I have offered, the opinions that I have offered would 9 be relevant to the question of: Will MVRP, 10 11 once built, have any impacts on property values? And it went out and studied existing 12 transmission lines and sales of properties 13 adjacent to it. 14 15 So it might be reasonable for us to, as a Q. 16 condition of the permit, to request that there 17 be this post-study to see what effects, if any, may have occurred? Do you think that might be 18 19 a reasonable approach to at least provide data 20 for future projects? 21 Α. (Chalmers) That's something you'd have to think 22 about. We've looked at an awful lot of data, you know, along this corridor. Again, that 23 would be something you'd have to consider. 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[MORRISEY/SHAPIRO/CHALMERS/VARNEY]

Thank you. 1 Q. 2 BY MS. WHITAKER: Can you remind us which portion of the 3 Q. application your contribution is a part of that 4 you just referenced? 5 MR. IACOPINO: It's Appendix AK. 6 7 MS. WHITAKER: Appendix AK? Thanks. 8 PRESIDING OFFICER ROSS: Any other 9 questions from the -- yes. 10 CMSR. ROSE: Thank you. I have a 11 question for Mr. Morrisey. BY CMSR. ROSE: 12 The need of this project is identified through 13 Q. 14 ISO-New England for improvement to the 15 reliability in the transmission and capacity 16 needs. 17 I was just curious, in your economic analysis, if there was a benefit to the region 18 and/or state from an economic perspective, from 19 20 improved reliability of that energy and potentially recruitment of any businesses to 21 22 the region that are highly dependent upon 23 reliable energy sources. (Morrisey) That wasn't included in the REMI 24 Α. {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	analysis. I mean, the project is precedented
2	upon the need to maintain reliability and
3	efficiency. And it's really avoiding the costs
4	that we'd be faced with if we weren't able to
5	accommodate load growth and/or if there was a
6	degradation of reliability, which would be very
7	costly to businesses and economic growth in the
8	region.
9	PRESIDING OFFICER ROSS: All right.
10	I think we've finished with the Committee
11	questions. Is the Applicant going to do any
12	redirect?
13	MR. NEEDLEMAN: No, thank you.
14	PRESIDING OFFICER ROSS: Okay. Then
15	these witnesses are excused, and we will call
16	the next panel, which is on Public Safety
17	Public Health and Safety. That panel is going
18	to be William Bailey and Gary Johnson.
19	MR. WALKER: Madam Commissioner, my
20	name's Jeremy Walker. I'm at McLane,
21	Middleton, and I'm counsel for the Applicant.
22	PRESIDING OFFICER ROSS: Thank you.
23	(WHEREUPON, WILLIAM BAILEY and GARY
24	JOHNSON were duly sworn and cautioned by
	SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

[MORRISEY/SHAPIRO/CHALMERS/VARNEY]

1		the Court Reporter.)
2		DIRECT EXAMINATION
3	BY I	MR. WALKER:
4	Q.	Mr. Bailey and Mr. Johnson, can you state your
5		name for the record, and also explain to the
6		Committee your occupation.
7	А.	(Bailey) I'm William is that on? I'm
8		William Bailey, and I am a principal scientist
9		at Exponent. And the purpose of my testimony
10		was to provide an evaluation of the electric
11		and magnetic fields associated with the
12		operation of the MVRP project with regard to
13		public health and safety.
14	Α.	(Johnson) My name is Gary Johnson. I'm a
15		senior managing scientist at Exponent. My role
16		in these proceedings was to calculate the
17		electrical environment, which includes EMF,
18		audible noise and radio noise, and look at
19		various aspects of the electrical environment
20		for the proposed project.
21	Q.	Thank you.
22		Starting with Mr. Bailey, did you submit
23		prefiled testimony in this matter?
24	Α.	(Bailey) Yes, I did.
	L	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

1	Q.	Do you have any changes to that testimony?
2	Α.	(Bailey) No, I do not.
3	Q.	Do you adopt and swear to that prefiled
4		testimony?
5	Α.	(Bailey) I do.
6	Q.	Mr. Johnson, did you submit prefiled testimony
7		in this matter?
8	A.	(Johnson) Yes, I did.
9	Q.	Do you have any changes to that prefiled
10		testimony?
11	Α.	(Johnson) I have no changes to my prefiled
12		testimony.
13	Q.	Do you swear to and adopt the prefiled
14		testimony?
15	Α.	(Johnson) I do.
16		MR. WALKER: Madam Commissioner, I
17		submit them to cross-examination.
18		PRESIDING OFFICER ROSS: Thank you.
19		Counsel for the Public.
20		MR. ASLIN: Thank you.
21		CROSS-EXAMINATION
22	BY M	R. ASLIN:
23	Q.	Good afternoon. Doctors Bailey and Johnson,
24		your opinions with regard to electric and
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		10
1		magnetic fields were based on a modeling
2		effort; is that correct?
3	A.	(Johnson) That's correct.
4	Q.	In other words, this was a model that was
5		developed based on the proposed design of the
6		project and not based on actual field testing.
7	A.	(Johnson) For this particular case, there was
8		no actual field measurements performed. The
9		modeling techniques and algorithms used have
10		been well established over the past decades and
11		have been used for a number of transmission
12		lines to model the electric and magnetic
13		fields. As part of some of that prior work in
14		use early on, these techniques were checked
15		against actual field studies, but not in this
16		particular case.
17	Q.	Thank you.
18		So, in the past there have been projects
19		where there's been field testing? Is that what
20		you just testified to?
21	A.	(Johnson) Many decades ago, when these models
22		were being developed, there was both the
23		modeling being performed and along with that
24		measurements being done. I've done, actually,
	<u>.</u>	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		1,
1		some of those measurements for both existing
2		and test lines to confirm the validity of the
3		models.
4	Q.	And do you have an estimation of how frequent
5		that field testing is a requirement for a
6		transmission line project?
7	A.	(Johnson) Not for any specific project, no.
8	Q.	You stated a moment ago that it was common in
9		the past, decades ago. Is it something that is
10		still done in the current time frame?
11	Α.	(Johnson) I don't know that I would
12		characterize it as "common" even in the past.
13		When the models were first being developed a
14		number of decades ago, you would see both field
15		measurements and modeling. But then, basically
16		it's just been the modeling. And the reason
17		for that is because, when you go out in the
18		field because of terrain features and nearby
19		shrubs, different structures, a lot of your
20		field measurements, electric field in
21		particular, can be impacted. What this does is
22		allow you to have a set condition and compare
23		the lines that are there existing in a stable
24		configuration and geometry with the proposed
		<pre>{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}</pre>

			48
1		configuration. So it's easy to do an	
2		apples-to-apples, oranges-to-oranges type of	
3		comparison.	
4	Q.	Thank you.	
5		I believe you said that you've been	
6		involved in projects where there was field	
7		testing done. Is there a particular protocol	
8		for the type of testing or the sort of	
9		frequency or location of testing along a	
10		project like this that you've experienced in	
11		your past?	
12	Α.	(Johnson) I guess it would depend on what you	
13		mean by "protocol." The IEEE, Institute of	
14		Electrical and Electronics Engineers, has	
15		basically guidelines or procedures for how you	L
16		perform these measurements.	
17	Q.	Okay. But in terms of a project such as this,	
18		which is approximately 18 miles in New	
19		Hampshire, as I understand your answer to that	:
20		prior question, the IEEE would give you a	
21		protocol for each individual field testing or	
22		test that you performed. But is there a	
23		methodology for testing various places or area	۱S
24		within that right-of-way or along the	
I		$\int SEC 2015 - 05 \int Day 2/Afternoon ONLY \int 06 - 14 - 16 \int$	

1		right-of-way to understand whether the modeling
2		is accurate?
3	A.	(Johnson) In the sense that it would say you
4		would, if possible, do the measurements, say,
5		at mid-span, where the conductors are closest
6		to ground, and there you'd have your highest
7		electric and magnetic fields.
8	Q.	Along the same lines, if you were asked to
9		perform field testing to corroborate the model,
10		I assume you wouldn't need to do it at every
11		mid-span along the entire project?
12	Α.	(Johnson) No.
13	Q.	So are there ways to devise a testing regime
14		that would cover the various portions of the
15		project that are similar without having to be
16		overly redundant?
17	A.	(Johnson) If I understand your question
18		correctly, it's not codified with specifics
19		where you would perform the measurements or how
20		often you would perform the measurements. What
21		you would typically do is take representative
22		line designs or cross-sections. Because of the
23		robustness of the modeling and the techniques,
24		typically even one section would give you a
	L	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

good feeling about the validity of the 1 2 modeling. Thank you. 3 Q. And with regard to the type of field 4 testing that you would do if required, is it 5 different, significantly different for magnetic 6 7 field than electric field testing? (Johnson) You would have different 8 А. instrumentation. The general location, height 9 above ground would be similar. 10 Thank you. 11 Q. And just to clarify, the modeling that's 12 been done was conducted for both the existing 13 condition and the proposed --14 Correct. And that's to allow --15 Α. 16 (Court Reporter interrupts.) 17 Q. -- condition after construction? (Johnson) And that's to allow, essentially, an 18 Α. even comparison before and after. 19 20 Okay. Q. 21 MR. ASLIN: Thank you. I have no 22 further questions. 23 PRESIDING OFFICER ROSS: Ms. Huard. 24 MS. HUARD: Thank you. {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		51
1		CROSS-EXAMINATION
2	BY	MS. HUARD:
3	Q.	Mr. Johnson, so you were engaged by both NEP
4		and PSNH to calculate the electrical
5		environment associated with the operation of
6		the project in context to adjacent, existing
7		overhead AC lines along the proposed route;
8		correct?
9	Α.	(Johnson) Correct.
10	Q.	As a result of this calculation, did you
11		conclude that the electrical environment
12		created by the operation of existing,
13		constructed and relocated transmission lines
14		will not cause any unreasonable adverse effect
15		on public health and safety?
16	Α.	(Johnson) That's correct.
17	Q.	And so to get an understanding of what the
18		electrical environment is, I'd like to ask you
19		a few questions. Is it these transmission
20		lines within the electric environment that
21		carry power from one location to another?
22	Α.	(Johnson) It would be the transmission lines on
23		the right-of-way, the power lines, yes.
24	Q.	And what part of the transmission line becomes
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		52
1		energized with voltage and current?
2	Α.	(Johnson) It would be the conductors that are
3		being supported by the overhead transmission
4		lines. Typically there are three bundles
5		associated with each energized circuit or line.
6		Along with that there are typically maybe one
7		or two sort of overhead or aerial ground wires
8		or static lines. They can be called any one of
9		those terms. But the portions that actually
10		become energized are the physical conductors on
11		the three groups of lines, or what are called
12		"phases."
13	Q.	And does the electric environment of a
14		transmission line consist of electric, magnetic
15		fields, audio noise and radio noise?
16	A.	(Johnson) Yes, those are typically what's
17		considered to be the electrical environment of
18		the high-voltage transmission lines.
19	Q.	Are these electric fields produced by the
20		voltage on the conductors as it moves the
21		electricity through the wires?
22	A.	(Johnson) The electric field is produced by the
23		voltage on the conductors. The magnetic field
24		is produced by the current that's flowing in
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[BAILEY/JOHNSON]

		53
1		the conductors.
2	Q.	Thank you.
3	A.	(Johnson) Now, the audio noise and the radio
4		noise are not affected by the current, but are
5		affected by the voltage, as well as the size of
6		the conductor.
7	Q.	Thank you.
8		And is the electric field produced in a
9		space surrounding the conductor?
10	Α.	(Johnson) That's correct.
11	Q.	And would electric fields tend to be higher in
12		areas of transmission lines where the voltage
13		is higher?
14	A.	(Johnson) It depends on the actual design and
15		geometry or structure of the line, as well as
16		the size of the conductor, its height above
17		ground, and its distance from the other
18		conductors. Those will determine the actual
19		strength or level of the electric field.
20	Q.	Okay. Thank you.
21		And are objects such as trees and
22		buildings able to block electric fields?
23	Α.	(Johnson) Structures, such as trees,
24		electric buildings, pretty much any
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		51
1		structure, physical structure, will shield or
2		reduce the electric field around it or near it.
3	Q.	Thank you.
4		And can this voltage so you said the
5		voltage on conductors produce corona; correct?
6	Α.	(Johnson) Well, the voltage and the size of the
7		conductor and the size of the conductor and
8		the voltage on the conductor will both
9		influence the electric field at the surface of
10		the conductor, and the strength of that
11		electric field at the surface of the conductor
12		will determine whether or not there is corona.
13	Q.	Okay. Is it correct that, as the demand for
14		electricity increases, so does the current on
15		the line, and therefore magnetic field levels?
16	Α.	(Johnson) Generally as the load on the line
17		increases, the current will go up. And as the
18		current goes up, the magnetic field also will
19		go up.
20	Q.	And are magnetic fields blocked by objects such
21		as trees and buildings?
22	Α.	(Johnson) Trees and buildings in general will
23		not block the magnetic field. Generally,
24		reduction or changes in the magnetic field are
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		55
1		produced only by dense ferromagnetic objects.
2	Q.	So, would you agree that both electric and
3		magnetic fields are highest directly under the
4		conductors of respective lines within the
5		right-of-way?
6	A.	(Johnson) In general, if there are multiple
7		circuits on the corridor, that may not be
8		directly the case. They may be shifted to one
9		side or the other, depending on how the
10		different conductors and lines interact. But
11		in a very broad sense, the highest electric and
12		magnetic fields would be expected somewhere in
13		the general vicinity underneath the lines of
14		the corridor.
15	Q.	But there are potential for the outside of the
16		corridor to actually deviate from the norm.
17	A.	(Johnson) Well, both electric and magnetic
18		fields will decrease as you go away from the
19		line. But it's not uncommon for there to be
20		some level of electric field or magnetic field
21		at the edge of the right-of-way itself.
22	Q.	Okay. And Dr. Johnson, in your prefiled
23		testimony you indicated that compliance with
24		the National Electric Safety Code protects the
I		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		56
1		public against shocks in high-voltage power
2		lines; correct?
3	A.	(Johnson) It protects the public safety and
4		welfare, yes.
5	Q.	So you would agree with would you agree that
6		the National Electric Safety Code, considered
7		to be an authoritative source is considered
8		to be the authoritative source of industry
9		standards on proper electrical engineering?
10	Α.	(Johnson) It's a set of guidelines and
11		standards that have been used for a number of
12		years to safely design and ground and operate
13		electrical equipment.
14	Q.	And would you agree that preventing electric
15		shock and electrocution in the electric
16		environment is a major underlying concern in
17		these safety standards?
18	A.	(Johnson) It's one of their concerns, yes.
19	Q.	And would you agree that electric shock is the
20		tingling sensation or muscular contraction that
21		a person experiences when an electrical current
22		passes through their body?
23		I'm sorry that would be directed to Dr.
24		Bailey. That's from your actual prefiled
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		testimony.
2		Would you agree that the electric shock is
3		the tingling sensation or muscular contraction
4		that a person experiences when an electric
5		current passes through their body?
6	Α.	(Bailey) If the level of electric current or
7		field within the tissue is sufficient to
8		stimulate nerves or muscles.
9	Q.	So is that an accurate description of what
10		electric shock is? I mean, it's not just a
11		when people think of shock, I think a lot of
12		people think of the shock you get when you rub
13		your feet that dings. But it
14	Α.	(Bailey) Well, that would apply to that
15		situation as well.
16	Q.	Okay. So there are different levels of
17		electric shock then. So this is an instance of
18		electric shock, would you agree? At the right
19		level, this represents what electric shock
20		would be?
21	Α.	(Bailey) That would be at one particular level.
22		That's what would be perceived.
23	Q.	Okay. I'd like to refer to Exhibit 24. Dr.
24		Bailey, could you describe what you see in
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		58
1		front of you?
2	А.	(Bailey) I see what appears to be a wooden pole
3		with a sign on it that reads "Danger. High
4		Voltage Above. Keep off."
5	Q.	And can you see a company name on it?
6	Α.	(Bailey) Looks like New England Power Company.
7	Q.	Thank you.
8		And do you see a picture on the sign?
9	Α.	(Bailey) Yes.
10	Q.	And what is that picture warning the reading
11		reader against?
12	Α.	(Bailey) That is a warning symbol against
13		electric contact with electric conductors.
14	Q.	So would the average reader of that sign
15		believe that the danger of electrocution would
16		be caused by climbing or directly contacting
17		that pole?
18	Α.	(Bailey) It would alert them that that's
19		that there was a danger from climbing the pole
20		and approaching closer to the energized
21		conductors.
22	Q.	So is it correct that there is a risk of
23		electric current flowing through your body that
24		may cause electric shock or electrocution if
	L	SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

		59
1		you come in direct contact with the poles or
2		the conductors from a high-voltage transmission
3		line?
4	A.	(Bailey) No. I mean, contact with the pole in
5		a properly designed system would not be the
6		source of concern. It would be contact with
7		the energized conductor or becoming close
8		enough to the energized conductor that there
9		could be a flashover to the person.
10	Q.	Okay. Why bother to put that sign on there if
11		there's I mean, isn't that warning the
12		reader of the potential?
13	Α.	(Bailey) I would expect the primary purpose of
14		the sign would be to discourage people from
15		attempting to climb the pole and gain access to
16		the energized conductors above.
17	Q.	For danger, out of danger. And the picture
18		shows that that person can be electrocuted or
19		sustain electric shock if they saw that;
20		correct?
21	A.	(Bailey) Correct.
22	Q.	And would this risk exist if one came in
23		contact, in direct contact Dr. Johnson, in
24		your prefiled testimony, you claimed to have
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		60
1		evaluated power lines for their compliance with
2		the NESC and estimated levels of current and
3		voltage coupled onto vehicles near power lines;
4		correct?
5	A.	(Johnson) That's correct.
6	Q.	And by "coupled," you mean that current and
7		voltage can actually transfer to a vehicle near
8		a power line; correct?
9	Α.	(Johnson) There can be a capacitive coupling
10		through the air which will produce a certain
11		level of short-circuit current or open-circuit
12		voltage on the insulated object. If the object
13		is well connected to ground, there would still
14		be some capacitive current. But it's basic
15		with the NESC to make sure that that
16		capacitively coupled current voltage is within
17		safe levels.
18	Q.	But is it correct that certain objects merely
19		near a high-voltage transmission line can
20		become coupled with current and voltage under
21		certain conditions without even touching the
22		high-voltage transmission line?
23	A.	(Johnson) That's essentially true of any
24		objects in space near a line if there's voltage
		${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

1		conducting or energized or an object with
2		voltage on it. Any nearby object will have
3		some level of capacitively coupled voltage and
4		current.
5	Q.	So then, there is actual risk that a person can
6		become electrocuted or suffer from an electric
7		shock without ever actually touching the
8		transmission poles or wires?
9	Α.	(Johnson) Theoretically, if one is close enough
10		and under the right conditions, that would
11		theoretically be possible.
12	Q.	And would that object have to be directly
13		inside an electric or magnetic field to become
14		coupled with current or voltage?
15	Α.	(Johnson) Well, the electric and/or magnetic
16		field, depending on the specific conditions,
17		would have to be present. I'm not quite sure
18		what you mean by "inside" the field.
19	Q.	Well, if you take the conductor and the
20		electric field and the magnetic fields around
21		it, can you be merely next to those fields, or
22		do you have to be directly going through it or
23		inside it? You have to interact with an
24		electric field or be merely next to

1	Α.	(Johnson) You will be present in the electric
2		or magnetic field.
3	Q.	Thank you.
4		And would tires on a vehicle help protect
5		a vehicle from becoming coupled?
6	Α.	(Johnson) It will have an impact on how well
7		coupled the vehicle is. Typically, older tires
8		or and I think what you're trying to get at
9		is insulation or insulating the vehicle.
10	Q.	Hmm-hmm.
11	Α.	(Johnson) Older tires, actually, many decades
12		ago, were better insulators than modern tires.
13		What we found is typical debris or surface
14		conditions on the tires provides some level of
15		insulation but do not offer an extremely high
16		degree of insulation.
17	Q.	So the vehicle can actually build up a charge
18		on it; correct?
19	Α.	(Johnson) If it's capacitively coupled, there
20		will be a certain level of capacitively coupled
21		current and voltage on the vehicle.
22	Q.	And how quickly would this charge build up on
23		the vehicle?
24	A.	(Johnson) Because of the AC nature, the 60
I		${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

		63
1		cycles of the power frequency, it basically
2		would be within the cycle.
3	Q.	So, within 60 seconds?
4	Α.	(Johnson) Less than a second. Microseconds.
5	Q.	And at what level would the charge build up on
6		a vehicle?
7	Α.	(Johnson) It depends on the vehicle, the
8		strength of the electric field and its
9		insulation.
10	Q.	So it wouldn't be the fact if you had a
11		field that was at 6 kilovolts, how would that
12		transfer to the vehicle?
13	Α.	(Johnson) You would have a number of
14		assumptions. If you assumed that the vehicle
15		was completely insulated at a high degree of
16		insulation, which typically is not the case, it
17		would come to whatever potential the size of
18		the vehicle, and the current it would collect
19		would determine that level of both voltage and
20		current. It literally depends on the
21		situation.
22	Q.	Thank you.
23		Do you recall in my discovery questions
24		you referred to "Bonneville Power
		$SEC 2015-05[Day 2/Afternoon ONLY]{06-14-16}$

		04
1		Administration's Guide to Living and Working
2		Safely Around High-Voltage Power Lines"?
3	Α.	(Johnson) I generally remember a reference to
4		that document.
5	Q.	Thank you.
6		Are you well acquainted with this guide?
7	Α.	(Johnson) I've looked at it. I'm not sure what
8		"well acquainted" is.
9	Q.	I'd like to refer to Exhibit 50.
10		(Witness reviews document.)
11	Q.	So you claim that you're not extremely
12		you're not you wouldn't say for sure that
13		you're well acquainted with it. I'd like to
14		address a few of the issues in it, and you can
15		tell me whether you do agree with it.
16		I'd like to first refer you to the section
17		on Page 7, under Vehicles.
18	Α.	(Johnson) Okay.
19	Q.	So the statement, "Under some high-voltage
20		lines, vehicles can collect induced voltage.
21		This is particularly true if the vehicle is
22		parked on a non-conductive surface such as
23		asphalt or dry rock The only way to be sure
24		that you won't get shocked is to park your car
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		65
1		away from the high-voltage transmission line."
2		Is that correct?
3	Α.	(Johnson) If you parked away from the
4		transmission line, that would be one way to
5		assure you're not going to get shocked.
6		Whether or not you get shocked in a particular
7		case will depend on the vehicle and the
8		strength of the electric field and its
9		insulation. So you could park the vehicle near
10		a line and yet not get a shock.
11	Q.	But there are conditions where your vehicle
12		will conduct electricity.
13	Α.	(Johnson) I wouldn't use the phrase "conduct,"
14		but could "build up a charge."
15	Q.	Build up a charge.
16	Α.	(Johnson) That you could receive a shock under
17		certain conditions. And again, that would
18		depend on the electric field, the particular
19		design of the transmission line, any nearby
20		objects to the car, how well the car is
21		insulated from the surface. Like I said, a
22		large number of things.
23	Q.	And to your knowledge, are there any
24		instructions or warnings to the public at road
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		crossings along the utility ROW that warn the
2		public of this possibility and not to pull over
3		and park their vehicles under the high-voltage
4		transmission lines?
5	A.	(Johnson) I would say, in general, I'm not
6		aware of it routinely being done. But I do
7		remember one at a road crossing recently. And
8		it may be because there was construction
9		activity going on at that particular crossing.
10	Q.	And does the sign in Exhibit 24 warn the public
11		not to pull over and park their vehicles there?
12	A.	(Johnson) In Exhibit 24, there's no indication
13		that parking would be prohibited.
14	Q.	Thank you.
15	A.	(Bailey) If I could jump in here. One of the
16		aspects at road crossings, one is concerned
17		about maintaining clearance from large vehicles
18		that may be crossing underneath the line; so,
19		therefore, the clearance above ground at road
20		crossings is typically higher than it is on
21		other parts of the route.
22	Q.	Dr. Bailey, would that actually matter as far
23		as
24	Α.	(Bailey) That would reduce the possibility and
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		67
1		lower any induction effects because of the
2		higher, greater distance of the conductors from
3		a vehicle.
4	Q.	There's still the potential that a car can
5		become coupled with electricity even with those
6		distances; correct?
7	A.	(Bailey) Yes. But as Dr. Johnson mentioned,
8		adherence to the National Electric Safety Code
9		sets these clearances and reduced currents so
10		that adverse levels are not reached.
11	Q.	And do they use modeling as well, or do they
12		actually test actual conditions?
13	A.	(Bailey) For future lines, it would have to be
14		modeling, of course.
15	Q.	If a car [sic] were to park their vehicle
16		overnight on the side of the road under a
17		transmission lines, would there be a or
18		could there be a considerable charge built up
19		on it by the morning?
20	A.	(Johnson) No, there would be no difference
21		whether it had been parked there one minute or
22		10 hours.
23	Q.	But it would conduct it could conduct
24		electricity.
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1	A.	(Johnson) There are conditions, depending on
2		the field, the size of the vehicle, location.
3	Q.	And how would the electric if it did
4		conduct, if it did become coupled with voltage
5		and current to the level that a person touched
6		it and they could and they received an
7		electric shock, how would that electric shock
8		appear to the person that got into their
9		vehicle in the morning after it had been parked
10		under the transmission lines overnight?
11	A.	(Johnson) I guess I'm not sure how to answer
12		that. What do you mean, how would it appear?
13	Q.	Well, what would if a person had parked
14		their car overnight and it did in fact collect
15		a voltage and current and they opened the door
16		and got into it and started to away, what
17		symptoms would they experience?
18	A.	(Johnson) If they were in the car starting to
19		drive away, there would be no shock. It would
20		be only as you first contacted that vehicle on
21		the outside, while you were well grounded and
22		if the car was insulated. Again, it depends on
23		the conditions of the grounding of the vehicle,
24		how well the person is grounded, the size of
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1		the vehicle, and again, the electric fields.
2		For these particular lines, the electric fields
3		that we're talking about, say at the edge of
4		the right-of-way, are well below the in
5		fact, even within the right-of-way are below
6		the National Electric Safety Code requirements
7		for safe levels of current.
8	Q.	So, while sitting in the vehicle, if the
9		vehicle had collected a current and you were to
10		put your foot on the gas pedal or another
11		object in the car, your steering wheel that
12		might have conducted the current and voltage as
13		well, that would not allow the person to
14		sustain electric shock?
15	Α.	(Johnson) No, because you're inside the
16		vehicle. Any shock at that point is due to
17		something else going on in the car or in
18		clothing, but it's not due to the external
19		things like the transmission line.
20	Q.	If the magnetic fields are not produced I
21		mean not blocked by any object, can the
22		magnetic fields come into the vehicle as you
23		drive through it?
24	Α.	(Johnson) Well, most objects would not block
I		${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

1		the magnetic field. Ferro ferrous heavy
2		metal, dense metal objects can modify the
3		magnetic field. Theoretically, with a car
4		there could be some level of magnetic field
5		inside the car. It would likely be reduced
6		from what was external just because of the
7		nature of the body of the car. And you may
8		also have I've seen magnetic fields due to
9		the metal of the car itself.
10	Q.	I'd like to refer you to Exhibit 49. Can you
11		describe what you see when you're looking at
12		what's front of you?
13	Α.	(Johnson) It appears to be like an aerial
14		topographic map.
15	Q.	And can you can you see a roadway on it, a
16		highway?
17	Α.	(Johnson) Correct.
18	Q.	And what highway would that be?
19	Α.	(Johnson) It's labeled "I-93, north and
20		southbound lanes."
21	Q.	Can you see the yellow line running across
22		I-93?
23	Α.	(Johnson) Oh, the okay. You're talking
24		about the solid yellow line that appears to be
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		roughly in the middle, bordered on the outside
2		by two red lines?
3	Q.	Correct.
4	Α.	(Johnson) Okay. Yes.
5	Q.	Now, are you aware of that this new line will
6		be carrying 340 kilovolts of electricity?
7	Α.	(Johnson) I believe it's what's called a "345kV
8		line."
9	Q.	Hmm-hmm. Does that mean it's carrying
10		345 kilovolts of electricity?
11	A.	(Johnson) It would be energized roughly to
12		345,000 volts, yes.
13	Q.	Thank you.
14		Would a person that was standing under
15		those voltage lines, say, or had to get out of
16		their vehicle or broke down and had to get out
17		of their vehicle, could they are they at
18		risk for sustaining an electric shock, with the
19		potential that the vehicle can become coupled
20		with electric voltage and current?
21	Α.	(Johnson) Depending on the height of the line,
22		there's a theoretical possibility that there
23		would be some level of voltage or charge on a
24		large enough vehicle. But this is a road
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		crossing. And it's indicated at road crossings
2		your heights of the line typically are even
3		more than is required by the NESC. But at the
4		very least, the NESC sets the ruling level of
5		the amount of induced current and voltage that
6		can be developed.
7	Q.	And how long can a person sit stopped in
8		traffic? Is there any way while sitting
9		stopped in traffic that the vehicle can be
10		coupled with voltage and current?
11	Α.	(Johnson) If you assume that you're directly
12		under the line, again, there would be some
13		coupling to the vehicle. But the person
14		sitting inside it would not notice it.
15	Q.	I'd like to refer back to Exhibit 50. So, as
16		you said earlier, there's a number of other
17		objects that you can that can, under or near
18		high-voltage transmission lines become coupled
19		with current and voltage; is that correct?
20	A.	(Johnson) Correct.
21	Q.	Actually, let me refer you to Exhibit 21 first.
22		Can you explain what you see in front of
23		you?
24	Α.	(Johnson) Looks like an information sheet from
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		/3
1		National Grid, "Information for Landowners
2		Along Our Transmission Lines."
3	Q.	Thank you.
4		And would this be handed out to residents
5		along the transmission lines, to your
6		knowledge?
7	Α.	(Johnson) I don't really know. I'm not
8		qualified to speak on that particular
9	Q.	So I'd like to read the paragraph, the
10		highlighted paragraph under Trees and
11		Transmission Lines, and then I'll ask you a
12		couple questions about.
13		"Trees and transmission lines are not
14		compatible. Trees that grow too close to
15		electric transmission lines can conduct
16		electricity and provide a path to ground
17		potentially causing an interruption and other
18		significant consequences. Trees do not have to
19		physically touch an energized power line to be
20		dangerous. Electricity can arc or jump from a
21		power line to nearby vegetation. Electric
22		current flowing through a tree can electrocute
23		anyone in close proximity." Do you agree with
24		this statement?

1	A.	(Johnson) In broad, general terms, yes. The
2		main thing is: How close is the tree? What's
3		the voltage of the line, and what are the
4		specific conditions? But in a broad, general
5		sense, if a tree is in extremely close
6		proximity to a line or touching it, can it be a
7		danger? Yes. But that's why we have
8		there's vegetation management programs and why,
9		in general, you try and keep high-growing trees
10		or shrubs away from the energized conductors.
11	Q.	And is water by nature conductive?
12	A.	(Johnson) It depends on the nature of the
13		water. In certain
14	Q.	No, is pure water by nature conductive?
15	A.	(Johnson) Pure water?
16	Q.	Yes.
17	A.	(Johnson) No. Actually, it's used as an
18		insulator for high-voltage equipment in certain
19		pulse-power applications.
20	Q.	So, what makes water conductive?
21	A.	(Johnson) Generally, different elements or
22		constituents within the water.
23	Q.	Are you familiar with the self-weathering steel
24		rust patina and the alleged contaminants that
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	_	will be leaching off the towers with runoff?
	_	
2.	Α.	(Johnson) In general I know about
3		self-weathering steel, yes.
4	Q.	Are you aware that the runoff would contain
5		oxidized iron?
6.	А.	(Johnson) This probably would be true to some
7		extent with any iron or steel that's in the
8		area. Plus, there's certain levels of iron,
9		iron oxide, in soil and water generally.
10	Q.	And if that were to get into the nearby
11		wetlands, water bodies, would that typically
12		make those more conductive to electricity?
13 .	Α.	(Johnson) I can't speak specifically for what
14		levels there would be in the water bodies.
15	Q.	If the right levels got into the water bodies,
16		is there a potential for that to create a
17		conductive surface to the water or
18		conductive surface to the water?
19 .	Α.	(Johnson) It's outside my expertise. I'd have
20		to know the exact level of conductivity and
21		other questions.
22	Q.	So now I'm going to go back to Exhibit 50.
23		Page 6.
24	Α.	(Johnson) Pardon? You said six?
L		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Q.	Page 6, Underground Pipes, Telephone Cables and
2		Electric Cables. I'm going to read a couple
3		comments to you and ask if you agree with them.
4		"Heights and cables should not be
5		installed closer than 50 feet to a BPA tower,
6		any associated guy wires or grounding system."
7		Do you believe there's a standard outside
8		of BPAs is this the standard do you agree
9		with this, and is this a standard precaution?
10	A.	(Johnson) I think this may be I can't speak
11		to a general level. But 50 feet, there could
12		be situations where it could be closer. I
13		think it would probably depend on the tower.
14		This may be a statement I'm simply supposing
15		that a statement by BPA ensures they're
16		satisfied with it.
17	Q.	So, then it states that "an unusual condition
18		might cause electricity to arc from the
19		high-voltage wire to the tower and then to the
20		ground. This could produce a dangerous voltage
21		on underground piping or cable system."
22		Do you agree, in the right conditions,
23		this can, in fact, happen?
24	A.	(Johnson) It states that "under unusual
l		SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

1		conditions it might cause" That's a fairly
2		general statement. And yes, under unusual
3		conditions there could be circumstances where
4		it could occur.
5	Q.	And would could the inverse of this be true
6		as well? Should towers and guy wires not be
7		installed closer than a certain distance to the
8		pipes and cables? For instance, like the new
9		MVRP going in, should there be a precaution
10		that the towers and guy wires not be installed
11		closer than a certain distance they're using
12		50 but a certain distance from the pipes and
13		cables?
14	A.	(Johnson) Well, this talks about BPAs
15		conditions and requirements.
16	Q.	Hmm-hmm. Do you believe that they're standard,
17		or do you believe that they're just BPAs?
18	A.	(Johnson) I wouldn't characterize them as
19		"standard." I think this, again, a general way
20		for BPA of causing people to have a heads-up
21		and take a look at the situation.
22	Q.	Except you referred to me this guide when I
		asked you if there was anything that needed to
23		
23 24		be done specifically, if there were any

1		restrictions, and you referred me to this guide
2		as a guide.
3	A.	(Johnson) I referred you to this guide?
4	Q.	You did refer me to this guide in discovery
5		requests. Or one of you did.
6		Dr. Johnson, you referred me to this guide
7		when I asked you if there was anything special
8		or any precautions within living near the
9		high-voltage transmission lines, and you
10		referred me to this document.
11	A.	(Johnson) If you followed the general
12		guidelines in this document, you should be more
13		than fine.
14	Q.	Why did you refer me to BPA's document? Does
15		PSNH and NEP not have their own?
16	Α.	(Johnson) More than likely they do. I can't
17		speak specifically to that.
18	Q.	So you picked this one out, though. And why
19		did you
20	Α.	(Johnson) I have worked with some of the people
21		at BPA, and I know some of the people who put
22		it together.
23	Q.	So if you referred it to me, would you actually
24		believe that these would be appropriate
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		/9
1		restrictions?
2	Α.	(Johnson) They're appropriate, general
3		statements. If you follow them, you will be
4		more than safe.
5	Q.	Thank you.
6		If you could turn to Page 7 under
7		Buildings. This indicates that outside of
8		BPA's right-of-way again, because they
9		prohibit, just like the Applicants, buildings
10		within a right-of-way. "Buildings located off
11		BPA's right-of-way may collect an induced
12		voltage." And it does talk about how to ground
13		it.
14		But do you agree that in certain
15		situations, that a building that abuts the
16		right-of-way, if the right conditions were not
17		followed, that they could the building
18		could, in fact, collect an induced voltage?
19	A.	(Johnson) If it was not properly grounded. And
20		under the right conditions, it could have a
21		capacitively coupled voltage to it, yes.
22	Q.	On Page 8, under Fires, "Smoke and hot gases
23		from a large fire can create a conductive path
24		for electricity." Under the right conditions,
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		is this accurate?
2	Α.	(Johnson) Under the right conditions, yes.
3	Q.	And would a campfire or bonfire on land
4		abutting the ROW be close enough the
5		right-of-way be close enough for the
6		electricity to arc from the wire to it?
7	A.	(Johnson) Again, it depends on specific
8		conditions, the size of the fire. A general
9		campfire, bonfire, that would be, I would say,
10		extremely unlikely. It's still, to be on the
11		ultra safe side, not a good idea.
12	Q.	So I'm going to spare you the rest of the
13		details of the exhibit. But would you agree
14		there are additional objects and activities
15		that pose a risk of electric shock if the
16		proper safety procedures are not followed?
17	A.	(Johnson) If the line is not designed properly
18		and general safe practices are not followed.
19	Q.	Even with the line designed properly, are there
20		still conditions that a person can come in
21		contact with it, such as directly touching it,
22		climbing a pole, that they could sustain an
23		electric shock, experience electric shock?
24	Α.	(Johnson) If a person climbs the pole, puts up
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		81
1		a ladder to touch the conductor and contacts
2		the conductor, yes, definitely there would be
3		the chance of electric shock.
4	Q.	And do you believe it's very important to
5		communicate this to abutters and people that
6		might walk by these poles?
7	Α.	(Johnson) I would some communication, some
8		common sense. I would say climbing a tower
9		that has a high voltage warning sign on it is
10		communication. Putting a ladder up to the
11		conductor, where it's not your conductor, I
12		would say is not a good idea.
13	Q.	Do you believe a sign, as in Exhibit 24, should
14		be on all high-voltage transmission lines or
15		all towers and poles?
16	A.	(Johnson) That would have to be a personal
17		opinion. And in terms of electrical
18		engineering, it's probably outside of my
19		purview.
20	Q.	Okay. Dr. Bailey, you've indicated in your
21		prefiled testimony that an electric field will
22		induce oscillating charges on the surface of a
23		conducting body that has been exposed to these
24		fields. Is it correct that these oscillating
		$\{SEC, 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

1		charges on the surface of a conducting body can
2		induce current inside the body?
3	A.	(Bailey) Yes.
4	Q.	And will the presence of alternating magnetic
5		field cause weak magnetic fields and currents
6		to flow into the body by induction?
7	Α.	(Bailey) Yes.
8	Q.	And is it correct, then, that these AC electric
9		fields and currents at a high enough level may
10		result in stimulation of excitable tissues,
11		such as nerves and muscles?
12	Α.	(Bailey) Yes, as a practical consequence.
13		However, we don't have sources in our everyday
14		environment where we could possibly achieve
15		those exposures. And even workers in the
16		electric utility industry would not, except
17		under very unusual circumstances, encounter
18		fields high enough to produce that stimulation
19		of nerves and muscles.
20	Q.	Really? I'd like to refer you to Exhibit 22.
21		Are you familiar with the research of Charles
22		Dalziel's on the human body's reaction to
23		current?
24	A.	(Bailey) I am.
l		

1	Q.	Are you familiar with the standard chart
2		developed from the research of Charles Dalziel
3		used throughout the industry, presenting levels
4		of electric shock and the human body's reaction
5		to the current?
6	Α.	(Bailey) I've seen this and other versions of
7		this chart in different places.
8	Q.	So there are a few different versions. This is
9		a standard chart developed from his work;
10		correct?
11	Α.	(Bailey) It's one of the charts that is very
12		similar to others I've seen.
13	Q.	Okay. And according to the chart, what level
14		of electric shock would excitable tissue, such
15		as nerves and muscles, be stimulated?
16	Α.	(Bailey) In order to have a sensory perception
17		of the field, this table is indicating it would
18		occur in the range of .5 to 3 milliamps.
19	Q.	And how many kilovolts would have would a
20		field have to be to experience that level of
21		electric shock?
22	Α.	(Bailey) It would depend upon a number of
23		circumstances. And I'll ask Dr. Johnson to
24		continue.

1	Α.	(Johnson) To get to the .5 to 3 milliamps,
2		again, it would depend on the particular
3		individual and how well grounded, and in terms
4		of also the electric field that they're in.
5		For a person, say roughly of my height and
6		build, oh, to get to even .5 milliamps would
7		probably require somewhere in the ranges of 25
8		to 30kV.
9	Q.	Dr. Bailey, can you list the rest of the levels
10		of electric shock in this chart, from lower to
11		higher, with the corresponding symptoms and
12		level of current?
13		PRESIDING OFFICER ROSS: I'm going to
14		ask what the relevance of this chart is. I
15		mean, if we can are you suggesting that
16		there's some location within the right-of-way
17		where a person would be experiencing these
18		milliamps?
19		MS. HUARD: Yeah, I'm actually going
20		to go and I was going to try and work with
21		Dr. Bailey to actually make a couple of
22		conversions.
23		PRESIDING OFFICER ROSS: Because we
24		can all read the charts. We can see the
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[BAILEY/JOHNSON]

1 symptoms. MS. HUARD: Okay. So then I'll skip 2 that, then. I was going to actually later 3 refer to the exhibit -- Table 13 and ask him a 4 5 few questions on it. Which exhibit? MR. IACOPINO: 6 7 MS. HUARD: Later I'll be -- Exhibit 8 23. But right now I'll continue with some questions with this. 9 BY MS. HUARD: 10 Would you agree that, according to Ohm's law, a 11 0. current equals volts divided by resistance? 12 (Bailey) What you're displaying here in the 13 Α. 14 table is, and what Dr. Johnson just commented 15 on, is that practical relationship from Ohm's 16 law, in terms of relating voltage and current 17 in the body. 18 Thank you. Q. 19 That's what I'm trying to determine. So 20 that is the inverse of what I had asked you. Ι 21 had asked you if you can convert the milliamps 22 to volts. And Ohm's law is actually the 23 inverse; correct? (Bailey) Ohm's law is not the -- simple version 24 Α. {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		of Ohm's law would not give you the proper
2		conversion of the relationship between external
3		field and current in the body. As Dr. Johnson
4		testified, and if you look at the calculated
5		fields under the existing lines and proposed
6		lines, none of these levels of milliamps in the
7		body would be achieved underneath the line.
8	Q.	Okay. So would you agree, on the condition
9		that was high enough that you could conduct
10		these symptoms, would you agree that the
11		resistance varies from person to person?
12	А.	(Bailey) To some extent, yes.
13	Q.	And would the effect of exercise in a person's
14		resistance to an electric current I'm sorry.
15		What is the effect of exercise in a
16		person's resistance on electric current? Would
17		their resistance be higher or lower after
18		exercise?
19	Α.	(Bailey) I know of no data on that particular
20		circumstance.
21	Q.	Okay.
22	Α.	(Bailey) But the variations in your body
23		resistance under those conditions would be
24		probably small enough so that it would not
		${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

		87
1		bring you in any way into a conversion where
2		any of these symptoms could be experienced
3		underneath the proposed line.
4	Q.	Now, given the level of voltage high enough
5		that you could experience electric shock, would
6		two different people experience a different
7		level on this chart?
8		MR. WALKER: Object. Relevance.
9		There's been testimony that the project will
10		not reach the levels, and now she's asking if
11		it did reach the levels.
12		PRESIDING OFFICER ROSS: I'll sustain
13		the objection. We already have testimony that
14		it varies from one person to the next.
15		MS. HUARD: Okay.
16	BY M	S. HUARD:
17	Q.	Well, then I'll go to Table 13, and we'll look
18		at the modeled measurements. And again, these
19		are modeled measurements; correct?
20		MR. IACOPINO: And just for the
21		record, this is Huard Exhibit 23.
22		MS. HUARD: Yes, I'm sorry, Exhibit
23		23.
24	Α.	(Bailey) And is that Table 13
I		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[BAILEY/JOHNSON]

		88
1	Q.	Oh, I'm sorry.
2		MR. WALKER: It's Page 91.
3	A.	(Bailey) So this is Table 13 that appears on
4		Page 91 of the application, and it's been
5		labeled "Exhibit 23."
6	Q.	Correct. So you have indicated that these are
7		actually modeled measurements; correct?
8	A.	(Bailey) These are calculations of the electric
9		field from the existing lines. And the
10		existing lines plus the proposed line were
11		performed by Dr. Johnson.
12	Q.	So if you have never taken readings, how would
13		you possibly know whether there was an actual
14		level under the power lines that can be high
15		enough for a human being to sustain electric
16		shock?
17	A.	(Bailey) Well, as Dr. Johnson can further
18		explain, the laws of physics are very precise.
19		Our knowledge of the laws of physics is
20		extensive and what allows us to send people to
21		the moon and beyond. And that knowledge of
22		physics is sufficient to be able to provide
23		very accurate calculations of the electric and
24		magnetic fields for given levels of voltage and
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		63
1		current flow and distances. And so these
2		should be regarded as quite accurate
3		calculations of those levels. And despite
4		variation in persons and environmental factors,
5		these levels would not be appreciably changed.
6	Q.	Okay. So, would you so, the highest modeled
7		calculation on this chart is 6.6 kilovolts;
8		correct?
9	Α.	(Bailey) That's what's shown on Table 13.
10	Q.	Yes, I'm sorry. Table 13.
11		And would agree that 1 kilovolt is equal
12		to 1,000 volts?
13	Α.	(Bailey) Correct.
14	Q.	And would you agree that 6 kilovolts is equal
15		to 6,000 volts?
16	Α.	(Bailey) 6,600.
17	Q.	I'm sorry. I'm looking at my 6,600. I had
18		done mine as 6 kilovolts.
19		And would you agree that 1 ampere is equal
20		to 1,000 amperes?
21	Α.	(Bailey) I'm sorry. Could you say that again,
22		please?
23	Q.	One ampere is equal to 1,000 milliamperes?
24	Α.	(Bailey) One ampere is equal to 1,000
l		$SEC 2015-05[Day 2/Afternoon ONLY]{06-14-16}$

		90
1		milliamperes, yes.
2	Q.	And can you actually use the Ohm's law to
3		convert this field into milliamps?
4	A.	(Bailey) I already stated that that is not
5		possible to use the simple version of Ohm's law
6		to make that conversion.
7		PRESIDING OFFICER ROSS: Can you
8		explain why we should be concerned about this
9		conversion?
10		MS. HUARD: Well, absolutely, since
11		you asked.
12	BY M	IS. HUARD:
13	Q.	Would it concern you to know that a person
14		or that I do believe that I sustained electric
15		shock while sitting under the high-voltage
16		transmission lines taking a picture and
17	A.	(Bailey) All I know is that's what you've
18		reported.
19	Q.	That's what I've reported. And what you
20		describe about the fields, that is what I
21		experienced.
22		PRESIDING OFFICER ROSS: I think that
23		what you need to do, Ms. Huard, is phrase these
24		as questions.
		$\int \operatorname{GEC} 2015 - 05 \setminus \operatorname{Day} 2/Afternoon ONLY \setminus 06 - 14 - 16 \setminus$

1		MS. HUARD: I'm trying to do that.
2		PRESIDING OFFICER ROSS: You'll have
3		an opportunity to testify later in the hearing.
4		MS. HUARD: Well, you asked.
5		PRESIDING OFFICER ROSS: What I asked
6		was what the reason for the conversion is,
7		which actually
8		MS. HUARD: I'm trying to understand
9		how, if I look if a person has sustained
10		these symptoms on this chart, I was trying to
11		understand how that 6.6 kilovolts, if it could
12		be converted using Ohm's law and he has
13		indicated that it cannot, that it is not that
14		easy.
15	BY M	S. HUARD:
16	Q.	So, Dr. Johnson, in your prefiled testimony,
17		you've also claimed that at peaking load, when
18		conductors are closest to the ground, the
19		electric field within the ROW along the project
20		route is actually 8.6 kilovolts per meter. At
21		what time of day would you expect the
22		transmission lines to be operating at peak
23		loading?
24	Α.	(Johnson) That would be a question for the
		$\left[GEG 2015 0 F \right] \left[Dow 2/Afternoon ONEV1 \left[06 14 16 \right] \right]$

1		operations people. It generally is just a
2		short period during the overall year.
3		Also, that 8.6kV per meter level is
4		assuming that the lines are the closest
5		approach to ground and also with a 5 percent
6		over-voltage on the conductors. So it's a
7		number of conservative assumptions to come up
8		with that 8.6kV per meter, and it would be
9		present only at mid-span where the conductors
10		are closest to the ground, not along the entire
11		length between poles. And typically only for a
12		few minutes or maybe a few hours per year would
13		be my assumption.
14	Q.	Thank you.
15		And Dr. Johnson, you claim that the EMF
16		levels calculated for the project are below the
17		normal limits provided by international
18		agencies ICNIRP and ICES; correct?
19	Α.	(Johnson) Correct.
20	Q.	Does the government, the United States
21		Government, or the State of New Hampshire, have
22		any standards of their own?
23	Α.	(Johnson) Not that I'm aware of for electric
24		and magnetic fields.
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1	Q.	And Dr. Bailey, you claimed in your prefiled
2		testimony that the ICNIRP and ICES have derived
3		basic limits to avoid neurostimulation of
4		tissues at 4.17 kilovolts per meter and 5kV per
5		meter. Are you aware that many sections in
6		Table 13 in peak calculations exceed those
7		limits?
8	Α.	(Bailey) Those values you quoted are not the
9		limits in those guidelines. Those are what are
10		called "reference levels." If you if the
11		exposure is measured or calculated to be below
12		that, those limits, those organizations
13		guarantee that you will comply with the basic
14		restrictions. If the level is higher than
15		that, then calculations are required in order
16		to determine whether you complied with the
17		basic restrictions.
18		If you go to Table 14 on Exhibit 23, it
19		gives the levels of exposure to electric and
20		magnetic fields that would have to be exceeded
21		in order to cause the basic restrictions, which
22		are the limits in these guidelines to be
23		exceeded. And as you can see, these levels of
24		electric field for ICES are 26.8, .8kV per
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		meter; and for the International Commission on
2		Non-Ionizing Radiation Protection, it's 36.4kV
3		per meter. And so all the values in Table 13,
4		or even that value of 8.6kV per meter you
5		discussed with Dr. Johnson, are well below the
6		basic restrictions and limits recommended for
7		public exposure.
8	Q.	I'm a little puzzled with that response,
9		because I pulled the prefiled testimony, and it
10		says and maybe I'm reading it wrong "To
11		identify exposure levels for the general public
12		that would not cause these limits to exceed at
13		60 hertz, ICNIRP provided reference levels"
14		And you're saying that
15	A.	(Bailey) What I say is that reference levels
16		are not the same as the basic restrictions
17	Q.	Okay.
18	A.	(Bailey) and that the underlying limit
19		recommended by these organizations is the basic
20		restriction.
21	Q.	Okay. I have no further questions. Thank you.
22		PRESIDING OFFICER ROSS: Thank you.
23		Questions from the Committee?
24	BY M	S. ROBERGE:
		$\int SEC 2015 - 05 \setminus Day 2/Afternoon ONLV1 \int 06 - 14 - 16 \setminus CONTRACTOR ONLV1 \int 06 + 16 \setminus CONTRACTOR ONLV1 \int 06 + 16 \setminus CONTRACTOR ONLV1 \int 06 + 16 \setminus CONTRACTOR ONLV1 \\ $

[BAILEY/JOHNSON]

1	Q.	I just have a question on the models
2		themselves. Who develops models or the model?
3	A.	(Johnson) Are we talking about the modeling for
4		the electric and magnetic fields, audible noise
5		and radar noise?
6	Q.	Yes.
7	Α.	(Johnson) That was developed, really, over a
8		number of years by people both at Bonneville
9		Power Administration, different researchers
10		through the country and the world, and also the
11		High-Voltage Transmission Research Facility.
12		The two basic techniques that codified these
13		issues were what's become known as the "BPA
14		Cafe Program" or "Corona Audible Noise Fields"
15		and what's the
16	Α.	(Bailey) Field effects.
17	Α.	(Johnson) "Field Effects." That's right.
18		Corona and field effects, and then the TL Work
19		Station from the Electric Power Research
20		Institute, which was done in collaboration with
21		GE, the High-voltage Transmission Research
22		Center, BPA and different researchers. Those
23		have been the two sort of leading programs that
24		calculate these levels. A lot of the
	·	

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		techniques that were developed are in every
2		high-voltage transmission reference book which
3		lists some of the equations.
4		And again, these were put into computer
5		programs. As they were being developed, you
6		had the basic calculation techniques,
7		essentially going from first principles,
8		physical principles, and then confirming that
9		with actual physical measurements underneath
10		various operating or test transmission lines,
11		where you could easily control the voltage and
12		the geometry.
13	Q.	Would you say they've been updated over time,
14		in terms of have they become more
15		sophisticated?
16	Α.	(Johnson) There are various enhancements, I
17		guess you could say, like three-dimensional
18		modeling, or some marginal improvements in that
19		respect. But the basic techniques have stayed
20		the same for a good 50 years or more.
21	Q.	And when you use these models, are they
22		site-specific; meaning, do they take into
23		account conditions at the site or, in this
24		instance, along the corridor? Is there
		SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

1		information that's input into the model that's
2		specific to the conditions that would exist as
3		a result of this project?
4	Α.	(Johnson) Typically, and in the case of this
5		project, the models are done very
6		conservatively. So there are not, let's say,
7		terrain features put in, because these would
8		typically reduce the electric or magnetic
9		fields or other quantities that they calculate.
10		The assumptions or the situation that is used
11		is flat, wide open terrain without shielding
12		objects. And the lines are, as I said,
13		typically minimum height, closest approach to
14		ground, and with a 5 percent over-voltage in
15		the applied voltage; basically, the highest
16		expected voltage that might occur.
17	Q.	So when you use the term "conservative," you
18		mean that the results of the models are going
19		to be worst case
20	A.	(Johnson) Yes.
21	Q.	the highest level you might expect if you
22		were standing there holding a monitor?
23	Α.	(Johnson) That yes, that would be a simple
24		way of stating it. Conservative set of
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		assumptions so it would push you toward a
2		worst-case situation. The actual measurements,
3		because of terrain features, the actual line
4		height at the moment you do it, the actual
5		voltage on the line, all would combine to
6		actually more than likely produce a lower field
7		than what's listed for the various comparisons.
8	Q.	And so, maybe going back to that Table 13, you
9		might expect to see lower numbers than what was
10		included in that? Am I understanding that
11		correctly?
12	Α.	(Johnson) If you actually went out there in a
13		specific situation and location, yes.
14	Q.	Okay. And you spoke a little bit about the
15		accuracy of the models and testing done. Is
16		there a general understanding of accuracy of
17		those, a generally accepted
18	Α.	(Johnson) Ultimately it comes down to how well
19		do you know the geometry and the voltage
20		situation that you're measuring. And then the
21		next factor that comes in is the general if
22		you're comparing them, the measurements, the
23		accuracy of the instrumentation that you're
24		using and the ability of the person in the
I		$\{SEC, 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

1		field to use it. All that being said, the AC
2		electric fields and magnetic fields have been
3		shown to typically be within 5 percent.
4	Q.	From the model results?
5	Α.	(Johnson) Measured to model results, if you
6		know everything exactly as it is. There will
7		be some variation, because when you're out
8		there, the conductors will be moving slightly.
9		That will change their height and position
10		slightly; literally, in some cases, how the
11		person holds the meter, how level it is. So,
12		there's small subtleties, but generally a few
13		percent.
14	Q.	Obviously, the inputs to the model, the more
15		accurate in terms of the terrain features and
16		the configuration of the site would also play a
17		role in that as well?
18	A.	(Johnson) Yes. If you go into that level of
19		sophistication where you're trying to model a
20		specific site, then you could start adding
21		things like terrain features, location of
22		nearby buildings and shrubbery. That would
23		tend to reduce the electric fields or their
24		impacts.

1	Q.	And looking at the report, it looks as though
2		you modeled different configurations along the
3		line, based on certain sections of line; is
4		that correct?
5	A.	(Johnson) Yes. Where there were major changes
6		in either the number of lines that were on that
7		particular section of the corridor or the
8		loading of the lines, where you would expect a
9		noticeable change in the electric or magnetic
10		field either because of the geometry and
11		configuration of the lines or the design or the
12		loading that would be on them.
13	Q.	So the results that are presented are
14		considered sort of worst-case scenario based on
15		the different configurations of the corridor,
16		of the line configurations along the entire
17		line.
18	A.	(Johnson) Yes. In fact, for this one, we
19		provided both peak loading and average loading.
20	Q.	Thank you.
21		MS. ROBERGE: I don't have any other
22		questions.
23	ву С	CMSR. BAILEY:
24	Q.	Good afternoon. In both of your testimonies,
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		101
1		you say that you've published scientific
2		papers. Were those papers peer-reviewed?
3	Α.	(Bailey) Yes. Papers published in scientific
4		journals are peer-reviewed. And in addition,
5		we both have published technical reports that
6		are peer-reviewed by organizations that have
7		commissioned that work.
8	Q.	Have your papers been published by IEEE, any of
9		them?
10	A.	(Johnson) Yes.
11	A.	(Bailey) Yes.
12	Q.	Could you tell me, in general terms, what the
13		risk to a police officer, for example, standing
14		in a right-of-way, perhaps under an energized
15		transmission line in a road that's at the
16		correct height, for the day directing traffic?
17		Is there a risk to that police officer?
18	Α.	(Bailey) I think Dr. Johnson has already
19		indicated that for a short-term period of time
20		there is some very, very weak induction of
21		fields and currents in the body. But they're
22		so far below the thresholds for any kind of
23		effect or stimulation, they would be
24		imperceptible, in the same way that if you're
I		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

near appliances in your home. Those fields are 1 2 imperceptible to you. I think your question seems to be getting 3 more about the length of time that the officer 4 might be standing underneath the line in a 5 particular location. And that gets to the 6 question about potential effects of long-term 7 8 exposure. As we pointed out in the testimony, the guidelines, our ceiling limits that is not 9 to be exceeded, and that unlimited exposures 10 11 times below those ceiling limits are permitted. And I would also point out, if you go to the 12 section on our assessment of research, that 13 14 despite the fact that we have been studying 15 human populations and people and experimental 16 conditions, and animals in experimental 17 conditions, we have not identified that chronic exposure to electric and magnetic fields is a 18 cause of any adverse effects on health. 19 And this is a conclusion of the World Health 20 21 Organization and other agencies that have 22 reviewed this research. So the risk to a police officer standing under 23 Q. a high-voltage transmission line directing 24

1		traffic for the day is very small on health.
2		Small to none. You don't have any evidence
3		that there are any
4	A.	(Bailey) In terms of direct interaction of the
5		field with the body of the officer, I don't
6		think that there's scientific evidence that
7		would indicate that there, in fact, is a risk.
8		In order to have a risk, you have to have a
9		hazard. So you have to know that, for a
10		particular condition, that something awful or
11		harmful could happen. Having done 40 years of
12		research on this, we haven't determined that
13		these exposures, in fact, do have a health
14		effect. Just because you can measure something
15		and you can measure that exposure in the human
16		body doesn't necessarily mean that effect is
17		harmful. So we have the light here in this
18		room as an electric magnetic field. And as we
19		turn or eyes towards that light, we have a
20		biological response to it, and the size of the
21		pupil diminishes in size. That's a biological
22		response to an electromagnetic field. And we
23		can measure tiny, tiny currents. But when we
24		go to look to see is that a level of exposure

1		sufficient to cause harmful effects, we don't
2		find in any of our community environments or
3		even occupational environments, so long as you
4		comply with these standards, any effects,
5		including the types of effects that Ms. Huard
6		discussed, in terms of neuro and muscular
7		stimulation.
8	Q.	Are there other biological and maybe you're
9		not qualified to answer this, but I'll ask you
10		anyway.
11		Are there other biological explanations
12		for tingling sensations in the body or muscle
13		contractions other than electric shock?
14	Α.	(Bailey) Well, I'm not a physician, but we all
15		know that one can have tingling in the body and
16		a variety of sensations and perceptions without
17		any electrical source being nearby. And I'll
18		just leave it at that.
19	Q.	Thank you.
20		Yesterday we heard a member of the public
21		state that she observed blue sparks near the
22		power lines, the existing power lines. Do you
23		know anything about "blue sparks"?
24	A.	(Johnson) Okay. Assuming that there's no
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		objects or something else coming close to the
2		conductors, with that amount of information,
3		the best I could guess at is at nighttime,
4		under certain conditions, and with the $345kV$
5		lines or if it was a higher line
6	Q.	A higher voltage line?
7	A.	A higher voltage line, even 345, and depending
8		on the size of the conductor, what might be
9		being referred to is "corona discharge" on the
10		line, because the small electrical discharge at
11		the surface of the conductors. Because of the
12		size of the conductor, contamination on the
13		conductor can produce an extremely high
14		electric field right at the surface,
15		sufficient to cause like a little blue glow or
16		spark. Other references that people might have
17		heard of is like "St. Elmo's Fire," if it's
18		like sort of an ancient history text. But
19		it's again, in that case, it was reported,
20		like in cemeteries, on the iron fences where
21		they had very high points on the fences or on
22		steeples on some buildings, again, with the
23		very sharp points, the atmospheric electric
24		field would get sufficiently high that it would
ļ		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		cause it to go into corona and get a blue glow.
2		Typically it would be maybe a blue glow. It's
3		very difficult to see under, but it would have
4		to be under very dark conditions, with the eyes
5		well adapted to the darkness. And that's the
6		only thing I can think of that might come close
7		to "blue sparks" that would be likely.
8	Q.	And in your example of "St. Elmo's Fire," if
9		somebody touched it with their fingers, would
10		they get a shock?
11	A.	(Johnson) Well, you're not going to be close
12		enough, hopefully, that you would be touching
13		it, because that would be the energized
14		conductor. But in the like the more common
15		references, like in electric fencing with the
16		sharp points, actually, the sheer presence of
17		your body would modify the electric field
18		enough that it would probably drop out of
19		corona and it would disappear.
20	Q.	Okay. Thank you.
21	BY M	S. WEATHERSBY:
22	Q.	Question for each of you concerning just the
23		health aspects. Would you have any concerns or
24		reservations if you or your loved ones resided
I		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		107
1		at the edge of the right-of-way?
2	А.	(Bailey) Well, I think I'll answer that from a
3		personal perspective.
4		As you can tell from my gray hair, I've
5		been around for a long time. And when my wife
6		and I moved out of New York City, we bought a
7		home a baseball's throw away from the largest
8		high-voltage transmission line corridor in the
9		New York area that brings most of the
10		electricity coming in from Canada into New York
11		City. And I did not have I've been working
12		in this area for some time, and I did not have
13		concerns for my health or that of our children
14		as they developed there.
15	Α.	(Johnson) Similar type of response. Our house
16		isn't adjacent to a corridor, but I've worked
17		at the High-voltage Transmission Research
18		Center. And our house, there's probably a
19		345kV line that goes, oh, maybe a quarter-mile,
20		half-mile away. I know if we go hiking back
21		into the woods, we go onto the corridor.
22	Q.	Okay. Thank you.
23		And then concerning the radio noise, does
24		radio noise have any effect for homes at the
	<u>. </u>	<pre>{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}</pre>

1		edge of the right-of-way concerning devices
2		within the home? Does it make the garage door
3		go up and down, someone's pacemaker you
4		know, that sort of thing?
5	A.	(Johnson) The easiest answer is, if everything
6		is working properly, no, there should be no
7		effect. The radio noise for the AC lines is
8		typically limited to foul weather. When you
9		have a lot of raindrops on the conductor,
10		you'll have more corona because of that. But
11		even with that being said, the levels of radio
12		noise will drop off as you go away from the
13		conductors. The line has been designed
14		according to the radio noise guidelines that
15		were put together back in the '70s by IEEE and
16		have been a good reference source. And they
17		will also tend to drop off as you go up in
18		frequency.
19		As far as any appliances in or around the
20		home, I would not expect any problems with
21		that, because the levels are similar to what
22		would be well, typically what's there, just
23		from atmospheric conditions and fair weather,
24		by the time you're a few hundred feet away from

1	the line, even on the edges of the corridor,
2	they're very similar to what's already existing
3	along the corridors with the lines that are
4	there. So I would not expect anything
5	different than what's already there. And in
6	foul weather, the atmospheric conditions
7	typically will mask and are higher than what
8	the typical radio noise levels produced by the
9	lines are.
10	PRESIDING OFFICER ROSS: Any other
11	questions from the Committee?
12	[No verbal response]
13	PRESIDING OFFICER ROSS: Does the
14	Applicant wish to have any redirect?
15	MR. WALKER: No questions, Madam.
16	PRESIDING OFFICER ROSS: In that
17	case, these witnesses are excused. I think we
18	will take a 15-minute break. So if we can come
19	back at ten after four, and then I think we
20	have our final witness, Ms. Huard.
21	MR. NEEDLEMAN: Unless you want to
22	take five minutes to bring Mr. Plante back up
23	to answer Ms. Whitaker's question.
24	PRESIDING OFFICER ROSS: Oh, let's
	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

1 take our break, and then we may do that right before we begin Ms. Huard after the break. 2 MR. NEEDLEMAN: Okay. 3 (Whereupon a brief recess taken at 4 5 3:55 p.m. and the hearing resumed at 4:09 p.m.) 6 7 PRESIDING OFFICER ROSS: All right. 8 We will go back on the record. 9 (WHEREUPON, DAVID PLANTE, who was 10 11 previously duly sworn and cautioned by the Court Reporter, returns to the 12 13 witness table.) PRESIDING OFFICER ROSS: We had some 14 15 questions about the guy wire supports on the 16 pole next to the brook. I forgot the name of 17 the brook now. Howard Brook. MS. WHITAKER: 18 PRESIDING OFFICER ROSS: 19 So if 20 possible, let's do that now. And I think, 21 Rachel, you were asking the question. 22 MS. WHITAKER: Want me to reask the 23 question? 24 PRESIDING OFFICER ROSS: Yes. {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[PLANTE]

BY MS. WHITAKER: 1 So I was curious about the anchoring system for 2 0. those guy wires. I believe it was a 3 triple-tower setup, and the guy wires looked 4 like they were going to be in the Riparian 5 I was just curious about what the setup 6 zone. was for that anchoring system within that 7 8 Riparian zone. 9 Okay. I can address that. Typically for guy Α. anchoring in areas adjacent to wetlands, we 10 11 choose the screw anchor method for anchoring. 12 However, in this particular case, our Subsurface Exploration Program has identified 13 that bedrock is fairly close to the surface, 14 15 making use of a screw anchor not a good choice, 16 as they require some significant depth. So, in 17 the case of bedrock near the surface, we have opted to go with what we call a "rock anchor 18 system," which consists of a steel rod with a 19 20 nut on the end of it embedded in a hole that is 21 cored into the ledge, into the bedrock. So it 22 will be approximately at a 45-degree angle into 23 the bedrock. The rod with the anchor nut on the end of it is inserted. And there's a 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[PLANTE]

1		spacer system that's also asserted to keep the
2		rod centered in the hole. And then it is
3		pressure-grouted with a high-performance,
4		non-shrink grout, which is a cementitious
5		mixture similar to concrete. Then it hardens,
6		and we'll put a load test on it to make sure
7		that it's sufficiently anchored into the
8		bedrock before we actually load it with a guy
9		anchor I mean with a guy wire.
10	Q.	Once that anchor is in place, will vegetation
11		be allowed to grow back around that anchor, or
12		will it continue to be cleared for maintenance
13		of that anchor?
14	Α.	Vegetation will appropriate vegetation will
15		be allowed to grow. We tend to not like to
16		have large brush and shrubs growing up around
17		the anchors and guy wires, just for a variety
18		of reasons. But, you know, low-growing things
19		like junipers and grass, hay, that kind of
20		stuff is perfectly acceptable.
21		MS. WHITAKER: Thank you very much.
22		PRESIDING OFFICER ROSS: I just have
23		one question. How far below the surface is the
24		bedrock there?
		$\int SEC 2015 - 05 \int Dow 2/Afternoon ONLY1 \int 05 - 14 - 16 \int$

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

[PLANTE]

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	113
1	WITNESS PLANTE: About five feet.
2	PRESIDING OFFICER ROSS: Any other
3	questions from the Committee?
4	[No verbal response]
5	PRESIDING OFFICER ROSS: Okay. Thank
6	you. Any other questions I'm sorry. I
7	should probably ask the parties.
8	Questions from other parties?
9	MR. ASLIN: None for me, thank you.
10	MS. HUARD: None.
11	PRESIDING OFFICER ROSS: Okay. Thank
12	you very much.
13	With that, I think Ms. Huard is
14	our final witness.
15	(Huard Exhibit Huard 52 marked for
16	identification.)
17	
18	(WHEREUPON, MARGARET HUARD was duly sworn
19	and cautioned by the Court Reporter.)
20	DIRECT EXAMINATION
21	BY MR. IACOPINO:
22	Q. Please tell us your full name and address.
23	A. Margaret Huard, 13 David Drive.
24	Q. And before you on the table is what's been
	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		marked as Huard Exhibit 52. Do you see that
2		document?
3	A.	I do see it.
4	Q.	And do you recognize that to be your prefiled
5		testimony in this case?
6	Α.	I do.
7	Q.	And is that prefiled testimony been amended by
8		you?
9	Α.	Yes, it has.
10	Q.	Please explain where the amendments are within
11		that testimony.
12	Α.	Amended Page 5, under the question, "Have you
13		ever questioned the safety of living, walking
14		or commuting in such close proximity to
15		high-voltage transmission lines?"
16		I amended the paragraph that starts with,
17		"In January 2016," to expand my symptoms, where
18		I had merely stated in my original one, that I
19		had thought I had gone into cardiac arrest. In
20		the amended one, I expand on the symptoms and
21		discuss the symptoms I had.
22	Q.	Please read the amended answer to us.
23	A.	Sure.
24	Q.	Slowly.

1	Α.	The amended one. "In January, 2016, while
2		taking pictures of a sign on a steel lattice
3		tower for these docket proceedings, I
4		experienced simultaneous symptoms that often
5		precede cardiac arrest: Chest pain, leg pain,
6		shortness of breath, dizziness and heart
7		palpitations. According to standard charts on
8		effect of electric currents on a human body,
9		these symptoms are also standard signs of
10		having come in contact with an electric
11		current. I was in my car directly under
12		transmission wires on the side of the road.
13		There was no warning not to engage in this sort
14		of activity. There are also numerous pictures
15		taken near and around high-voltage transmission
16		lines included with the Application, so I never
17		would have thought that there would have been
18		any danger."
19	Q.	Are there any other amendments to your
20		testimony?
21	A.	Wherever that has been referenced let me
22		look for a minute. I believe that carries over
23		somewhere else, but I can't quite find it.
24		It's only relating to that. So, no, I would
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

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		116
1		just say that was it.
2	Q.	So that the prefiled testimony that's sitting
3		before you and marked as Huard 52, do you swear
4		that the testimony contained therein is true
5	A.	I do.
6	Q.	to the best of your knowledge and belief?
7	A.	To the best of my knowledge and belief, this
8		testimony is true.
9		MR. IACOPINO: Okay. The witness is
10		available for cross-examination.
11		PRESIDING OFFICER ROSS: Let's see.
12		Does the Applicant have any questions of the
13		witness?
14		MR. NEEDLEMAN: I do.
15		PRESIDING OFFICER ROSS: Okay.
16		CROSS-EXAMINATION
17	BY M	R. NEEDLEMAN:
18	Q.	Ms. Huard, I'm going to give you a copy of our
19		Exhibit 25, which is the non-confidential
20		portion of the transcript from the technical
21		session we had in this case.
22	A.	Sure.
23	Q.	And I want to try to use this transcript to
24		shorten our questioning rather than go back
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		117
1		through everything.
2	A.	Sure.
3	Q.	So I'm going to ask you to turn your attention
4		to Page 12 of that transcript to start. And
5		I'm looking specifically beginning at Line 16.
6		Are you there?
7	A.	Yeah.
8	Q.	And when we had our technical session, I asked
9		you if you had any formal education, experience
10		or professional training in a series of
11		disciplines that related to your prefiled
12		testimony. Do you remember that?
13	A.	I do recall that.
14	Q.	And those questions run from Page 12 over to
15		Page 16 of this transcript. And what I was
16		hoping to do is just to get it on the record
17		today without going through every question.
18		But let me start by asking you, do you
19		have any formal training, any professional
20		training or experience in medicine?
21	A.	As I had indicated to you, my education in
22		medicine is limited to first aid. I was
23		previously licensed sorry certified in
24		CPR and basic first-aid training. I was a cub
l		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		118
1		scout leader, and I had to undergo training for
2		first aid.
3	Q.	And other than that, any other training in
4		medicine?
5	Α.	Actually, I'm naturalist, and I refer to
6		resources on a regular basis. And while I do
7		go to a primary-care professional, I do
8		actually I am in tune with how my body
9		works, so I do treat myself naturally.
10	Q.	Same question for electrical engineering.
11	Α.	Again, as I stated that day, my education is
12		limited to self-education in many of these
13		areas. So I'll just make a general comment,
14		and I had made it that day. I'm a licensed
15		certified public accountant. And as part of my
16		training, I'm trained to study every single
17		industry to gain knowledge sufficient enough to
18		perform an engagement. So, to the level that I
19		am not licensed or degreed to work in that
20		profession, I am trained to understand through
21		self-education, through resources, and weigh
22		the hierarchy of what I'm reading.
23		So, with direct reference to electrical
24		engineering, aside from the courses I've had in
	<u>. </u>	<pre>{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}</pre>

1		high school, physics back then, it would have
2		to be limited to the resources that I referred
3		to, to get ready to ask questions for this
4		docket.
5	Q.	All right. What I'm going to do now is read a
6		list of the remainder of those areas and ask
7		you if the answer to every one of those is the
8		same. If it's not, you can identify the
9		particular one where it's not.
10	A.	Sure.
11	Q.	So the other areas I asked you about are on
12		pages through Page 16 of the transcript are:
13		Civil engineering, sound studies and sound
14		analysis, wetlands science, forestry, wildlife
15		biology, plant biology, real estate appraisal
16		and property values, aesthetics analysis,
17		properties of electric and magnetic fields,
18		climate science, air-quality analysis and
19		hydrogeology. And your answers were all the
20		same with respect to those; is that right?
21	Α.	I would have to say I just want to emphasize
22		something. It probably didn't come up in the
23		discovery. With respect to real estate
24		analysis, I do believe that is a direct

		120
1		relationship to the knowledge I have as a CPA.
2		That's an analysis that I would do as a CPA, so
3		I do believe I'm qualified to do that.
4		And as far as the environment and erosion,
5		there are some badges that I worked on with cub
6		scouts that gave me basic knowledge to some of
7		the environments and erosion areas.
8	Q.	You purchased your home in 2001; is that
9		correct?
10	Α.	That is correct.
11	Q.	And you are not a direct abutter to the
12		corridor at issue here; is that correct?
13	Α.	I am not a direct abutter. That is correct.
14	Q.	How many lots are between the corridor and your
15		home?
16	Α.	Between the corridor and my home? Well,
17		there's the direct abutter, the home, and then
18		there's two small duplexes.
19	Q.	So you are the fourth lot removed from the
20		corridor.
21	A.	I am the fourth lot removed from the corridor.
22	Q.	At the time you purchased your home in 2001,
23		the transmission corridor was present; is that
24		right?
	u	

1	A.	It was present, yes.
2	Q.	And at the time you purchased your home in
3		2001, there were transmission lines in that
4		corridor; is that correct?
5	Α.	I believe so.
6	Q.	You indicated in your prefiled testimony that
7		at the time you purchased your home, you could
8		see transmission lines; isn't that correct?
9	A.	I could see a pole, but I couldn't tell you
10		every single transmission line that was in
11		there because I didn't become aware of them
12		until a few years ago, like fully aware of
13		them. I know they were there, and I know when
14		we bought the house you could see the top of a
15		pole, and you could see another pole from my
16		back yard. And then I had told you that in '13
17		they had moved a pole out closer to the road,
18		and I began to gain visibility of that from my
19		front yard. But I couldn't tell you the makeup
20		of the lines that were in there and when they
21		came in.
22	Q.	Without specifically describing makeup of the
23		lines, you were aware that there were
24		transmission lines
		$\left\{ \text{SEC } 2015 - 05 \right\} \left[\text{Day } 2/\text{Afternoon } \text{ONLV} \right] \left\{ 06 - 14 - 16 \right\}$

		122
1	A.	Yes, there were
2		(Court Reporter interrupts.)
3	Q.	You were aware that there were transmission
4		lines present in that corridor.
5	A.	Yes. Correct.
6	Q.	Could you turn to your prefiled testimony,
7		please.
8	A.	What page?
9	Q.	I'm going to ask you questions about your
10		amended testimony, so it would be amended
11		Page 5.
12	A.	Does amended Page 5 fall into the confidential?
13	Q.	No, not yet.
14		(Court Reporter interrupts.)
15	Q.	On amended Page 5 and I'm going to take you
16		to the very last part of that there are two
17		paragraphs at the end. It's not numbered
18		Page 6, but the two paragraphs at the end of
19		the amendment. The first one begins, "In the
20		past few years" Do you see where I am?
21	A.	Yes, I do.
22		MR. NEEDLEMAN: And is the Committee
23		following me, "In the past few years"?
24	A.	On the second page of the amended Page 5,
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

Γ

		12
1		second page.
2	BY N	MR. NEEDLEMAN:
3	Q.	Right. So you have two paragraphs here where
4		you describe supposed health and other impacts
5		that you believe people in your neighborhood
6		experienced with respect to the power lines; is
7		that correct?
8	Α.	The paragraph where it claims that my neighbor
9		had died a 14-year-old girl and 50-year-old
10		man seemingly died from effects living and
11		walking near high-voltage transmission lines?
12		Is that the one you're referring to?
13	Q.	That's the one.
14	A.	Thank you.
15	Q.	Second from the end.
16		And in this proceeding, we gave you a
17		variety of data requests. And Data Request
18		No. 5 asked you to produce all the documents
19		that you possessed with respect to these
20		incidents. Do you recall that?
21	Α.	I do recall that.
22	Q.	And you provided certain documents to us. You
23		remember that?
24	Α.	I do recall that.
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		124
1	Q.	And those are Applicants Exhibit No. 30.
2		And do you recall what documents you
3		provided to us?
4	A.	Off the top of my head, I recall providing the
5		obituaries for the three of I don't recall
6		exactly. I recall providing obituaries,
7		whether it was for three of them I think it
8		was for the three of them. There was a fire
9		log for Ms. Bergeron, showing that she had
10		sustained or suffered from cardiac arrest.
11		There was map locations of where their
12		residences were and where Ms. Bergeron parked
13		her bus under the high-voltage transmission
14		line overnight. And I don't recall the rest of
15		them, if there were any others.
16	Q.	That was it. And do you recall that I asked
17		you in the technical session whether these were
18		all the documents you possessed with respect to
19		these incidents?
20	A.	I do recall that.
21	Q.	And what was the answer to that question?
22	A.	That was all I possessed.
23	Q.	And have you ever seen any medical records
24		associated with any of these incidents?
I		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

Γ

		125
1	А.	No, I have not.
2	Q.	Have you ever seen any opinions from any
3		medical professionals associated with these
4		incidents?
5	Α.	No, I have not.
6	Q.	Have you ever seen any opinions from
7		non-medical professionals associated with these
8		incidents?
9	Α.	Well, I guess aside from the evaluation in the
10		fire log that she sustained or she
11		experienced cardiac arrest, that would be the
12		only opinion I would have seen.
13	Q.	Okay. And did that evaluation in any way link
14		what that neighbor experienced to the presence
15		of the transmission lines?
16	Α.	It could because cardiac arrest is a symptom of
17		electric shock. And if you tie it to the fact
18		that she parked her bus under the power lines
19		overnight, it ties it somewhat. It's distant,
20		but it ties it.
21	Q.	I'm handing you a copy of Exhibit 30. Those
22		are the documents you produced to us.
23	Α.	Hmm-hmm.
24	Q.	And I'll ask you to look at that fire log and
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1		tell me if you see anything in there that links
2		that incident to the transmission lines.
3	A.	Well, it's a very you know, it's not a
4		direct inference. But there is an indirect
5		inference if you take the rest of the evidence
6		and you understand that she's parked her bus
7		under the power lines on the side of the road
8		overnight and that cardiac arrest is a symptom
9		of electric shock. It is an indirect
10		inference, but not direct.
11	Q.	On Page 30 of the transcript from the technical
12		session, at Line 2, I quoted what you said
13		here, where, "all seemingly died from the
14		effects of living and walking near HVTLs." And
15		then I asked you, "Aside from the documents
16		you've provided to us, do you have any other
17		evidence to support that statement?"
18		And you said, "I don't. Just what I
19		provided you." Is that still true today?
20	A.	I just told you it was.
21	Q.	Okay. Now, if you could go back to the first
22		amended Page 5 of your testimony, the third
23		paragraph down begins, "In 2009/2010" do you
24		see that?
		$\begin{bmatrix} d H d \\ 201E \end{bmatrix} \begin{bmatrix} 0 \\ 0 \end{bmatrix} \begin{bmatrix} 0 \\ 0$

		12
1	А.	Yes, I do.
2	Q.	And that describes an alleged incident that you
3		experienced in that time period while walking
4		with an umbrella; is that correct?
5	А.	That is correct.
6	Q.	And then the next paragraph begins, "In
7		2012/2013" and that also describes another
8		incident that you allegedly experienced near
9		the power lines; is that correct?
10	А.	That is correct.
11	Q.	Just taking those two incidents together, we
12		asked you in Data Request No. 4 for all the
13		documents that you possessed related to those
14		incidents. Do you recall that?
15	А.	I do recall that.
16	Q.	And what was your answer to that question?
17	А.	I do not have anything.
18	Q.	You don't have any documents.
19	А.	I do not.
20	Q.	And then during the technical session I asked
21		you whether there are any medical records
22		associated with this incident. And what was
23		the answer to that?
24	А.	There are no medical records associated with
	L	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		128
1		these incidents.
2	Q.	Are there any fire department call logs?
3	A.	No, there are not.
4	Q.	Are there any non-medical expert opinions other
5		than yours?
6	A.	Not other than mine.
7	Q.	Did you keep any personal notes from that time
8		period that would have recorded these
9		incidents?
10	A.	No, I did not.
11	Q.	Are there any requests to state or federal
12		regulators to review these incidents?
13	A.	No, there are not.
14	Q.	So there are absolutely no records at all of
15		these incidents other than what you have said
16		here; is that correct?
17	Α.	Unfortunately, no, because I did not understand
18		what was happening back then.
19	Q.	Now let's turn to the January 2016 incident,
20		which is referred to at the bottom of your
21		amended testimony. And this is the incident
22		that we've already heard something about, where
23		you indicated that you believe you experienced
24		Some type of shock event while sitting in a car
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		129
1		under the power lines; is that correct?
2	A.	That is correct.
3	Q.	And we also asked you for any documents that
4		you might possess related to this in Data
5		Request No. 4. Do you recall that?
6	Α.	I do recall that.
7	Q.	You did provide us with some documents; is that
8		right?
9	Α.	That is correct.
10	Q.	And what documents did you provide us with?
11	A.	I provided you with a fire log that a
12		billing log from the fire department that
13		showed readings of vitals and a description of
14		what my description of what had happened.
15		And I also provided you with a series of
16		research materials to support my feeling and
17		allegations that these had been from electric
18		shock.
19	Q.	So you provided us some pictures. Do you
20		recall that?
21	Α.	I do recall that. I provided you pictures of
22		the picture I presented today of the sign on
23		the power line and the poles, and I also
24		provided you a map of the location.
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		130
1	Q.	And you provided a table that showed the
2		effects of shock on the human body?
3	Α.	Yes, I did.
4	Q.	Is that the document we looked at earlier
5		today?
6	Α.	It is, yes.
7	Q.	And then you provided that fire department call
8		log, which is a confidential document; is that
9		right?
10	Α.	Yes, I would believe so, 'cause that is
11		confidential.
12	Q.	So, am I correct, then, that those are all the
13		documents that you possess in connection with
14		this incident?
15	Α.	Aside form the disputed e-mails, yes, that's
16		it.
17	Q.	Okay. Well, we'll come back to those in a
18		little while.
19		So I asked you about these in the
20		technical session as well, beginning on
21		Page 53. Do you recall that?
22	Α.	Page 53 of the technical session?
23	Q.	That's right.
24		(Witness reviews document.)
	L	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	A.	Yes, I recall that.
2	Q.	And you confirmed for me at the time that these
3		were all the records
4	A.	I did. I also say that they were the highest
5		hierarchy of the talking about the research.
6		I have other research materials. But I
7		picked rather than give you the volumes of
8		research material, I gave you the highest
9		hierarchy. I didn't think you wanted the blogs
10		that I read and all of that. So I gave you the
11		highest hierarchy with the most credibility.
12	Q.	And we went back and forth, but in the end, at
13		the top of Page 54, we got to an endpoint, and
14		I said to you, "So there are no medical records
15		that you possess or have access to that you are
16		going to in any way rely upon to support the
17		assertion here?"
18	Α.	That's correct.
19	Q.	And your answer was, "There will be no other
20		medical records introduced into this docket."
21	Α.	That is correct.
22	Q.	And then I asked you if you had any opinions
23		from any medical experts that support the
24		assertions regarding the 2016 incident, and you
	L	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

		132
1		said you didn't. Is that still correct?
2	A.	I have no other medical records that support my
3		assertion. That is correct.
4	Q.	I'm handing you a copy of Applicants'
5		Exhibit 28.
6	A.	Well, why would I give this to you if you
7		already have it?
8	Q.	You didn't give it to us.
9	A.	Okay. I thought you okay.
10	Q.	No. It's our exhibit.
11		Have you seen this document before?
12	A.	I have.
13	Q.	This is a March 21st, 2016, letter from
14		National Grid to Randy Knepper at the New
15		Hampshire Public Utilities Commission; is that
16		correct?
17	A.	That is correct.
18		MS. HUARD: I'm going to object to
19		using this or to using this exhibit. This
20		exhibit is merely hearsay. Randy Knepper is
21		not here to be cross-examined.
22		MR. NEEDLEMAN: Randy Knepper doesn't
23		need to here and cross-examined. This is a
24		report submitted by National Grid to the New
		{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1	Hampshire Public Utilities Commission that is
2	the result of an investigation into the alleged
3	shock incident that Ms. Huard experienced on
4	January 16th. It's a public record at the
5	Public Utilities Commission.
6	(Committee members reviewing document.)
7	PRESIDING OFFICER ROSS: While we're
8	waiting, just a question. Was this document
9	submitted at some point earlier in this docket
10	as part of the discovery process?
11	MR. NEEDLEMAN: Do you recall?
12	MS. HUARD: No, it was not.
13	MR. NEEDLEMAN: Ms. Huard received
14	it. It was sent to the Public Utilities
15	Commission.
16	MS. HUARD: Oh, that's right.
17	PRESIDING OFFICER ROSS: So Ms. Huard
18	has seen it, then.
19	MS. HUARD: I have. Yes, that's
20	correct.
21	PRESIDING OFFICER ROSS: Okay. I was
22	just curious.
23	MS. HUARD: But it did not come to me
24	as part of the docket. It was given to me by
	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

Attorney Rielly. 1 (Pause in proceedings) 2 PRESIDING OFFICER ROSS: 3 Okay. MR. NEEDLEMAN: Sorry. We're waiting 4 5 for you. PRESIDING OFFICER ROSS: 6 I'm sorry. 7 So you objected. I apologize. I didn't hear 8 your objection. You need to be closer to the mic. 9 10 MS. HUARD: I'm sorry. I objected on 11 the basis that I feel it's hearsay. Mr. Knepper's not here to cross-examine. 12 And I would like an opportunity to cross-examine him. 13 PRESIDING OFFICER ROSS: Well, this 14 15 is not Mr. Knepper's document. This is 16 addressed to him --17 MS. HUARD: To Mr. Knepper. But I would like the opportunity to cross-examine the 18 author of this. I have never had the 19 20 opportunity to ask questions about this, and I 21 don't agree with the whole process as it's 22 written here. I met -- Mr. Knepper came to my 23 property. And none of that's noted. And there's other parts of the process that are not 24 {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

noted. So I would have liked to have the 1 2 opportunity to cross-examine the author of this report. 3 MR. NEEDLEMAN: Well, first of all, 4 5 if I may, one of the principal features in this report are analyses by Exponent. And you just 6 7 had the opportunity to question Exponent 8 sitting here, and you didn't take advantage of 9 that. 10 Second of all, it is a public 11 document that's been filed with the Public Utilities Commission, and it's related directly 12 to the allegations that you've made in this 13 14 docket. So it's certainly relevant. 15 And third, the test of whether 16 or not it's relevant and probative is not 17 whether you have an opportunity to cross-examine here. I think a lot of documents 18 have been introduced in this docket where 19 20 people did not have the opportunity to 21 cross-examine. So I think we're entitled to 22 introduce this and ask questions about it. 23 MS. HUARD: The documents I produced were all fact-based. This is opinion-based. 24

1 And as far as taking advantage of questioning 2 Exponent, these were not in my hands when I questioned Exponent, and this would give a rise 3 to a number of other questions with this in 4 front of me. 5 PRESIDING OFFICER ROSS: So, on what 6 7 date did you receive a copy of this from Attorney Rielly -- from Christopher Anderson --8 I'm sorry -- Aronson? 9 10 MS. HUARD: Me? 11 PRESIDING OFFICER ROSS: Yes. MS. HUARD: I did not receive it 12 directly from Mr. Aronson. 13 PRESIDING OFFICER ROSS: How did you 14 receive it? 15 16 MS. HUARD: I received it from 17 Attorney Rielly. PRESIDING OFFICER ROSS: Okay. 18 And 19 when did you receive it from him? MS. HUARD: In and around March 21st. 20 21 I'm not sure of the exact date. 22 MR. NEEDLEMAN: I would also note 23 it's on our exhibit list. 24 PRESIDING OFFICER ROSS: That was {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

	137
1	going to be my next question
2	MS. HUARD: Well, how can I
3	(Court Reporter interrupts.)
4	PRESIDING OFFICER ROSS: So when you
	_
5	received this, did you ask any questions about
6	it?
7	MS. HUARD: I did not ask any
8	questions about it. No, I did not.
9	PRESIDING OFFICER ROSS: Okay. Well,
10	in my opinion
11	MS. HUARD: I don't have the liberty
12	to just call Mr. Aronson. I did write a
13	letter this is from National Grid. I have
14	never met Chris Aronson. He's not one of the
15	attorneys that have been present, so he's not
16	part of the party list. I don't have his
17	e-mail address. So, no, I never contacted him.
18	PRESIDING OFFICER ROSS: So I think
19	what I will rule right now is that it appears
20	to be very relevant as it relates to your
21	concerns about the incident on January 16th
22	[sic]. And it is an evaluation of that
23	particular location, so it's certainly
24	relevant.

	138
1	MS. HUARD: Okay.
2	PRESIDING OFFICER ROSS: And my only
3	concern is whether or not you had sufficient
4	notice of its existence and an opportunity to
5	explore what it means. So, you received it
6	around March 21st, and you received the report,
7	I would assume, at that time, with all of the
8	readings that were taken.
9	MS. HUARD: Yes, I did. The whole
10	thing came together.
11	PRESIDING OFFICER ROSS: And since
12	that time, have there been tech sessions or
13	other meetings in this docket?
14	MS. HUARD: Concerning this document?
15	PRESIDING OFFICER ROSS: No, just
16	tech sessions or meetings in this docket.
17	MS. HUARD: Not with Mr. Aronson
18	present.
19	PRESIDING OFFICER ROSS: That wasn't
20	my question. My question is: Were there any
21	technical sessions or meetings
22	MS. HUARD: Yes, there were.
23	PRESIDING OFFICER ROSS: And so at
24	any one of those you could have asked for
	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

	139
1	information about this report; correct?
2	MS. HUARD: The appropriate party
3	wasn't there to ask questions of.
4	PRESIDING OFFICER ROSS: The
5	appropriate parties, it would seem, would be
6	the parties preparing the report, who are
7	what's the name of the group?
8	MR. IACOPINO: Exponent.
9	PRESIDING OFFICER ROSS: Exponent.
10	MS. HUARD: I believe, if I'm not
11	mistaken, the technical session probably
12	happened before this. I'd have to check the
13	dates, because I think if I had this in my
14	hand, I would included it in my questions. But
15	I'm not certain. Because I think the technical
16	sessions were the beginning of March, I'm
17	pretty certain. But I don't have a calendar in
18	front of me.
19	PRESIDING OFFICER ROSS: We're going
20	to check that. Counsel is checking that.
21	So the report was prepared by
22	Exponent. And is Exponent present today in the
23	hearing room?
24	MR. NEEDLEMAN: Yes.
	$\{SEC 2015-05\}$ [Day 2/Afternoon ONLY] $\{06-14-16\}$

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

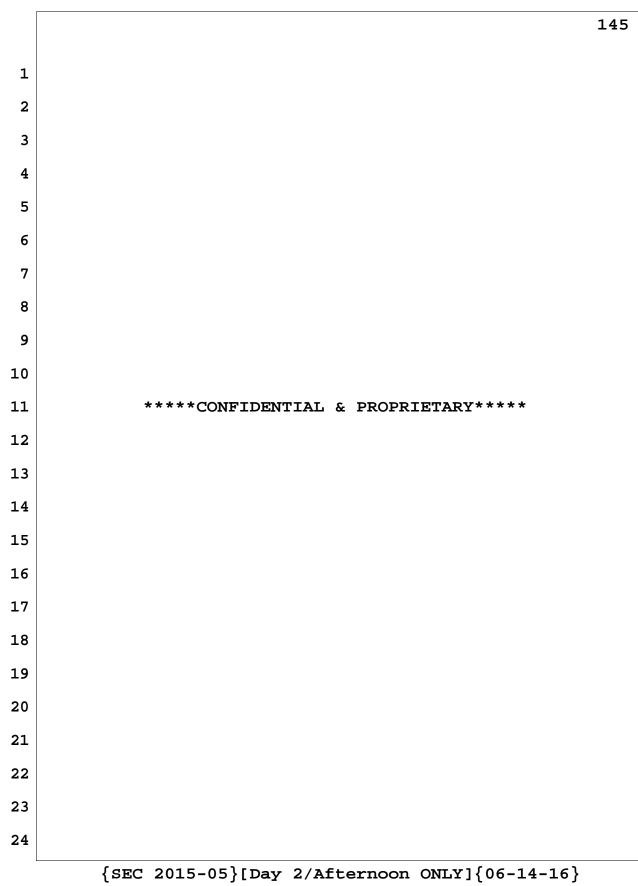
1	PRESIDING OFFICER ROSS: So, one
2	thing we could do to make sure that Ms. Huard
3	has an opportunity to ask questions would be to
4	ask them to make themselves available for
5	questions on the report today.
6	MS. HUARD: IS Benjamin Cotts here,
7	the author of this report? The one that took
8	the measurements is not here. So I do not have
9	the opportunity to cross-examine the person
10	that wrote the memorandum for Exponent.
11	MR. NEEDLEMAN: Madam Chair, as I
12	said before, this is a highly relevant
13	document, and the Committee can give it
14	whatever weight it wants once it's had an
15	opportunity to review the document. I think
16	whether or not the author of the document is
17	here to cross-examine is not relevant and at
18	issue.
19	PRESIDING OFFICER ROSS: Is there a
20	witness here who's aware of the report and its
21	preparation?
22	MR. NEEDLEMAN: We have our two
23	Exponent witnesses here. I actually don't know
24	to what extent they participated in this or
	SEC 2015-05[Day 2/Afternoon ONLY] $06-14-16$

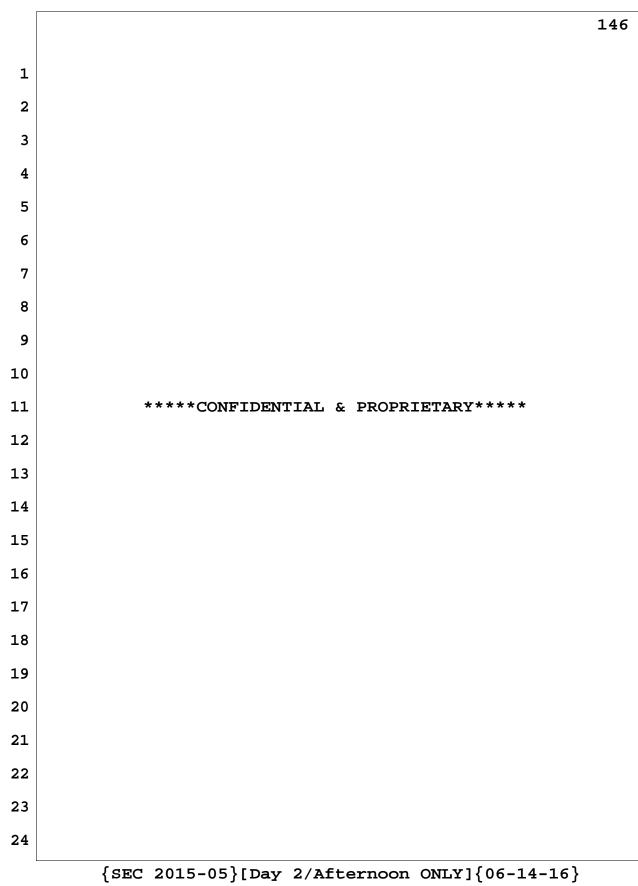
could comment on it. 1 PRESIDING OFFICER ROSS: Why don't we 2 take a five-minute break, and I will have --3 you can confer with your witnesses and see if 4 5 they have enough knowledge to be able to answer questions from Ms. Huard on the report. 6 7 And Ms. Huard, in that time you 8 can read it again slowly, and make a note of any issues you want to question. Thank you. 9 MR. IACOPINO: Madam Chair, before we 10 11 break, the technical session of the Applicants' witnesses occurred on March 1 and March 2, 12 There was a subsequent technical session 13 2016. that involved Ms. Huard; she was the witness at 14 15 the technical session on May 5th. So her 16 opportunity to ask questions at the tech 17 sessions occurred on March 1 and 2. MS. HUARD: 18 Thank you. 19 PRESIDING OFFICER ROSS: So let's take five minutes and we'll come back. 20 21 (Whereupon a brief recess was taken at 22 4:48 p.m., and the hearing resumed at 23 4:55 p.m.) PRESIDING OFFICER ROSS: 24 All right. {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

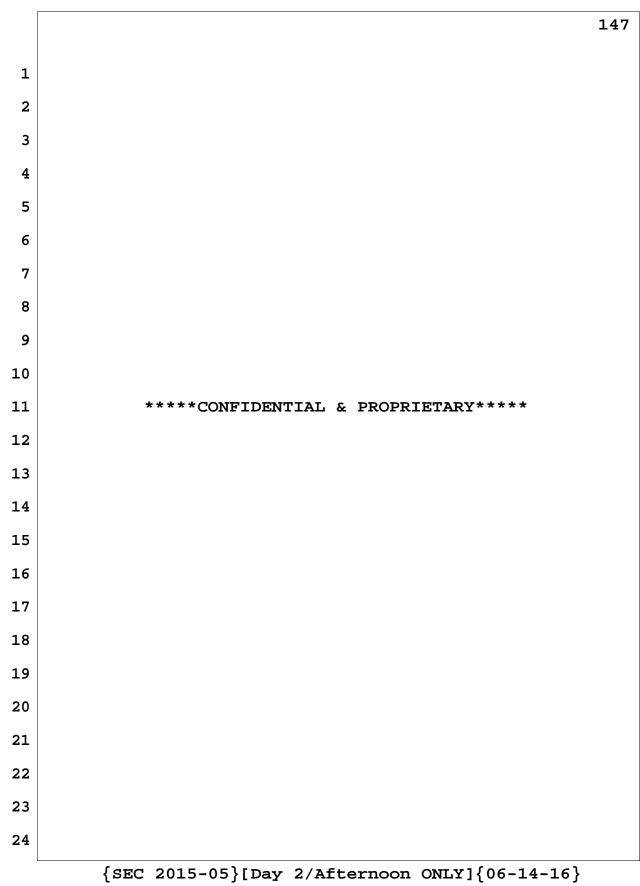
We're back on the record. I've decided that 1 this exhibit will be left marked only for 2 identification and will not be admitted as an 3 exhibit. That is the March 21st report. And 4 5 that way, we won't need to have any questions from Ms. Huard on it. 6 7 Was there any further 8 cross-examination that you wish to pursue? Should we bring Ms. Huard back up? 9 MR. NEEDLEMAN: Yes, I have a couple 10 11 more questions. And at this point, they all relate to the confidential document. 12 PRESIDING OFFICER ROSS: Okay. 13 In that case, we're going to need to have only 14 15 people in the room who are able to view the 16 confidential documents. Are there any people 17 who are not --18 MS. HUARD: I have given permission 19 to my own to --20 PRESIDING OFFICER ROSS: All right. 21 Are there any other people who are not one of 22 the parties --23 MS. HUARD: I don't know. I see 24 quite a few people that aren't privy to the {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

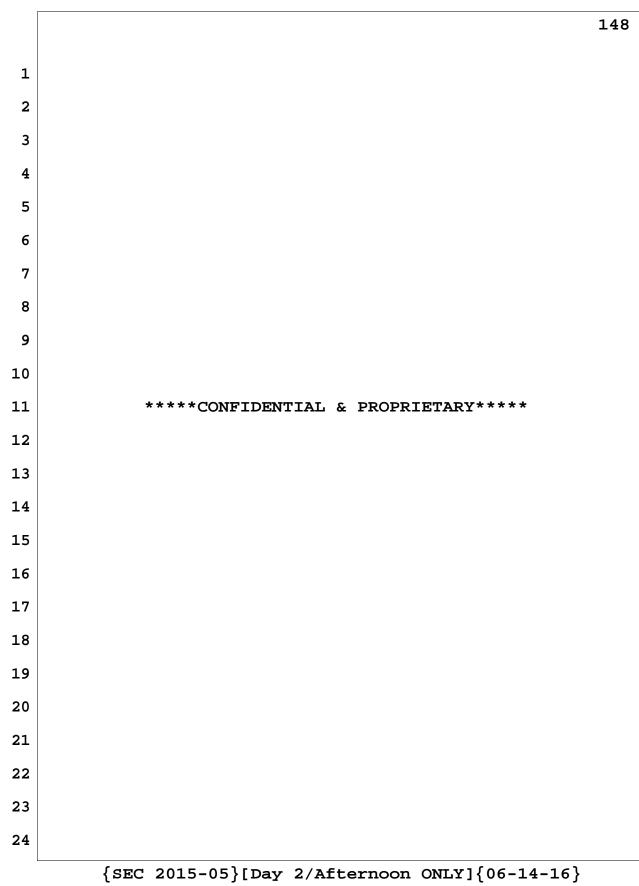
	143
1	confidential section. It was supposed to be
2	only admitted attorneys. I see several people
3	that are not admitted attorneys.
4	MR. NEEDLEMAN: I don't recall how it
5	was defined.
6	MS. HUARD: I recall that it was
7	admitted attorneys.
8	MR. IACOPINO: That is what the order
9	said, so
10	PRESIDING OFFICER ROSS: If you would
11	wait in the lobby, we'll come get you as soon
12	as we're finished. Actually, either that or
13	maybe the room next door may be open now
14	because it's late in the day. Sorry to disrupt
15	your sitting area.
16	MR. IACOPINO: Madam Chair, before we
17	get into that cross-examination, can we get an
18	idea of which exhibits we're talking about that
19	are the confidential ones? Is that 26 is a
20	transcript of the confidential section. And
21	what else is confidential? 27?
22	MR. NEEDLEMAN: That's correct.
23	MR. IACOPINO: Okay. I'm not sure
24	the Committee has copies of those, but let me
	${SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}$

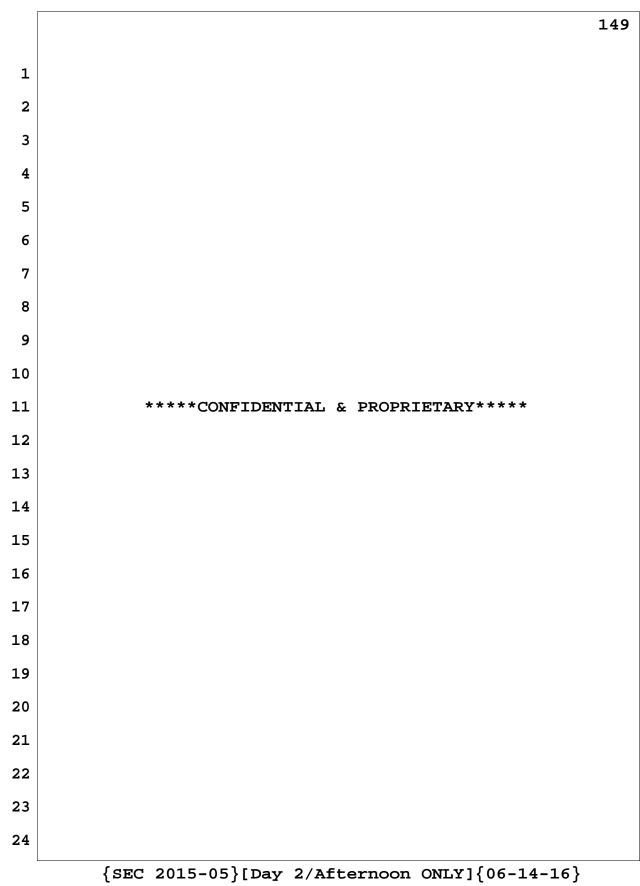
		144
1	see.	Oh, thank you.
2		
3		(Pages 145 through 156 of the transcript
4		are contained under separate cover
5		designated as "Confidential and
6		Proprietary.")
7		
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	{SEC 2	2015-05}[Day 2/Afternoon ONLY]{06-14-16}

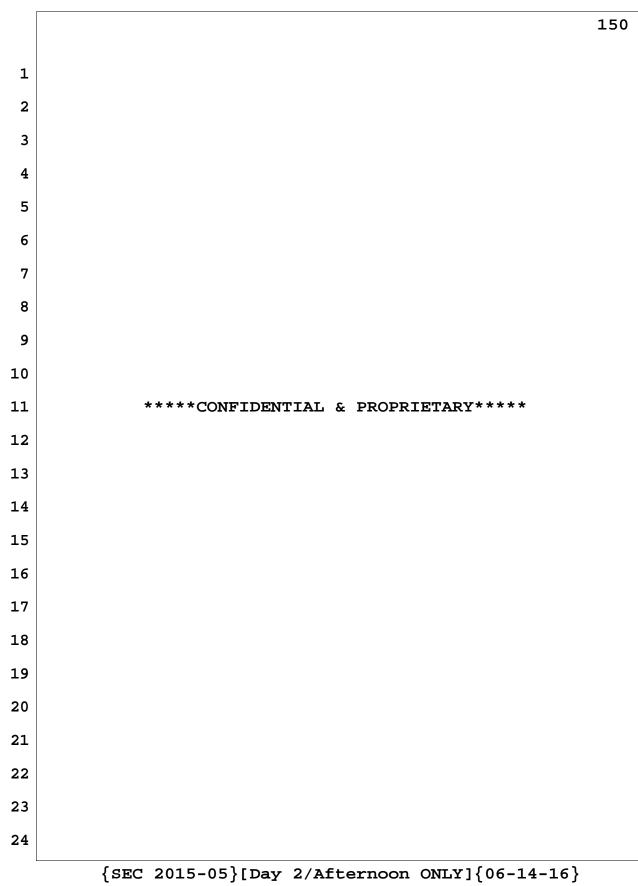


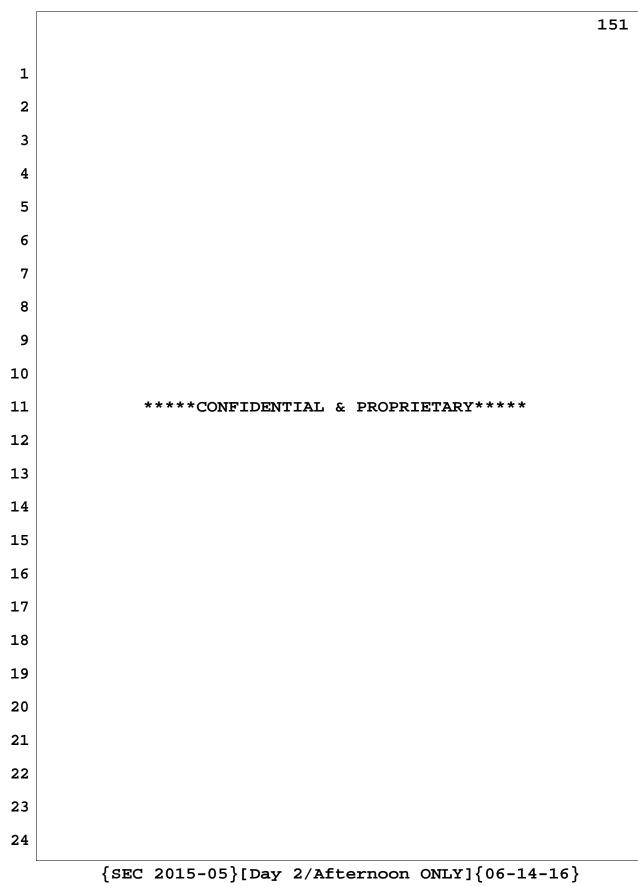


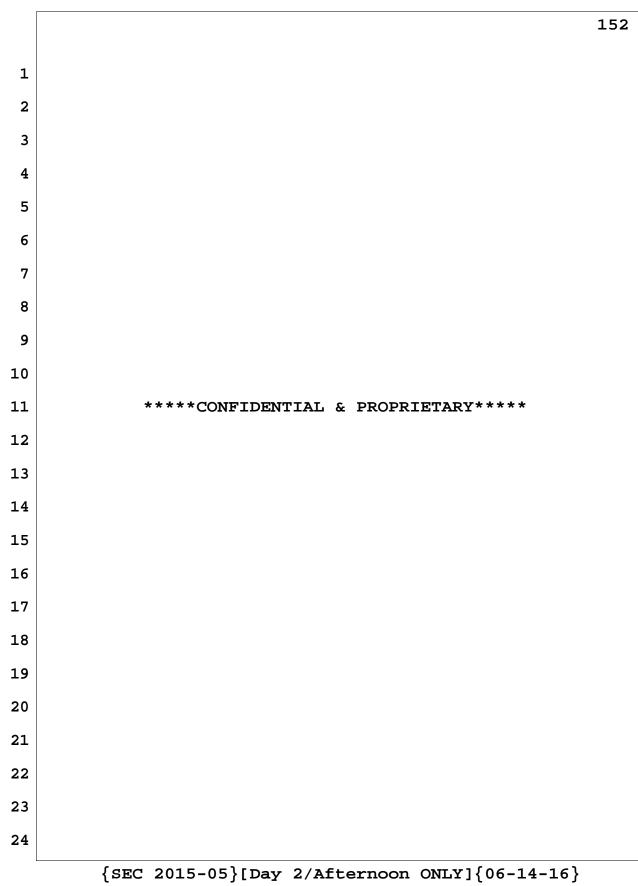


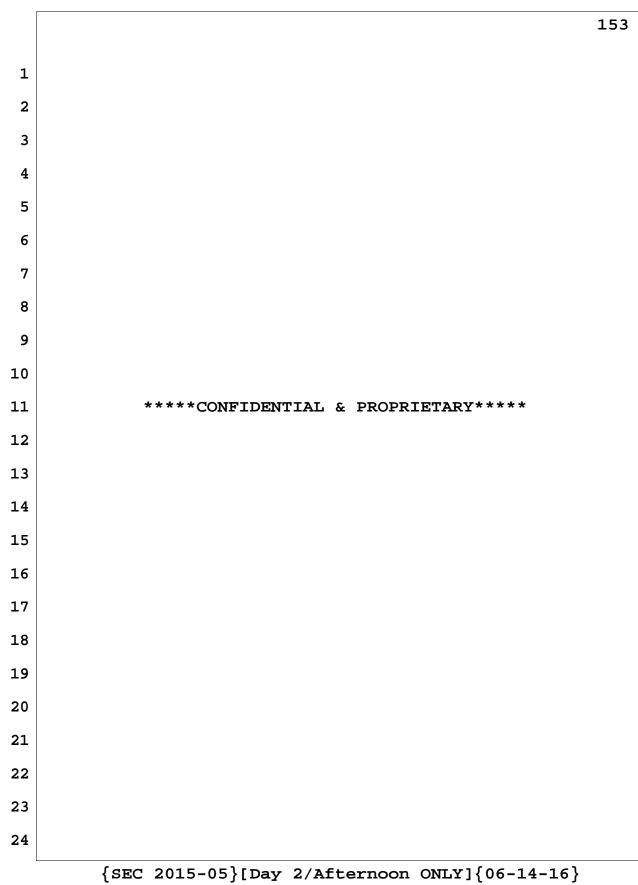


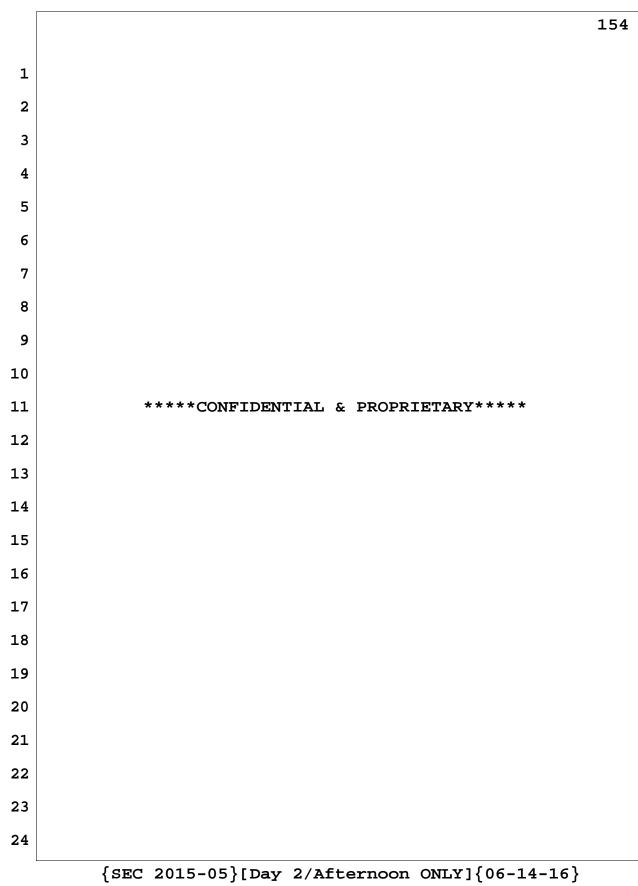


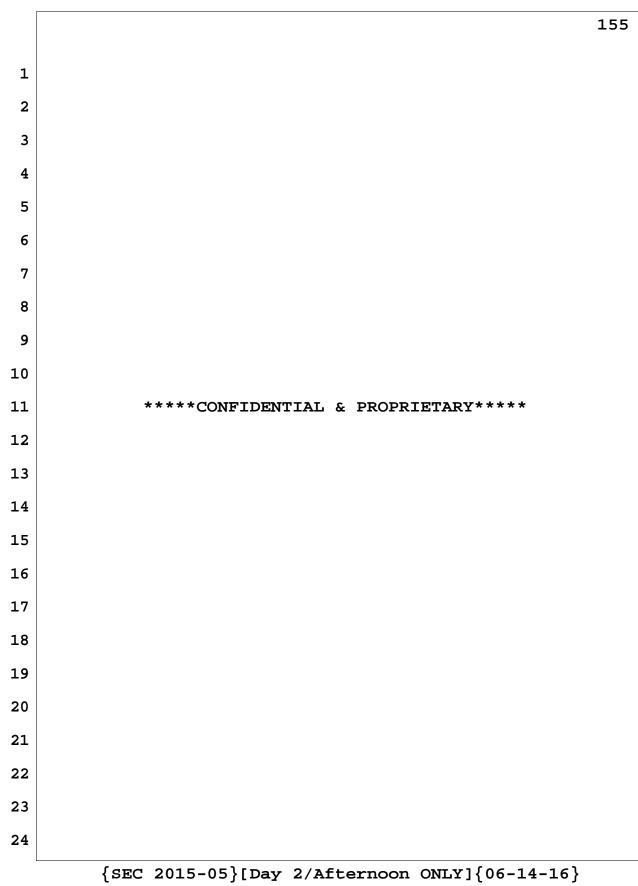


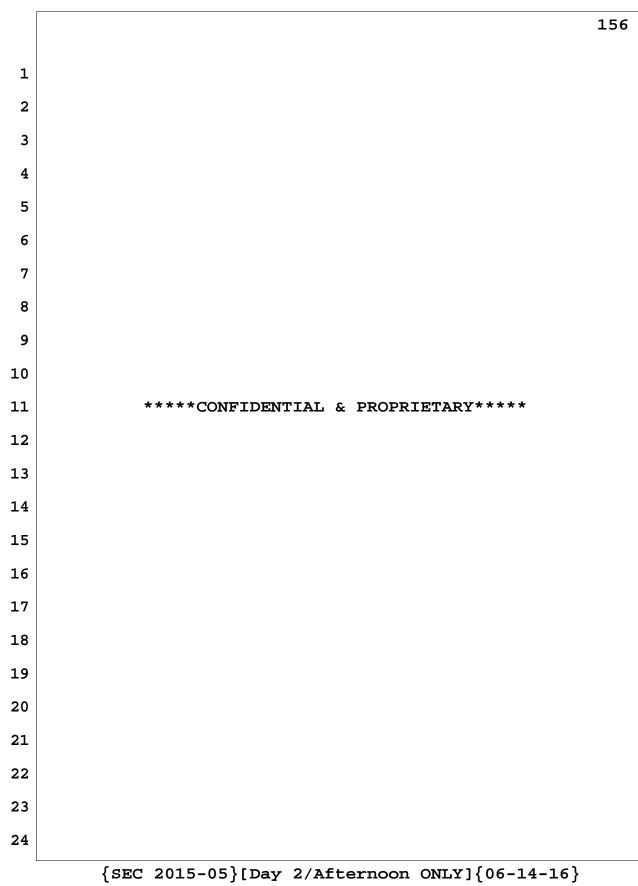












	157
1	(Hearing now resumes in the public
2	portion of the record.)
3	
4	PRESIDING OFFICER ROSS: We're just
5	checking schedules with members before we
6	decide what to do.
7	Ms. Huard, you may go back to
8	your desk.
9	MS. HUARD: Lots of paper airplanes
10	for my son.
11	PRESIDING OFFICER ROSS: We're hoping
12	to continue, but we've got one Committee member
13	trying to juggle some child care arrangements.
14	So just give us a few minutes while we wait to
15	see if she can sort that out.
16	(Pause in proceedings)
17	PRESIDING OFFICER ROSS: All right.
18	I think we can go in whatever order you want.
19	We can do exhibits first or we can do closings
20	first and then exhibits. I will offer each
21	party up to 10 minutes, and no more than 10
22	minutes for a closing summary, because we do
23	want to deliberate. So we're not going to be
24	asking you for any memos later after the
	{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

1 transcript is out. Would you like to move exhibits first or close first? It's really up 2 to you all. 3 MR. NEEDLEMAN: Why don't we start 4 with exhibits. 5 PRESIDING OFFICER ROSS: The only 6 7 exhibit that I have already ruled on -- I want to make sure I have this right -- is Applicants 8 Exhibit 28, which will not be admitted. 9 The 10 rest of the exhibits, we're open to motions. 11 And if the parties have agreed, that would make it even easier. 12 MR. NEEDLEMAN: Well, I can start by 13 saying we have no objection to Counsel for the 14 Public Exhibit No. 1. 15 16 MR. IACOPINO: Okay. 17 Ms. Huard, do you? I do not. MS. HUARD: I have an 18 objection to Counsel for the Public Exhibit 1? 19 20 Is that what you're asking? 21 PRESIDING OFFICER ROSS: Yes. 22 MS. HUARD: No. 23 MR. ASLIN: In that case, I would move for admission of Counsel for Public 24

1 Exhibit 1. PRESIDING OFFICER ROSS: That will be 2 granted. 3 MR. NEEDLEMAN: And we would ask for 4 admission of all our remaining exhibits, but 5 for the one you ruled on. 6 7 PRESIDING OFFICER ROSS: Are there any objections to the remaining exhibits of the 8 Applicants? 9 10 MS. HUARD: Could you just summarize? Have I seen all of these exhibits? 11 MR. NEEDLEMAN: Actually, let me 12 clarify one. We didn't use Exhibit 29, so I 13 don't see a need to move that into the record. 14 15 So, excluding 28 and 29, you 16 should have a list of those exhibits, Ms. 17 Huard, in front of you. They were in a binder, I think. 18 19 MS. HUARD: Oh, I gave the binder 20 back to -- I guess the exhibit -- data request 21 responses from Peggy Huard, does that include 22 every single data request, I'm assuming? 23 MR. NEEDLEMAN: No. 24 MS. HUARD: Could you clarify which {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

data request you submitted and which exhibit? 1 Yes. It's 4 and 5, 2 MR. NEEDLEMAN: the ones that we used in the cross-examination. 3 MS. HUARD: Okay. Sure, I'm fine 4 with that. 5 PRESIDING OFFICER ROSS: 6 Any 7 objections? 8 MR. ASLIN: No objection from Counsel for the Public. 9 MS. HUARD: 10 No. 11 PRESIDING OFFICER ROSS: Okav. Then Applicants exhibits, with the exception of 12 Exhibits 28 and 29, are admitted. 13 MR. IACOPINO: We will mark 28 and 29 14 for I.D. 15 16 PRESIDING OFFICER ROSS: Yeah. And 27 is a confidential exhibit, so that will 17 be -- will not be available in the public 18 docket. 19 MR. IACOPINO: Actually, Exhibit 26 20 should be confidential, as well. I believe 21 22 that's a confidential section of a transcript; 23 is that correct? 24 PRESIDING OFFICER ROSS: Oh, okay. Ι

don't know. We didn't use that. 1 2 MR. NEEDLEMAN: That's correct. PRESIDING OFFICER ROSS: And Ms. 3 Huard's exhibits, are there any objections to 4 those being admitted? 5 MR. DUMVILLE: As to Ms. Huard's 6 exhibits, Applicants would object to Exhibits 7 10, 11 and 14 and 15. Exhibit 10 and 11, those 8 are the Wikipedia articles and the steel 9 construction information provided from an 10 11 unknown web site. We have no information on the reliability of either of those web sites. 12 Wikipedia alone is inherently unreliable, and 13 there's no corroboration nor any foundation set 14 for either of those web sites. And 14 and 15, 15 we received two different photographs relating 16 17 to Robinson Pond. There's been no foundation set for those or authentication. They're just 18 19 two screenshots on the computer with no 20 information provided. And based on that, we'd respectfully request those be not allowed into 21 22 the evidence. 23 May I comment on that? MS. HUARD: 24 PRESIDING OFFICER ROSS: Yes, you

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

may.

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MS. HUARD: With respect to 14, that 2 was more than a screenshot. That was actually 3 a printout of a map from the New Hampshire DES 4 web site. You can see it says "Watershed Land 5 Use Summary," and it gives names and a date of 6 7 completion. It was 2006 National Land Cover Database for the conterminous, United States, 8 and says, "For larger image, contact New 9 Hampshire DES." So I dispute [sic] the 10 11 credibility of that document and would like to see that remain and admitted to evidence. 12 PRESIDING OFFICER ROSS: T would 13 14 agree that the Wikipedia article should not be admitted as a full exhibit. 15 16 MS. HUARD: I'm not disputing that 17 right now. I'm strictly disputing this one at the moment. 18 19 PRESIDING OFFICER ROSS: To which one 20 are you disputing? 21 MS. HUARD: Fourteen. 22 PRESIDING OFFICER ROSS: And I agree 23 that 14 should be admitted. The other three do 24 not --{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

MS. HUARD: I'm inclined to accept 1 2 that. Does the testimony surrounding it go into --3 PRESIDING OFFICER ROSS: Of course. 4 And you've already asked the witnesses whether 5 they agree with the information. 6 7 MS. HUARD: Right. I'm inclined to 8 accept that. PRESIDING OFFICER ROSS: So we will 9 not admit Exhibit 10 or 11 or 15. The rest of 10 11 Ms. Huard's exhibits, there are no objections 12 to; correct? MR. ASLIN: No objection from Counsel 13 for Public. 14 PRESIDING OFFICER ROSS: So they will 15 16 be admitted as full exhibits. So we're excluding 10, 11 and 15. 17 I think that concludes the 18 19 exhibits. Have I missed any, or is there 20 anyone else who's offered any exhibit that we 21 have not moved in yet? 22 [No verbal response] 23 PRESIDING OFFICER ROSS: Okay. So, typically, we allow the Applicant to close 24 {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

And in this case, I would offer either 1 last. Counsel for the Public or Ms. Huard the 2 opportunity to close first. 3 All right. Counsel for the 4 5 Public. Thank you. And please try to stay under 10 minutes. 6 7 MR. ASLIN: I can certainly do that. 8 Thank you. CLOSING STATEMENTS 9 MR. ASLIN: Members of the Committee, 10 11 as you know, Counsel for the Public's role in these proceedings, pursuant to RSA 162-H:9 is 12 to represent the public in seeking to protect 13 14 the quality of the environment and in seeking 15 to assure an adequate supply of energy; so, 16 essentially, a two-part balancing test, to some 17 extent, whereas most of the projects are in favor of a supply of energy and have some 18 environmental impacts. So, it's largely a 19 20 balancing test. 21 In this case, we're dealing with 22 a reliability project which has been deemed to 23 be necessary by the system operator, ISO-New England, for an adequate supply of energy and 24

reliability of energy in the region. And that 1 certainly weighs in favor of the project under 2 that prong of Counsel for the Public's review. 3 On the other hand, it's weighed against by what 4 5 environmental impacts and other impacts the In this case, the project may have. 6 environmental impacts are largely mitigated by 7 the siting of the project within an existing 8 right-of-way that has existing transmission 9 facilities already. Testimony we've heard and 10 11 that was submitted in this docket largely supports that there's a minimal impact to the 12 environment as proposed, assuming that the 13 project is constructed in accordance with all 14 of the permits and conditions thereto. 15 16 Probably the largest impact is 17 due to tree clearing. We've heard testimony about the 71 acres of tree clearing that will 18

19 be part of this project. That tree clearing is 20 within the right-of-way, but it will have some 21 impacts, lesser extent to the environmental 22 aspects, but a significant effect to visibility 23 to abutters. That is a subject of the Public 24 Interest test, which is now formally part of

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

the SEC review. 1 Under Rules 301.16(b), private 2 property is a subset of the Public Interest 3 test and something that is to be reviewed as 4 5 part of consideration of any project. In this instance, we've heard 6 testimony that there will be some properties 7 8 which will have potentially significant impact in terms of visibility, and an impact of 9 perhaps unknown but not insignificant levels, 10 11 in terms of market value impact to property. Those impacts account for -- are significant 12 for those limited number of properties. 13 However, given the scope of the project and the 14 15 relatively small number of impacted properties, 16 in terms of visibility and potential market 17 value impacts, the balance of those impacts, looking at the project in the lens of the 18 19 public at large and the context of a 20 reliability project which is needed for 21 adequate supply of energy and reliability in 22 the region, Counsel for the Public finds that 23 the balance swings in favor of the project in this circumstance. 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

There are some issues that I would recommend that the Committee consider in terms of conditions to be imposed if the Committee decides to grant a certificate to the project. The first has to do with cost containment.

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As we heard, this project is 7 subject to a FERC tariff. And the cost of the 8 project will be at this point borne in part by 9 New Hampshire ratepayers. And those costs --10 11 the recovery of those costs from ratepayers is somewhat regardless of what the cost ends up 12 Is the cost exceeds the projected costs 13 being. that have been set forward in the record, the 14 15 increase in costs will be passed on to 16 ratepayers, barring somewhat extraordinary 17 measures by a third party to seek disapproval, but at the FERC level. 18

In order to keep the Committee apprised of potential cost overruns, I would recommend that there be a condition that requires a certificate holder to promptly notify the Committee if the certificate holder becomes aware that it will or that there's a

substantial likelihood that it will exceed the projected project costs by an amount greater than 15 percent. That would give the Committee information, and it can choose whether to do something with that information if it ever comes to pass.

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7 With regard to decommissioning, 8 we've heard some testimony about whether this project has an obligation to be decommissioned, 9 and I believe that testimony is it does not 10 11 currently. The Committee, as you know, granted a waiver of the requirement to submit a 12 decommissioning plan as part of the 13 14 application. However, there are possible future scenarios where decommissioning could 15 16 become necessary. To that extent, I would 17 again recommend consideration of a condition that would require the certificate holder to 18 submit a report to the Committee every 10 years 19 20 indicating any change in the need for the 21 project to ensure the continued reliability of 22 the regional bulk transmission system and that 23 the certificate holder promptly notify the Committee of any retirement obligation that 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

arises.

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In addition, to the extent that 2 a decommissioning obligation does arise, I 3 recommend the consideration of a condition that 4 requires the certificate holder to submit to 5 the Committee a decommissioning plan in 6 accordance with the then-applicable SEC rules 7 upon any imposition of a decommissioning 8 obligation, or prior to the retirement of any 9 part of the facility. 10 11 The final area that I would put forward to the Committee's consideration is 12 with regard to public health and the electric 13 and magnetic fields. 14 We've heard testimony 15 that the projected modeling of the project 16 suggested it was well within safe levels. And Counsel for the Public is convinced by that 17 modeling. However, to ensure the safety of the 18 public, I would recommend consideration of a 19 20 condition requiring that the certificate holder 21 conduct field testing of the electric and 22 magnetic field strength at representative 23 sampling of locations along the project following construction and energizing of the 24 {SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

project, and submit those results to the 1 Committee. That would ensure that the 2 Committee has a sense that the project, after 3 construction, actually meets the model results 4 5 that have been presented. With those three, or perhaps 6 7 four recommendations, I believe that the project does meet the standards that are 8 required for approval of the certificate and 9 10 would suggest to the Committee that they 11 consider those conditions as part of any certificate that is granted. 12 Thank you very much. 13 14 PRESIDING OFFICER ROSS: Thank you. Ms. Huard. 15 16 (Pause in proceedings) 17 MS. HUARD: As intervenor and resident that lives in and around the area 18 proposed to be affected by the Merrimack Valley 19 20 Reliability Project, I am so disappointed in 21 the process and what I've heard and seen in the 22 last year. I can't begin to tell you how 23 disgusted I am with what I've heard from the Applicants and their expert witnesses, and what 24

they indicate and conclude as to what this 1 project will not cause to those that live 2 I have lived there for 15 years. there. 3 Ι have studied the environment that I live in. 4 And I'm disgusted that money is more important, 5 that rare, precious and endangered species, 6 plants and animals are more precious than human 7 beings, and that scenes from -- that the 8 aesthetics from scenic views are more important 9 10 than the aesthetics from the homes that people 11 live in every single day. I've heard inconsistencies that I cannot prove. 12 13 I do not agree that the New Hampshire SEC or the Committee does not have 14 15 the responsibility to uncover this fraudulence 16 in so many areas. The reliability and 17 instability is undoubtedly false to me, and you refuse to let me present that. You claim that 18 it's not your responsibility, that it's FERC's 19 20 responsibility and the ISO's responsibility. 21 The residents have undergone so much in the 22 last year and a half because of this industry, 23 because of the electric generation industry -the electric transmission and electric 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

industry. I can see so clearly what the real 1 reason behind this is, and it is an aggressive, 2 greedy grab for the natural gas industry to 3 take over the generation of our electricity by 4 closing down all of the coal plants and nuclear 5 plants and replacing them with natural gas. 6 7 There's so much evidence to that. We will undoubtedly have a 8 change in aesthetics. We will undoubtedly have 9 a change in the perception that other people 10 11 will view our home. We will undoubtedly have a change in our beautiful, natural environment. 12 We will undoubtedly have an emotional upheaval 13 14 by seeing the trees come down. You are going 15 on people's property that don't even know 16 you're coming. I've listened to the testimony 17 of the witnesses state that they have made 18 19 accommodations to the people along the ROW and 20 offered them landscaping. I have a neighbor with me who has never been approached. 21 Another 22 one of my neighbors has never been approached. 23 I don't know how many other people are not 24 being approached.

I have a basic understanding of 1 2 the law, and there are some laws being violated, in my opinion. The easement law, you 3 are going onto people's private property and 4 5 just telling them that you're coming. And there are people that do not want you there. 6 7 So you are trespassing on their property, and 8 you are going to create an undue burden for their piece of the land that they live on. 9 There are other people, and they are my 10 11 neighbors and my friends, and I have to care for their well-being. I go down and visit 12 I have to be on their property. And you 13 them. 14 are leaving them on a small piece of livable 15 land. 16 My son's bus stop is actually at 17 the right-of-way. I used to bike around the circle there. I hike the trails at the tree 18 19 farm. So, you're just changing the 20 environment. You're failing to admit what 21 you're going to do. And I look forward to see 22 the lies unfold. That's all I have to say. 23 I still stand by my request that you seriously consider the alternatives to 24

issuing the certificate. 1 PRESIDING OFFICER ROSS: Thank you. 2 Whenever you're ready. 3 Thank you, Madam MR. NEEDLEMAN: 4 Chair, members of the Committee. We appreciate 5 the time that you've all taken during the 6 course of the last year or so to review this 7 8 application. You have before you, I think, a 9 very full record which combines the 10 11 application, all the testimony you've heard, all of the supporting documents. 12 And we are quite confident that all of those materials 13 14 collectively demonstrate that the Applicants have met all of the requirements under RSA 15 16 162-H, as well as your implementing regulations for the issuance of a certificate. 17 I'm not going to bother to go through all those. 18 You know them very well. I will make a couple 19 20 points. First of all, I think, as you've 21 22 heard during the course of these proceedings, 23 the Applicants are quite aware that projects like this have different kinds of effects. 24 And

the Applicants have worked very diligently to 1 try to identify and mitigate all of those 2 effects in various places, whether it's to 3 cultural resources, environmental resources or 4 project neighbors. And I think that they've 5 done so very successfully. I would suggest, 6 actually, that one indicator of the success 7 8 that we have had mitigating those effects is the fact that the four host communities here 9 are not present and have not expressed any 10 11 concerns to the Committee about this project. I think it's probably very unusual in SEC 12 practice that you don't see host communities 13 here in the proceeding. And I do think that's 14 a testament to the fact that there has been an 15 16 enormous outreach effort, an outreach effort 17 that has been directed at those host communities, at various public officials and 18 19 planning bodies within those communities, at 20 regional planning bodies, at other elected 21 officials, and at neighbors and abutters, 22 extensively. And I think that the fruits of 23 those efforts you've heard about during the course of this proceeding. 24

And so I would summarize our 1 views by saying that I think we do meet all of 2 the conditions laid out in the statute and 3 regulations and would ask that you issue the 4 certificate to us. 5 And then I just wanted to 6 briefly comment on the four conditions that 7 Counsel for the Public asked for. 8 Maybe working backwards, with respect to field 9 testing for electric and magnetic fields after 10 11 the project is constructed, we would have no objection to a condition like that, assuming 12 that it was reasonably limited and designed to 13 achieve a measurable outcome. 14 15 With respect to the 16 decommissioning obligation, I think we've 17 already agreed that, if at any point a need to decommission this project arises, we would 18 submit a decommissioning plan to the Committee. 19 So we have no concerns about that. 20 With 21 respect to whether or not a retirement 22 obligation were to arise and asked that we 23 promptly notify the Committee, we have no concerns about that. I would think we would, 24

of course, do that in combination with 1 decommissioning. I'm not sure that a report to 2 the Committee every 10 years talking about the 3 continued vitality of the line is something 4 5 that would really be helpful. And then with respect to the 6 7 15 percent cost overrun, I haven't had an opportunity to discuss it with my clients. 8 Ι would be concerned about that because it's 9 10 sometimes hard to measure in real time where 11 costs are and when overruns might be occurring, and I would be very nervous about having some 12 type of obligation imposed that perhaps would 13 not be practical for us to comply with in real 14 15 time. So I'm uneasy about that requirement. 16 And with that, I will close and 17 thank you. PRESIDING OFFICER ROSS: 18 Thank you. 19 I think that concludes the hearing. The Committee will now deliberate. But I think we 20 21 might take a quick break before we start. So 22 we'll be back in 15 minutes. Thank you. 23 (Whereupon a brief recess was taken at 5:40 p.m., and the hearing resumed at 24

{SEC 2015-05}[Day 2/Afternoon ONLY]{06-14-16}

6:07 p.m.) 1 PRESIDING OFFICER ROSS: We did 2 receive a request from Counsel for the Public 3 that he have an opportunity to clarify the 4 conditions that he had described in his closing 5 statement, and I believe he's received 6 agreement from the other parties that he may do 7 And so with that, go ahead. 8 that. MR. ASLIN: Thank you. Just in 9 discussions with the Applicant, I wanted to 10 11 clarify with regard to the recommended condition on cost overruns. 12 13 Based on the Applicants' 14 statement that there's some practical difficulties, I would offer up that, if that's 15 16 a condition that the Committee is interested in 17 moving forward with, that the Applicants and Counsel for the Public would be willing to put 18 19 together some proposed language to specify how 20 that condition might be imposed. So I guess 21 the request would be that, if the Committee 22 wants to go to that condition, they can leave 23 the language broad at this stage, with an expectation that the Applicants and Counsel for 24

1 the Public could submit some more detailed 2 language. PRESIDING OFFICER ROSS: What is 3 the -- is it simply an issue of not being able 4 to get the costs -- to have an accurate 5 assessment of the costs in real time? 6 Is that 7 the problem? 8 MR. ASLIN: That's part of the problem. 9 10 PRESIDING OFFICER ROSS: Okay. As 11 long as we understand that's the issue, if we do take that condition up, we'll try to work 12 13 with that. 14 MR. ASLIN: Thank you. Can I ask one 15 MR. IACOPINO: 16 question? I just wanted to clarify one 17 thing. With respect to Exhibit 23, the 18 stipulation between Counsel for the Public and 19 20 the Applicant, there was reference earlier to a 21 change in Paragraph 51. My understanding is 22 that paragraph is not changed; correct? That is the --23 24 MR. NEEDLEMAN: Is that costs?

1 MR. IACOPINO: The \$1,557,550 the 2 first year the project was placed into service. 3 MR. NEEDLEMAN: Yeah, I believe Ms. Shapiro testified that it did change, and it's 4 now \$1.5 million. 5 MR. IACOPINO: So it's reduced by 6 7 \$57,550. That's right. 8 MR. NEEDLEMAN: 9 MR. IACOPINO: Okay. 10 MR. ASLIN: And I concur with that. 11 (Whereupon the Day 2 hearing, Afternoon 12 Session ONLY, was adjourned at 6:08 p.m.) 13 14 15 16 17 18 19 20 21 22 23 24

	accepted (1)	101:4;169:2	ŀ
\$	98:17	additional (1)	
<u> </u>	access (3)	80:14	
\$1,557,550 (2)	15:5;59:15;131:15	address (4)	e
7:5;180:1	accommodate (1)	64:14;111:9;	
	43:5	113:22;137:17	
\$1.5 (2)	accommodations (1)	addressed (3)	
7:6;180:5	172:19	21:24;38:18;	
\$57,550 (1)			
180:7	accordance (2)	134:16	
\$678,850 (1)	165:14;169:7	adequate (4)	
6:23	according (4)	15:5;164:15,24;	
	83:13;85:11;	166:21	e
*	108:14;115:7	adherence (1)	
. <u></u>	account (2)	67:8	
*****CONFIDENTIAL (12)	96:23;166:12	adjacent (10)	e
*****CONFIDENTIAL (12)	accountant (1)	10:4;11:8;16:14;	
145:11;146:11;	118:15	20:13;33:11,13;	
147:11;148:11;	accuracy (3)	41:14;51:6;107:16;	8
149:11;150:11;	98:15,16,23	111:10	C
151:11;152:11;	· · · ·		
153:11;154:11;	accurate (8)	adjourned (1)	8
155:11;156:11	25:15;49:2;57:9;	180:12	
	80:1;88:23;89:2;	Administration (1)	
[99:15;179:5	95:9	8
L	achieve (2)	Administration's (1)	
$[N]_{\alpha}(2)$	82:14;176:14	64:1	
[No (3)	achieved (1)	administrative (1)	
109:12;113:4;	86:7	17:3	
163:22	acknowledging (1)	admission (2)	
[sic] (5)			
11:15;14:14;67:15;	39:5	158:24;159:5	
137:22;162:10	acquainted (3)	admit (2)	
· · · · ·	64:6,8,13	163:10;173:20	8
Α	acres (1)	admitted (11)	
	165:18	142:3;143:2,3,7;	e
			8
A1 (1)	across (3)	158:9;160:13;161:5;	
A1 (1) 14:14	across (3) 33:11,13;70:21	158:9;160:13;161:5; 162:12,15,23;163:16	
A1 (1) 14:14 ability (1)	across (3) 33:11,13;70:21 activities (1)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2)	8
A1 (1) 14:14 ability (1) 98:24	across (3) 33:11,13;70:21 activities (1) 80:14	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13	8
A1 (1) 14:14 ability (1) 98:24 able (6)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2)	e A
A1 (1) 14:14 ability (1) 98:24	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1	e A
A1 (1) 14:14 ability (1) 98:24 able (6)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5)	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22;	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14,	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14;	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16;	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1)	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1)	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22	2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13	2 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3,	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4)	2 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7,	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10;	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13;	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20;	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19)	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5) 51:7;62:24;82:8;	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16; 175:7	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13; 17:17;24:19,24;25:5;	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5) 51:7;62:24;82:8; 99:1;108:7	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16; 175:7 adapted (1)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13; 17:17;24:19,24;25:5; 28:8;29:20,20,22;	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5) 51:7;62:24;82:8; 99:1;108:7 accept (2)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16; 175:7 adapted (1) 106:5	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13; 17:17;24:19,24;25:5; 28:8;29:20,20,22; 30:13;37:14,14,19;	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5) 51:7;62:24;82:8; 99:1;108:7 accept (2) 163:1,8	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16; 175:7 adapted (1) 106:5 adding (1)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13; 17:17;24:19,24;25:5; 28:8;29:20,20,22; 30:13;37:14,14,19; 39:6;53:4,5;170:19	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5) 51:7;62:24;82:8; 99:1;108:7 accept (2) 163:1,8 acceptable (2)	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16; 175:7 adapted (1) 106:5 adding (1) 99:20	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13; 17:17;24:19,24;25:5; 28:8;29:20,20,22; 30:13;37:14,14,19; 39:6;53:4,5;170:19 afraid (1)	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
A1 (1) 14:14 ability (1) 98:24 able (6) 43:4;53:22;88:22; 141:5;142:15;179:4 above (6) 22:3;50:10;53:16; 58:4;59:16;66:19 absolutely (2) 90:10;128:14 abuts (1) 79:15 abutted (2) 27:18,19 abutter (3) 120:11,13,17 abutters (3) 81:5;165:23; 175:21 abutting (2) 9:12;80:4 AC (5) 51:7;62:24;82:8; 99:1;108:7 accept (2) 163:1,8	across (3) 33:11,13;70:21 activities (1) 80:14 activity (2) 66:9;115:14 actual (13) 46:6,8,15;53:14, 18;56:24;61:5;67:12; 88:13;96:9;98:2,3,4 actually (42) 7:11;11:20;20:6; 23:2,10;26:23;27:7; 29:21;46:24;52:9; 55:16;60:7;61:7; 62:11,17;66:22; 67:12;72:21;74:17; 78:23;84:19,21;85:3, 22;88:7;90:2;91:7, 20;98:6,12;106:16; 112:8;118:5,8; 140:23;143:12; 159:12;160:20; 162:3;170:4;173:16; 175:7 adapted (1) 106:5 adding (1)	158:9;160:13;161:5; 162:12,15,23;163:16 adopt (2) 45:3,13 advantage (2) 135:8;136:1 adverse (5) 29:8,11;51:14; 67:10;102:19 advertise (1) 20:22 advertised (1) 20:22 advertised (1) 20:20 Advisory (1) 19:22 aerial (2) 52:7;70:13 aesthetics (4) 119:16;171:9,10; 172:9 affect (2) 18:24;21:5 affected (19) 8:21;12:7,13; 17:17;24:19,24;25:5; 28:8;29:20,20,22; 30:13;37:14,14,19; 39:6;53:4,5;170:19	a a a a a a a a a a a a a a a a a a a

AFTERNOON (5) 6:1,5:45:23; 100:24:180:11 again (20) 16:20;22:13;37:3; 41:23;65:17;68:22; 69:1;72:12;77:19; 79:8;80:7;84:2; 87:18:89:21:96:4: 105:19.22:118:11: 141:8:168:17 against (5) 46:15;56:1;58:11, 12;165:4 agencies (3) 20:21;92:18; 102:21 aggressive (1) 172:2 ago (7) 30:4;46:21;47:8,9, 14;62:12;121:12 agree (27) 13:4;35:4;55:2; 56:5,5,14,19;57:2,18; 64:15;73:23;76:3,8, 22;79:14;80:13; 85:11;86:8,10;89:11, 14,19;134:21;162:14, 22:163:6:171:13 agreed (2) 158:11:176:17 agreement (2) 29:18;178:7 ahead (2) 29:1;178:8 AI (3) 15:21;17:15;25:21 aid (2)117:22;118:2 air (1) 60:10 airplanes (1) 157:9 air-quality (1) 119:18 AK (2) 42:6,7 alert (1) 58:18 algorithms (1) 46:9 allegations (2) 129:17;135:13 alleged (3) 74:24;127:2;133:2 allegedly (1) 127:8 allow (6) 22:11;47:22;50:15, 18:69:13:163:24 allowed (3) 112:11,15;161:21

allows (1) 88:20 almost (1) 23:16 alone (1) 161:13 along (30) 11:6;13:13;16:13, 15,21;25:13;36:8,10; 37:8:38:6:39:20: 41:23;46:23;48:9,24; 49:8,11;51:7;52:6; 66:1;73:2,5;91:19; 92:10;96:24;100:2, 16;109:3;169:23; 172:19 alternating (1) 82:4 alternatives (1) 173:24 although (1) 10:14 amended (13) 114:7,12,16,20,22; 115:1;122:10,10,12, 15,24;126:22;128:21 amendment (1) 122:19 amendments (2) 114:10:115:19 amount (3) 72:5;105:2;168:2 ampere (3) 89:19,23,24 amperes (1) 89:20 analyses (1) 135:6 analysis (19) 6:19:16:12.19: 29:6:31:20:33:1; 34:2.15:36:4.8: 37:16;38:3;42:18; 43:1;119:14,16,18, 24;120:2 anchor (8) 111:11,15,18,23; 112:9,10,11,13 anchored (1) 112:7 anchoring (4) 111:2,7,10,11 anchors (1) 112:17 ancient (1) 105:18 and/or (3) 42:19;43:5;61:15 Anderson (1) 136:8 angle (1) 111:22 animals (2)

102:16:171:7 announced (2) 37:19:38:24 announcement (1) 38:17 answered (3) 22:7,10;23:14 anticipated (1) 14:1 apologize (1) 134:7 appear (3)33:21;68:8,12 appears (5) 58:2;70:13,24; 88:3;137:19 Appendix (8) 14:14;15:2,21; 16:19;17:15;25:21; 42:6,7 apples (1) 35:1 apples-to-apples (1) 48.2appliances (2) 102:1;108:19 Applicant (8) 31:8:43:11.21; 109:14;116:12; 163:24:178:10; 179:20 Applicants (12) 79:9:124:1:158:8; 159:9:160:12:161:7: 170:24;174:14,23; 175:1;178:17,24 Applicants' (4) 7:11;132:4;141:11; 178:13 application (7) 40:16;42:4;88:4; 115:16:168:14; 174:8,11 applications (1) 74:19 applied (2) 21:6;97:15 apply (1) 57:14 appraisal (2) 26:19:119:15 appreciably (1) 89:5 appreciate (1) 174:5 appreciation (3) 37:23;38:9;39:8 apprised (1) 167:20 approach (5) 36:1,19;41:19; 92:5:97:13 approached (3)

172:21,22,24 approaches (1) 36:24 approaching (1) 58:20 appropriate (9) 17:10;25:6;26:15; 34:9;78:24;79:2; 112:14;139:2,5 approval (1) 170:9 approximately (3) 13:1;48:18;111:22 arc (3) 73:20;76:18;80:6 area (26) 8:16;9:23;10:1; 11:14;12:1,16;17:5, 17;19:16,18,20;20:2, 6,10,12,14;21:8; 25:13;35:24;39:9; 75:8:107:9.12: 143:15;169:11; 170:18 areas (13) 8:12;15:4,4,10; 36:7;48:23;53:12; 111:10;118:13; 119:6,11;120:7; 171:16 arise (2) 169:3:176:22 arises (2) 169:1:176:18 Aronson (5) 136:9,13;137:12, 14:138:17 arose (1) 11:19 around (13) 8:13;54:2;61:20; 64:2:107:5:108:19; 112:11,16;115:15; 136:20;138:6; 170:18;173:17 arrangement (1) 30:10 arrangements (2) 30:15;157:13 arrest (6) 114:19:115:5; 124:10;125:11,16; 126:8 article (1) 162:14 articles (1) 161:9 aside (4) 118:24;125:9; 126:15:130:15 **ASLIN** (13) 45:20,22;50:21; 113:9;158:23;160:8;

163:13:164:7.10; 178:9:179:8.14: 180:10 aspects (4) 44:19:66:16; 106:23:165:22 asphalt (1) 64:23 asserted (1) 112:1 assertion (2) 131:17;132:3 assertions (1) 131:24 assessment (3) 35:18;102:13; 179:6 assist (1) 14:8 associated (10) 19:11:44:11:51:5: 52:5:76:6:124:24: 125:3,7;127:22,24 assume (4) 31:20;49:10;72:11; 138:7 assumed (1) 63:14 assuming (5) 92:4;104:24; 159:22:165:13; 176:12 assumption (1) 92:13 assumptions (4) 63:14;92:7;97:10; 98:1 assure (2) 65:5;164:15 atmospheric (3) 105:23;108:23; 109:6 attempt (2) 29:24;30:6 attempting (1) 59:15 attention (1) 117:3 Attorney (3) 134:1;136:8,17 attorneys (4) 137:15;143:2,3,7 attraction (1) 20:19 attracts (1) 20:24 audible (3) 44:18:95:4.14 audio (2) 52:15:53:3 authentication (1) 161:18 author (4)

134:19:135:2; 140:7.16 authoritative (2) 56:7.8 available (3) 116:10;140:4; 160:18 average (8) 32:18;33:5,7,15; 34:22:38:1:58:14; 100:19 avoid (1) 93:3 avoiding (1) 43:3 aware (22) 10:14;16:7,17; 18:2;19:10;30:9,16; 39:16;40:5;41:6; 66:6;71:5;75:4; 92:23:93:5:121:11, 12,23;122:3;140:20; 167:24;174:23 away (11) 20:15;55:18;65:1, 3;68:16,19;74:10; 107:7,20;108:12,24 awful (2) 41:22;103:10 B back (27) 6:5:24:5:31:11; 39:4,6;72:15;75:22; 98:8;107:20;108:15; 109:19,22;110:8; 112:11;116:24; 119:1;121:16; 126:21:128:18: 130:17:131:12; 141:20;142:1,9; 157:7;159:20;177:22 backwards (1) 176:9 badges (1) 120:5 **BAILEY (71)** 26:9;28:23;31:9, 10;43:18,23;44:4,7,8, 22.24:45:2.5.23: 56:24;57:6,14,21,24; 58:2,6,9,12,18;59:4, 13,21;66:15,22,24; 67:7,13;81:20;82:3,7, 12,24;83:6,11,16,22; 84:9,21;85:13,24; 86:12,19,22;87:24; 88:3,8,17:89:9,13,16, 21.24:90:4.17:93:1.8: 94:15,18;95:16; 100:23;101:3,11,18; 103:4;104:14;107:2

Bailey's (1) 34:8 balance (2) 166:17.23 balancing (2) 164:16.20 barring (1) 167:16 baseball's (1) 107:7 based (8) 12:5;46:1,5,6; 100:3,14;161:20; 178:13 basic (14) 60:14;93:3,13,17, 21;94:6,16,19;95:12; 96:6,19;117:24; 120:6;173:1 basically (5) 36:24;47:15;48:15; 63:1;97:15 basis (2) 118:6;134:11 beautiful (1) 172:12 become (12) 52:10;60:20;61:6, 13;67:5;68:4;71:19; 72:18:95:13:96:14; 121:11:168:16 becomes (2) 51:24;167:24 becoming (2) 59:7;62:5 bedrock (6) 111:14,17,21,23; 112:8.24 began (1) 121:18 begin (2) 110:2;170:22 beginning (3) 117:5;130:20; 139:16 begins (3) 122:19;126:23; 127:6 behind (1) 172:2 beings (1) 171:8 belief (2) 116:6.7 below (8) 69:4,5;92:16; 93:11;94:5;101:22; 102:11:112:23 benefit (1) 42:18 Benjamin (1) 140:6 Bergeron (2)

124:9,12 best (3) 105:3:116:6,7 better (3) 30:8;35:18;62:12 beyond (3) 17:5;19:18;88:21 bike (1) 173:17 billing (1) 129:12 binder (2) 159:17.19 biological (4) 103:20,21;104:8, 11 biology (2) 119:15,15 bit (3) 35:23;38:5;98:14 block (3) 53:22;54:23;69:24 blocked (2) 54:20;69:21 blogs (1) 131:9 blue (6) 104:21,23;105:15; 106:1,2,7 board (1) 38:21 bodies (7) 16:17;19:11;75:11, 14,15;175:19,20 body (21) 56:22;57:5;58:23; 70:7;81:23;82:1,2,6; 85:17;86:3,7,22; 101:21;103:5,16; 104:12,15;106:17; 115:8;118:8;130:2 body's (2) 82:22;83:4 **BOISVERT**(1) 39:11 bonfire (2) 80:3,9 **Bonneville** (2) 63:24;95:8 book (1) 96:2 border (1) 7:23 bordered (1) 71:1 borne (1) 167:9 both (14) 40:13;46:22;47:1, 14:50:13:51:3:54:8: 55:2,17;63:19;95:8; 100:19,24;101:5 bother (2)

59:10:174:18 bottom (1) 128:20 bought (3) 35:14:107:6; 121:14 boundary (2) 10:8;12:22 **BPA (6)** 76:5,15:77:20; 78:21;95:13,22 BPAs (3) 76:8;77:14,17 **BPA's (3)** 78:14;79:8,11 break (7) 23:15;109:18; 110:1,2;141:3,11; 177:21 breath (1) 115:6 brief (4) 24:1;110:4;141:21; 177:23 briefly (1) 176:7 bring (3) 87:1;109:22;142:9 brings (1) 107:9 broad (4) 55:11:74:1.4: 178:23 broadly (1) 20:6 broke (1) 71:16 brook (3) 110:16,17,18 brush (1) 112:16 build (6) 62:17,22;63:5; 65:14,15;84:6 building (2) 79:15,17 buildings (9) 53:22,24;54:21,22; 79:7,9,10;99:22; 105:22 built (4) 38:22;41:8,11; 67:18 bulk (1) 168:22 bundles (1) 52:4 burden (1) 173:8 bus (4) 124:13;125:18; 126:6;173:16 businesses (2)

42:21:43:7 buv (1) 28:9 buyer (2) 13:5,12 С cable (1) 76:21 Cables (5) 76:1,2,4;77:8,13 Cafe (1) 95:14 calculate (4) 44:16;51:4;95:24; 97:9 calculated (5) 32:18;33:15;86:4; 92:16;93:11 calculation (4) 28:4:51:10:89:7: 96:6 calculations (6) 28:11;88:8,23; 89:3;93:6,15 calendar (1) 139:17 call (6) 11:7:43:15:111:18; 128:2:130:7:137:12 called (4) 52:8,11;71:7;93:10 calling (1) 19:3 came (4) 59:22;121:21; 134:22;138:10 campfire (2) 80:3.9 can (81) 21:10:22:12:23:9: 26:14:27:1,2:32:22; 34:24;42:3;44:4; 47:21;52:8;54:4; 58:5;59:18;60:7,9, 19;61:5,21;62:17; 64:14,20;67:4;69:21; 70:2,10,15,15,21; 71:19:72:6,7,9,17,17, 22:73:15.20.22:74:6: 76:23:79:23:80:20: 82:1;84:9,15,24,24; 85:21;88:14,17;90:2, 7;93:23;103:14,15, 23;104:15;105:13; 106:6;107:4;109:18; 111:9;119:8;137:2; 140:13;141:4.8; 143:17;157:15,18,19, 19;158:13;162:5; 164:7:168:4:172:1; 178:22;179:15

Canada (1) 107:10 capacitive (2) 60:9.14 capacitively (5) 60:16;61:3;62:19, 20:79:21 capacity (1) 42:15 capture (3) 10:10;35:16,17 car (16) 64:24;65:20,20; 67:4,15;68:14,18,22; 69:11,17;70:3,5,7,9; 115:11;128:24 cardiac (6) 114:19;115:5; 124:10;125:11,16; 126:8 care (3) 31:7;157:13; 173:11 carries (1) 115:22 carry (1) 51:21 carrying (2) 71:6,9 case (34) 7:17;8:12,21,24; 9:7.10.14:10:3.10.16. 20:11:1:26:12:36:5: 37:3;40:20;46:7,16; 55:8;63:16;65:7; 97:4,19;105:19; 109:17:111:12,17; 114:5:116:21: 142:14;158:23; 164:1,21:165:6 case-by-case (1) 36:8 cases (1) 99:10 Cashell (3) 18:13,14,14 categories (1) 33:19 cause (13) 51:14;58:24;76:18; 77:1:82:5:93:21; 94:12;102:19;104:1; 105:15;106:1; 130:10;171:2 caused (1) 58:16 causing (2) 73:17:77:20 cautioned (3) 43:24:110:11; 113:19 ceiling (2) 102:9,11

cementitious (1) 112:4 cemeteries (1) 105:20 Center (2) 95:22;107:18 centered (1) 112:2 certain (18) 36:7:60:10,18,21; 62:20;65:17;74:13, 18;75:8;77:7,11,12; 79:14;100:3;105:4; 123:22:139:15.17 certainly (6) 13:16;30:11; 135:14;137:23; 164:7;165:2 certainty (1) 35:21 certificate (12) 167:4,22,23; 168:18,23;169:5,20; 170:9,12;174:1,17; 176:5 certified (2) 117:23;118:15 cetera (2) 39:20;40:1 chain (1) 30:4 Chair (4) 140:11:141:10; 143:16:174:5 Chalmers (55) 7:17,24;8:3,6,9,15, 18.23:9:3.5.9.13.17. 21.24:10:3.13.19.24: 11:5,11,13,17,22; 12:2,4,14,20;13:8,14, 16.19:21:17:26:10. 16:27:12:28:12: 29:18;30:8,20;31:5, 11,15;32:5;33:5; 34:4,7,16;35:21; 37:13;38:4;39:10; 40:12,23;41:21 chamber (1) 20:22 chambers (2) 20:9,20 chance (1) 81:3 change (12) 12:16,24;22:21; 39:24;99:9;100:9; 168:20;172:9,10,12; 179:21;180:4 changed (2) 89:5:179:22 changes (5) 45:1,9,11;54:24; 100:5

changing (2) 38:20:173:19 chapters (1) 15:17 characterize (2) 47:12;77:18 charge (7) 62:17,22:63:5; 65:14,15;67:18; 71:23 charges (2) 81:22;82:1 Charles (2) 82:21:83:2 chart (9) 83:1,7,9,13;84:10, 14;87:7;89:7;91:10 charts (3) 83:11;84:24;115:7 check (2) 139:12,20 checked (1) 46:14 checking (2) 139:20;157:5 Chest (1) 115:5 child (1) 157:13 children (1) 107:13 choice (2) 11:16:111:15 choose (2) 111:11;168:4 chose (3) 11:10,12,23 Chris (1) 137:14 Christopher (1) 136:8 chronic (1) 102:17 circle (1) 173:18 circuit (1) 52:5 circuits (1) 55:7 circumstance (2) 86:20;166:24 circumstances (4) 37:5;77:3;82:17; 83:23 City (2) 107:6,11 Civil (1) 119:13 claim (4) 23:10:64:11:92:15; 171:18 claimed (8) 14:14;19:7;21:20;

24:10,12:59:24; 91:17:93:1 claiming (6) 9:5:12:4:17:15: 19:23:21:9.12 claims (1) 123:8 clarification (2) 30:20;32:23 clarify (6) 50:12;159:13,24; 178:4,11:179:17 clear (2) 12:8,10 clearance (2) 66:17,19 clearances (1) 67:9 cleared (1) 112:12 clearing (4) 31:3:165:17.18.19 clearly (1) 172:1 clients (1) 177:8 climate (1) 119:18 climb (1) 59:15 climbing (4) 58:16.19:80:22: 81:8 climbs (1) 80:24 clock (1) 31:18 close (23) 11:2;12:7;24:8; 32:16:34:9.10:59:7: 61:9:73:14.23:74:2. 5:80:4.5:105:1; 106:6,11;111:14; 114:14;158:2; 163:24;164:3;177:16 closed (1) 31:22 closer (7) 58:20;76:5,12; 77:7,11;121:17; 134:8 closest (5) 49:5:91:18:92:4. 10;97:13 closing (4) 157:22;164:9; 172:5;178:5 closings (1) 157:19 clothing (1) 69:18 **CMSR (9)** 26:9;28:23;29:2,3;

31:9,10:42:10,12; 100:23 coal (1) 172:5 coastal (1) 8:12 Code (4) 55:24;56:6;67:8; 69:6 codified (2) 49:18;95:12 collaboration (1) 95:20 collect (5) 63:18:64:20:68:14: 79:11.18 collected (1) 69:9 collecting (1) 33:3 collection (1) 40:1 collectively (1) 174:14 combination (1) 177:1 combine (1) 98:5 combines (1) 174:10 coming (5) 23:4:105:1:107:10: 172:16:173:5 commanding (1) 35:8 comment (4) 118:13:141:1; 161:23:176:7 commented (1) 85:14 comments (1) 76:3 commerce (2) 20:9,21 commercial (1) 15:3 **Commission (6)** 94:1;132:15;133:1, 5,15;135:12 commissioned (1) 101:7 **Commissioner** (3) 34:7:43:19:45:16 **Committee (36)** 19:22;23:19;26:7; 31:7;43:10;44:6; 94:23;109:11;113:3; 122:22;133:6; 140:13;143:24; 157:12:164:10; 167:2,4,19,23;168:3, 11,19,24;169:6; 170:2,3,10;171:14;

174:5;175:11; 176:19.23:177:3.20: 178:16,21 Committee's (1) 169:12 common (4) 47:8,12;81:8; 106:14 communicate (1) 81:5 communication (3) 6:13;81:7,10 communities (4) 175:9,13,18,19 community (6) 14:21;18:21;24:21; 25:2;38:2;104:2 commuting (1) 114:14 company (4) 29:23:30:8:58:5,6 compare (4) 27:1,3;38:1;47:22 compared (2) 37:24;40:9 comparing (4) 34:18,20;36:19; 98:22 comparison (3) 27:10;48:3;50:19 comparisons (1) 98:7 compatible (1) 73:14 compensate (1) 29:24compensation (1) 30:10 completed (1) 40:8 completely (1) 63:15 completion (1) 162:7 compliance (2) 55:23;60:1 complied (1) 93:16 comply (3) 93:13;104:4; 177:14 computer (2) 96:4:161:19 concern (5) 40:2;56:16;59:6; 90:13:138:3 concerned (4) 39:23;66:16;90:8; 177:9 concerning (4) 106:22;107:23; 108:1:138:14 concerns (7)

56:18:106:23; 107:13:137:21: 175:11:176:20,24 conclude (3) 26:24;51:11;171:1 concludes (2) 163:18;177:19 concluding (1) 29:7 conclusion (8) 13:22;19:3;21:4; 25:15:27:5:28:19; 29:10:102:20 conclusions (2) 14:8:41:8 concrete (1) 112:5 concur (1) 180:10 condition (17) 41:16;47:22;50:14, 17:76:17:86:8: 103:10;167:21; 168:17:169:4.20: 176:12;178:12,16,20, 22;179:12 conditions (35) 60:21:61:10,16; 62:14;65:11,17; 67:12:68:1,23:74:4; 76:22;77:1.3.15; 79:16.20.24:80:2.8. 20:86:23:96:23:97:2: 102:16.17:105:4: 106:4;108:23;109:6; 165:15;167:3; 170:11:176:3.7; 178:5 conduct (8) 65:12,13:67:23,23; 68:4:73:15:86:9: 169:21 conducted (2) 50:13;69:12 conducting (3) 61:1;81:23;82:1 conductive (7) 74:11,14,20;75:12, 17,18;79:23 conductivity (1) 75:20 conductor (20) 53:6,9,16:54:7,7,8, 10,11;59:7,8;61:19; 81:1,2,11,11;105:8, 12,13;106:14;108:9 conductors (23) 49:5;52:2,10,20, 23;53:1,18;54:5; 55:4,10:58:13,21: 59:2.16:67:2:74:10: 91:18:92:6,9:99:8; 105:2,11;108:13

confer (1) 141:4 confident (1) 174:13 confidential (13) 122:12:130:8.11: 142:12,16;143:1,19, 20,21;144:5;160:17, 21,22 configuration (5) 11:18;47:24;48:1; 99:16:100:11 configurations (3) 100:2,15,16 confirm (1) 47:2 confirmed (1) 131:2 confirming (1) 96:8 connected (1) 60:13 connection (1) 130:13 consequence (1) 82:12 consequences (1) 73:18 **Conservation (4)** 15:20;16:1,18;17:9 conservative (3) 92:7:97:17.24 conservatively (1) 97:6 consider (13) 9:11,15;10:20; 11:1:17:8,10:20:4,16, 18:41:24:167:2: 170:11:173:24 considerable (3) 16:7,8;67:18 consideration (7) 25:4;28:16;166:5; 168:17;169:4,12,19 considered (7) 9:22;25:1;29:5; 52:17;56:6,7;100:14 consist (1) 52:14 consistent (4) 14:15,19:21:22; 23:11 consists (1) 111:19 constituents (1) 74:22 constructed (4) 12:12;51:13; 165:14;176:11 construction (8) 13:6:40:10.19: 50:17:66:8:161:10; 169:24;170:4

consummated (1) 26:22 contact (9) 58:13:59:1.4.6.23. 23:80:21:115:10; 162:9 contacted (2) 68:20;137:17 contacting (1) 58:16 contacts (1) 81:1 contain (1) 75:4 contained (2) 116:4;144:4 containment (1) 167:6 contaminants (1) 74:24 contamination (1) 105:12 CONT'D(1) 7:18 conterminous (1) 162:8 context (5) 38:5,6;41:3;51:6; 166:19 continue (7) 7:15;11:23;22:22; 83:24:85:8:112:12: 157:12 continued (2) 168:21:177:4 contraction (2) 56:20:57:3 contractions (1) 104:13 contribution (1) 42:4 control (1) 96:11 conversion (5) 86:2;87:1;90:6,9; 91:6 conversions (1) 84:22 convert (2) 85:21;90:3 converted (1) 91:12 convinced (1) 169:17 copies (1) 143:24 copy (4) 116:18;125:21; 132:4;136:7 cored (1) 111:21 corona (8) 54:5,12;95:14,18;

105:9;106:1,19; 108:10 corrected (1) 7:4 correcting (1) 7:1 correction (1) 6:9 correctly (4) 23:1,3;49:18;98:11 corresponding (1) 84:11 corridor (37) 8:4,7,11:10:15,17, 21,22;11:7,7,8,17,21, 24;19:9;20:5;27:15, 17,19;41:23;55:7,14, 16;96:24;100:7,15; 107:8,16,21;109:1; 120:12,14,16,20,21, 23;121:4;122:4 corridors (6) 7:20,21;9:7;11:10, 12:109:3 corroborate (1) 49:9 corroboration (1) 161:14 cost (7) 167:5,8,12,13,20; 177:7:178:12 costly (1) 43:7 costs (10) 43:3:167:10,11,13, 15;168:2;177:11; 179:5,6,24 Cotts (1) 140:6 coughing (1) 24:8 Counsel (21) 21:23;22:1;43:21; 45:19;139:20; 158:14,19,24;160:8; 163:13;164:2,4,11; 165:3;166:22; 169:17;176:8;178:3. 18,24;179:19 count (1) 31:13 counties (1) 28:14 country (1) 95:10 county (2) 6:18,20 couple (5) 73:12;76:2;84:21; 142:10:174:19 coupled (16) 60:3,6,16,20;61:3, 14;62:5,7,19,20;67:5;

68:4;71:19;72:10,18; 79:21 coupling (2) 60:9:72:13 course (6) 67:14;163:4;174:7, 22;175:24;177:1 courses (1) 118:24 Court (7) 44:1;50:16;110:12; 113:19;122:2,14; 137:3 cover (5) 35:8,12;49:14; 144:4;162:7 covered (1) 19:20 **CPA** (2) 120:1,2 **CPR** (1) 117:24 create (3) 75:16;79:23;173:8 created (1) 51:12 credibility (2) 131:11;162:11 critical (1) 36:3 crossed (1) 10:4 cross-examination (10) 6:7:7:18:45:17.21: 51:1;116:10,16; 142:8;143:17;160:3 cross-examine (8) 134:12.13.18: 135:2.18.21:140:9.17 cross-examined (2) 132:21.23 crossing (6) 9:12;19:8;66:7,9, 18;72:1 crossings (4) 66:1,16,20;72:1 cross-sections (1) 49:22 cub (3) 21:2;117:24;120:5 cultural (1) 175:4 curious (5) 29:5;42:17;111:2, 6;133:22 current (43) 47:10;52:1,24; 53:4;54:14,17,18; 56:21;57:5,6;58:23; 60:2,6,11,14,16,20; 61:4,14;62:21;63:18, 20;68:5,15;69:7,9,12; 71:20;72:5,10,19;

73:22:82:2,23:83:5; 84:12:85:12.16:86:3. 14,16;89:1;115:11 currently (2) 21:22:168:11 currents (6) 67:9:82:5.9: 101:21:103:23:115:8 cycle (1) 63:2 cycles (1) 63:1 D Dalziel (1) 83:2 Dalziel's (1) 82:22 Danger (7) 58:3,15,19;59:17, 17;74:7;115:18 dangerous (3) 9:15;73:20;76:20 dark (1) 106:4 darkness (1) 106:5 data (12) 33:2:40:8:41:19, 22;86:19;123:17,17; 127:12:129:4: 159:20.22:160:1 Database (1) 162:8 databases (1) 38:8 date (4) 34:10:136:7.21; 162:6 dates (1) 139:13 David (3) 12:18;110:10; 113:23 day (8) 91:21;101:16; 103:1;118:11,14; 143:14;171:11; 180:11 days (17) 27:22;31:15,17,24; 32:1;33:15,20,23; 34:13,17,18,21,21,21, 22;36:2;39:19 dealing (1) 164:21 debris (1) 62:13 decades (5) 46:10,21;47:9,14; 62:11 decide (1)

157:6 decided (1) 142:1 decides (1) 167:4 decision (1) 18:24 decline (1) 30:6 decommission (1) 176:18 decommissioned (1) 168:9 decommissioning (9) 168:7,13,15;169:3, 6,8;176:16,19;177:2 decrease (1) 55:18 deemed (1) 164:22 Deerfield (1) 8:5 defined (1) 143:5 definitely (2) 23:13;81:2 degradation (1) 43:6 degree (2) 62:16:63:15 degreed (1) 118:19 deliberate (2) 157:23:177:20 demand (1) 54:13 demarcation (1) 12:17 demonstrate (1) 174:14 dense (2) 55:1:70:2 density (1) 38:11 department (3) 128:2;129:12; 130:7 depend (7) 13:17;48:12;65:7, 18;76:13;83:22;84:2 dependent (1) 42:22 depending (5) 55:9;61:16;68:1; 71:21;105:7 depends (6) 53:14;63:7,20; 68:22;74:12;80:7 depreciation (2) 37:23;39:9 depth (1) 111:16 derbies (1)

21:2derived (1) 93:2 **DES** (2) 162:4,10 describe (4) 57:24;70:11;90:20; 123:4 described (4) 25:20:34:3:36:4; 178:5 describes (2) 127:2,7 describing (1) 121:22 description (3) 57:9;129:13,14 design (5) 46:5;53:14;56:12; 65:19;100:11 designated (4) 7:11;19:9,19;144:5 designed (6) 17:13;59:5;80:17, 19;108:13;176:13 designs (1) 49:22 desire (1) 15:8 desk (1) 157:8 despite (2) 89:3:102:14 destination (1) 11:2 detailed (1) 179:1 details (1) 80:13 determination (1) 21:16 determine (5) 53:18;54:12;63:19; 85:19;93:16 determined (1) 103:12 detrimental (1) 17:23 developed (14) 15:4,6,9;20:7;46:5, 22:47:13:72:6:83:2, 9:95:7:96:1.5:107:14 **Development** (1) 18:21 develops (1) 95:2 deviate (1) 55:16 devices (1) 108:1 devise (1) 49:13 die (1)

25:23 died (3) 123:9,10;126:13 difference (3) 27:22,23;67:20 different (22) 6:16;32:5;35:5; 36:23;47:19;50:6,6, 8:55:10;57:16;74:21; 83:7.8:87:6.6:95:9. 22;100:2,15;109:5; 161:16:174:24 differentially (1) 38:10 differently (2) 13:6,13 difficult (2) 39:2;106:3 difficulties (1) 178:15 diligently (1) 175:1 diminishes (1) 103:21 dings (1) 57:13 direct (13) 15:5;44:2;59:1,23; 103:4;113:20; 118:23:119:24; 120:11,13,17;126:4, 10 directed (2) 56:23;175:17 directing (2) 101:16;102:24 directly (10) 55:3,8;58:16; 61:12,22;72:11; 80:21:115:11; 135:12;136:13 director (2) 18:11,22 disadvantage (1) 33:18 disappear (1) 106:19 disappeared (1) 41:5 disappointed (1) 170:20 disapproval (1) 167:17 discernible (1) 21:13 discharge (2) 105:9,10 disciplines (1) 117:11 discourage (1) 59:14 discovery (4) 63:23;78:4;119:23;

133:10 discuss (5) 16:22:18:7,10; 114:21:177:8 discussed (4) 16:12;19:12;94:5; 104:6 discussing (1) 18:4 discussion (2) 16:1;30:12 discussions (1) 178:10 disgusted (2) 170:23;171:5 displaying (1) 85:13 dispute (1) 162:10 disputed (1) 130:15 disputing (3) 162:16,17,20 disrupt (1) 143:14 distance (9) 20:11,15;27:23; 33:16;53:17;67:2; 77:7,11,12 distances (2) 67:6:89:1 distant (2) 33:20;125:19 divided (3) 27:14,17:85:12 dizziness (1) 115:6 docket (11) 115:3;119:4; 131:20;133:9,24; 135:14.19:138:13.16: 160:19:165:11 **Doctors** (1) 45:23 document (22) 14:24;15:23;64:4, 10;78:10,12,14; 114:2;130:4,8,24; 132:11;133:6,8; 134:15;135:11; 138:14:140:13,15,16; 142:12:162:11 documents (16) 123:18,22;124:2, 18;125:22;126:15; 127:13,18;129:3,7, 10;130:13;135:18, 23:142:16:174:12 done (18) 23:16:25:14:37:16; 38:6;39:17;46:24,24; 47:10:48:7:50:13; 66:6;77:24;89:18;

95:20:97:5:98:15; 103:11:175:6 door (3) 68:15:108:2: 143:13 down (11) 13:9:30:4.23: 36:24;71:16;98:18; 108:3;126:23;172:5, 14:173:12 Dr (22) 7:10:39:11:55:22; 56:23;57:23;59:23; 66:22;67:7;78:6; 81:20;83:23;84:9,21; 85:14;86:3;88:11,17; 91:16;92:15;93:1; 94:5;101:18 Drive (4) 12:18;68:19;69:23; 113:23 drop (3) 106:18;108:12,17 dry (1) 64:23 due (4) 69:16,18;70:8; 165:17 duly (3) 43:24;110:11; 113:18 Dummer (1) 8:4 **DUMVILLE (1)** 161:6 duplexes (1) 120:18 during (7) 34:12;38:23;92:2; 127:20;174:6,22; 175:23 Ε earlier (4) 72:16;130:4;133:9; 179:20 early (1) 46:14 easement (2)

72:16;130:4;133:9; 179:20 early (1) 46:14 easement (2) 30:2;173:3 easier (1) 158:12 easiest (1) 108:5 easily (1) 96:11 easy (3) 38:12;48:1;91:14 economic (3) 42:17,19;43:7 economy (2) 14:3;24:13

Min-U-Script®

edge (4) 55:21;69:3;107:1; 108:1edges (1) 109:1 education (5) 6:18,20;117:9,21; 118:11 effect (15) 21:8,13:29:11; 35:19;41:4;51:14; 86:13,15:101:23; 103:14,16;107:24; 108:7;115:8;165:22 effects (23) 9:15;17:23;24:18, 23;38:16,21;40:20; 41:17;67:1;95:16,17, 18;102:7,19;104:1,4, 5;123:10;126:14; 130:2;174:24;175:3, 8 efficiency (1) 43:3 effort (3) 46:2;175:16,16 efforts (1) 175:23 either (14) 10:4,21:19:16; 27:18:28:11:33:11: 40:3.20:100:6.10: 143:12:161:12,15; 164:1elected (1) 175:20 electric (111) 22:24:44:10:45:24: 46:12;47:20;49:7; 50:7;51:20;52:13,14, 19,22;53:8,11,19,22, 24:54:2,9,11:55:2,11, 17,20,24;56:6,14,15, 19;57:2,4,6,10,17,18, 19;58:13,13,23,24; 59:19;61:6,13,15,20, 24;62:1;63:8;65:8, 18;67:8;68:3,7,7; 69:1,2,6,14;71:18,20; 73:15,21;76:2;80:15, 23,23;81:3,21;82:8, 16;83:4,14,21;84:4, 10;86:14,16;87:5; 88:8,15,23;90:14; 91:19;92:23;93:19, 24;95:4,19;97:8; 99:2,23;100:9; 102:18:103:18; 104:13;105:14,23; 106:15,17;115:8,10; 119:17;125:17; 126:9:129:17; 169:13,21;171:23,24,

24;176:10 electrical (15) 44:17,19;48:14; 51:4.11.18:52:17: 56:9,13,21;81:17; 104:17;105:10; 118:10.23 electricity (15) 52:21;54:14;65:12; 67:5,24:71:6,10; 73:16,20;75:12; 76:18;79:24;80:6; 107:10:172:4 electrocute (1) 73:22 electrocuted (2) 59:18;61:6 electrocution (3) 56:15;58:15,24 electromagnetic (1) 103:22 Electronics (1) 48:14 elements (1) 74:21 Elmo's (2) 105:17;106:8 else (5) 69:17;105:1; 115:23:143:21; 163:20 e-mail (1) 137:17 e-mails (1) 130:15 embedded (3) 17:2:40:2:111:20 **EMF (2)** 44:17;92:15 emotional (1) 172:13 emphasize (1) 119:21 employment (1) 24:13 encounter (1) 82:17 encourage (2) 15:3,9 end (6) 111:20,24;122:17, 18:123:15;131:12 endangered (1) 171:6 ended (1) 34:17 endpoint (1) 131:13 ends (1) 167:12 energized (13) 52:1,5,10:58:20; 59:7,8,16;61:1;

71:11:73:19:74:10; 101:14:106:13 energizing (1) 169:24 energy (7) 42:20,23;164:15, 18,24;165:1;166:21 engage (1) 115:13 engaged (1) 51:3 engagement (1) 118:18 engineering (5) 56:9;81:18;118:10, 24:119:13 Engineers (1) 48:14 England (3) 42:14;58:6;164:24 enhancements (1) 96:16 enormous (1) 175:16 enough (17) 35:8;36:14;59:8; 61:9;71:24;80:4,5; 82:9,18:86:9,24; 87:4;88:15;106:12, 18:118:17:141:5 ensure (3) 168:21:169:18: 170:2 ensures (1) 76:15 enter (1) 31:19 entertain (1) 30:12 entire (5) 24:20;25:1;49:11; 92:10;100:16 entitled (1) 135:21 environment (16) 44:17,19;51:5,11, 18,20;52:13,17; 56:16;82:14;120:4; 164:14;165:13; 171:4;172:12;173:20 environmental (6) 89:4;164:19;165:5, 7,21;175:4 environments (3) 104:2,3;120:7 equal (5) 89:11,14,19,23,24 equals (1) 85:12 equations (1) 96:3 equipment (2) 56:13:74:18

erosion (2) 120:4.7 essentially (4) 50:18:60:23:96:7: 164:16 established (1) 46:10 estate (4) 21:15;36:18; 119:15,23 estimate (1) 12:15 estimated (2) 12:24;60:2 estimation (1) 47:4 et (2) 39:20;40:1 evaluated (1) 60:1 evaluation (4) 44:10;125:9,13; 137:22 even (20) 13:2;25:22;36:22; 47:12;49:24;50:19; 60:21;67:5;69:5; 72:2;80:19;82:15; 84:6;94:4;104:3; 105:7;108:11:109:1; 158:12:172:15 event (1) 128:24 events (2) 21:1.3 everyday (1) 82:13 evidence (10) 21:12;26:16;36:16; 103:2,6;126:5,17; 161:22;162:12;172:7 exact (3) 18:20;75:20; 136:21 exactly (3) 33:8;99:6;124:6 **EXAMINATION (2)** 44:2;113:20 example (3) 37:18;101:13; 106:8 exceed (4) 22:2;93:6;94:12; 168:1 exceeded (3) 93:20,23;102:10 exceeds (1) 167:13 Except (2) 77:22;82:16 exception (1) 160:12 excitable (2)

82:10:83:14 excluding (2) 159:15;163:17 excused (2) 43:15:109:17 exercise (4) 32:14;86:13,15,18 exhaustively (1) 27:13 Exhibit (48) 7:11;22:1;23:8; 57:23:64:9:66:10,12; 70:10;72:15,21; 75:22;80:13;81:13; 82:20;85:4,6,7;87:21, 22;88:5;93:18; 113:15;114:1; 116:19;124:1; 125:21;132:5,10,19, 20;136:23;142:2,4; 158:7,9,15,19;159:1, 13.20:160:1.17.20: 161:8;162:15; 163:10.20:179:18 exhibits (18) 143:18;157:19,20; 158:2,5,10;159:5,8, 11,16;160:12,13; 161:4,7,7;163:11,16, 19 exist (2) 59:22:97:2 existence (1) 138:4 existing (16) 12:9,10;22:15; 41:12;47:1,23;50:13; 51:6,12;86:5;88:9, 10;104:22;109:2; 165:8,9 expand (2) 114:17,20 expect (7) 59:13;91:21;97:21; 98:9;100:8;108:20; 109:4 expectation (1) 178:24 expected (2) 55:12;97:16 experience (8) 39:15:68:17:80:23: 83:20;87:5,6;117:9, 20 experienced (11) 48:10;87:2;90:21; 115:4;123:6;125:11, 14;127:3,8;128:23; 133:3 experiences (2) 56:21:57:4 experiencing (1) 84:17

experimental (2) 102:15,16 expert (2) 128:4:170:24 expertise (1) 75:19 factor (1) experts (2) 25:18:131:23 factors (1) explain (6) 26:14:44:5:72:22; 88:18;90:8;114:10 facts (1) explanations (1) 104:11 **Exploration** (1) 111:13 failing (1) explore (1) fair (5) 138:5 Exponent (12) 44:9,15;135:6,7; 136:2,3;139:8,9,22, fairly (2) 22;140:10,23 fall (3) exposed (2) 13:11;81:23 exposure (8) falls (1) 93:11,19;94:7,11; 102:8,18;103:15,24 false (1) exposures (3) 82:15;102:10; familiar (4) 103:13 expressed (1) 175:10 far (6) extend (1) 9:18 extensive (1) 88:20 farm (1) extensively (1) 175:22 favor (3) extent (8) 30:15;75:7;86:12; 140:24;164:17; feasible (1) 165:21;168:16;169:2 extenuating (1) features (6) 37:5 external (3) 69:18;70:6;86:2 federal (2) extraordinary (1) 167:16 feed (1) extremely (5) 62:15;64:11;74:5; feel (4) 80:10;105:13 eves (2) 103:19;106:4 feeling (2) F feet (12) faced (1) 43:4 facilities (2) 14:21;165:10 fences (2) Facility (2) 95:11;169:10 fencing (1) fact (16) 6:22;30:23;31:3, **FERC (2)**

135:24

98:21

89:4

13:17

38:19

173:20

8:1

171:17

83:1

173:19

166:23

30:14

16:17

134:11

106:15

24;63:10;68:14;69:5; 167:8,18 76:23:79:18:100:18: FERC's (1) 102:14:103:7.13: 171:19 125:17:175:9.15 Ferro (1) fact-based (1) 70:1 ferromagnetic (1) 55:1 ferrous (1) 70:1 few (14) 23:23;51:19;64:14; 83:8;85:5;92:12,12; fact-specific (1) 99:12;108:24; 121:12;122:20,23; 142:24;157:14 field (68) 46:6,8,15,19;47:5, 26:24;33:4;35:11, 14,18,20,20;48:6,21; 15:108:23 49:9;50:4,7,7;52:22, 23;53:8,19;54:2,9,11, 77:1;111:14 15,18,23,24;55:20, 20:57:7:61:13.16.18. 10:15;22:4;122:12 20,24;62:2;63:8,11; 65:8,18;68:2;70:1,3, 4;81:21;82:5;83:17, 20;84:4;86:3;88:9; 90:3;91:19;93:24; 95:16.17.18:98:6; 20:17;74:23;82:21; 99:1;100:10;103:5, 18,22;105:14,24; 106:17:169:21,22; 66:22:101:22: 176:9 108:19:112:23; fields (40) 120:4:136:1 44:11:46:1.13: 49:7:52:15,19:53:11, 22;54:20;55:3,12,18; 61:20,21;69:1,2,20, 164:18;165:2; 22;70:8;81:24;82:5, 9,18;86:5;88:24; 90:20;92:24;93:20; 95:4.14:97:9:99:2.2. 23;101:21;102:1,18; 47:18;97:7;98:3; 119:17;169:14; 99:15,21;135:5 176:10 filed (1) 17:12;128:11 135:11 final (4) 11:2;109:20; 113:14;169:11 13:11;23:9;25:15; finalized (1) 39:3 find (5) 50:1;129:16 27:21,23;28:2; 104:2;115:23 9:19;12:20,22; finds (1) 22:3;27:20,21;33:12; 166:22 57:13;76:5,11; fine (2) 108:24;113:1 78:13;160:4 finest (1) 105:20,21 17:9 fingers (1) 106:9 finished (2)

43:10;143:12 fire (11) 79:23:80:8:105:17: 106:8:124:8:125:10. 24;128:2;129:11,12; 130:7 Fires (1) 79:22 first (24) 7:3:10:15:26:10; 35:10,22;37:11; 47:13:64:16:68:20: 72:21;96:7;117:22; 118:2;122:19; 126:21;135:4; 157:19,20;158:2,2; 164:3;167:5;174:21; 180:2 first-aid (1) 117:24 fishing (1) 21:2 five (6) 23:23;40:18,19; 109:22;113:1;141:20 five-minute (2) 23:15;141:3 five-year (1) 40:7 flashover (1) 59:9 flat (1) 97:11 flow (2)82:6;89:1 flowing (3) 52:24:58:23:73:22 focused (1) 20:12 follow (1) 79:3 followed (4) 78:11;79:17;80:16, 18 following (2) 122:23;169:24 follow-up (1) 34:7 **foot** (1) 69:10 forestry (1) 119:14 forever (1) 28:10 forgot (1) 110:16 form (2) 26:2;130:15 formal (3) 30:10:117:9.19 formally (1) 165:24 formulate (1)

34:24 forth (1) 131:12 forward (4) 167:14:169:12; 173:21;178:17 foul (2) 108:8:109:6 found (2) 40:20:62:13 foundation (2) 161:14,17 four (10) 6:15;8:23,23; 35:22;40:18,19; 109:19;170:7;175:9; 176:7 Fourteen (1) 162:21 fourth (2) 120:19,21 fraction (1) 10:8 frame (2) 34:13;47:10 fraudulence (1) 171:15 frequency (3) 48:9;63:1;108:18 frequent (1) 47:4 friends (1) 173:11 front (7) 58:1;70:12;72:22; 121:19;136:5; 139:18:159:17 frozen (1) 36:6 fruits (1) 175:22 full (5) 40:11;113:22; 162:15;163:16; 174:10 fully (2) 25:20;121:12 further (6) 10:17;29:16;50:22; 88:17;94:21;142:7 future (5) 14:21;39:24;41:20; 67:13:168:15 G gain (3) 59:15;118:17; 121:18 garage (1) 108:2 Gary (3)

43:18,23;44:14

gas (3) 69:10:172:3.6 gases (1) 79:22 gave (5) 120:6;123:16; 131:8,10;159:19 **GE**(1) 95:21 general (21) 50:9;54:22;55:6, 13:66:5:74:1.4.9; 75:2;76:11;77:2,19; 78:11;79:2;80:8,18; 94:11;98:16,21; 101:12;118:13 generalize (1) 39:2 generally (11) 35:4;36:18;38:18; 54:16.23;64:3;74:21; 75:9:92:1:98:17: 99:12 generation (2) 171:23;172:4 geographic (1) 37:15 geometry (5) 47:24;53:15;96:12; 98:19:100:10 gets (1) 102:6 girl (1) 123:9 given (7) 32:7;39:20;87:4; 88:24:133:24: 142:18;166:14 gives (2) 93:19:162:6 glow (3) 105:15:106:1.2 goal (2) 15:9,13 goals (3) 14:19;15:16;24:17 goes (3) 30:20;54:18; 107:19 good (9) 17:6:45:23:50:1; 80:11;81:12;96:20; 100:24;108:16; 111:15 government (2) 92:20,21 grab (1) 172:3 grant (1) 167:4 granted (4) 30:3:159:3:168:11; 170:12

graphed (1) 33:17 graphs (1) 34:3 grass (1) 112:19 gray (1) 107:4 great (1) 13:7 greater (2) 67:2:168:2 greedy (1) 172:3 Grid (4) 73:1;132:14,24; 137:13 ground (14) 49:6;50:10;52:7; 53:17;56:12;60:13; 66:19;73:16;76:20; 79:12;91:18;92:5,10; 97:14 grounded (4) 68:21,24;79:19; 84:3 grounding (2) 68:23;76:6 group (1) 139:7 groups (3) 27:23:33:16:52:11 grout (1) 112:4 grow (3) 73:14;112:11,15 growing (1) 112:16 growth (5) 15:3,9:25:7:43:5,7 guarantee (1) 93:13 guess (9) 21:23;32:9;48:12; 68:11;96:17;105:3; 125:9;159:20;178:20 guidance (1) 17:1Guide (8) 64:1,6;77:22;78:1, 2,3,4,6 guidelines (7) 48:15;56:10;78:12; 93:9,22;102:9; 108:14 guy (10) 76:6;77:6,10; 110:15;111:3,4,9; 112:8,9,17 Η hair (1)

107:4 half (3) 38:13,13;171:22 half-mile (1) 107:20 Hampshire (21) 7:22,22;8:13;9:8; 10:18;12:17;14:7,11, 22;15:22;17:1;38:5, 12:48:19:92:21: 132:15;133:1;162:4, 10:167:10:171:14 hand (2) 139:14;165:4 handed (1) 73:4 handing (2) 125:21;132:4 hands (1) 136:2 happen (2) 76:23:103:11 happened (2) 129:14;139:12 happening (1) 128:18 hard (3) 32:3,20;177:10 hardens (1) 112:5 harmful (3) 103:11.17:104:1 hav (1) 112:19 hazard (1) 103:9 head (1) 124:4heads-up (1) 77:20 health (12) 9:15:43:17:44:13; 51:15;102:19,20; 103:1,13;106:23; 107:13;123:4;169:13 hear (3) 23:1,3;134:7 heard (16) 26:12;104:20; 105:17;128:22; 165:10,17:166:6; 167:7:168:8:169:14: 170:21,23;171:11; 174:11,22;175:23 hearing (9) 24:2;91:3;110:5; 139:23;141:22; 157:1;177:19,24; 180:11 hearsay (2) 132:20;134:11 heart (1) 115:6

heavy (1) 70:1 height (10) 21:21;23:10;50:9; 53:16;71:21;84:5; 97:13;98:4;99:9; 101:16 heights (2) 72:2;76:4 help(2)32:2;62:4 helpful (1) 177:5 hertz (1) 94:13 hierarchy (4) 118:22;131:5,9,11 High (13) 58:3;62:15;63:15; 81:9;82:9,18;86:9; 87:4;88:14;105:13, 21.24:119:1 higher (13) 33:22;35:15;53:11, 13;66:20;67:2;84:11; 86:17;93:14;105:5,6, 7;109:7 highest (9) 49:6;55:3,11;89:6; 97:15,21:131:4,8,11 high-growing (1) 74:9 highlighted (1) 73:10 highly (2) 42:22;140:12 high-performance (1) 112:3 high-voltage (26) 40:23:52:18:56:1; 59:2;60:19,22;64:2, 19;65:1;66:3;72:18; 74:18;76:19;78:9; 81:14;90:15;95:11, 21;96:2;102:24; 107:8,17;114:15; 115:15;123:11; 124:13 highway (2) 70:16,18 highways (1) 15:6 hike (1) 173:18 hiking (1) 107:20 Hill (2) 10:18,22 history (1) 105:18 Hmm-hmm (4) 62:10;71:9;77:16; 125:23

hold (1) 18:14 holder (6) 167:22,23;168:18, 23:169:5.20 holding (1) 97:22 holds (1) 99:11 hole (2)111:20;112:2 home (15) 35:6,7,12;102:1; 107:7;108:2,20; 120:8,15,16,17,22; 121:2,7;172:11 homeowner (1) 35:14 homeowner's (1) 35:12 homes (14) 9:22:10:6.11:12:7. 15,20,22;13:2;25:4; 26:13;33:9;35:20; 107:24;171:10 honestly (1) 23:9 hopefully (1) 106:12 hoping (2) 117:16:157:11 host (3) 175:9,13,17 hot (1) 79:22 hours (2) 67:22:92:12 house (7) 28:7;31:13;32:4; 34:11:107:15.18; 121:14 houses (6) 18:3;28:3;32:6,11, 15;33:3 housing (1) 14:20 Howard (1) 110:18 Huard (97) 7:15,16,19;19:6; 22:8;23:16,20;24:7, 9;26:3;50:23,24; 51:2;84:19;85:2,7, 10;87:15,16,21,22; 90:10,12,23;91:1,4,8, 15;104:5;109:20; 110:2;113:10,13,15, 15,18,23;114:1; 116:3,18;132:18; 133:3,12,13,16,17,19, 23:134:10.17: 135:23:136:10,12,16, 20;137:2,7,11;138:1,

9,14,17,22;139:2,10; 140:2.6:141:6.7.14. 18:142:6,9,18,23; 143:6:157:7.9: 158:17,18,22;159:10, 17,19,21,24;160:4, 10;161:23;162:2,16, 21:163:1,7:164:2; 170:15,17 Huard's (4) 6:6;161:4,6;163:11 Hudson (12) 12:17;14:7,11,16, 22:15:17.21:16:3; 18:5,8,22,23 Hudson's (2) 17:9,16 human (8) 82:22;83:4;88:15; 102:15;103:15; 115:8;130:2;171:7 hundred (1) 108:24 HVTL (2) 9:6,12 HVTLs (1) 126:14 hydrogeology (1) 119:19 hypothetical (1) 28:7Ι I-93 (2) 70:19,22 **IACOPINO (19)** 7:9:34:6:42:6: 85:6:87:20:113:21; 116:9:139:8:141:10: 143:8,16,23;158:16; 160:14.20:179:15: 180:1.6.9 ice (1) 21:1**ICES (3)** 92:18;93:2,24 ICNIRP (3) 92:18;93:2;94:13 ID (1) 160:15 idea (3) 80:11;81:12; 143:18 identification (2)

48:13,20:101:8; 108:15 ignore (2) 17:22:25:6 ignored (1) 18:1 image (1) 162:9 immediately (1) 20:13 impact (12) 13:23:19:24:27:6; 28:10;29:8;36:17; 62:6;165:12,16; 166:8,9,11 impacted (2) 47:21;166:15 impacts (15) 14:1;17:4;24:13; 29:6;41:11;99:24; 123:4;164:19;165:5, 5.7.21:166:12.17.17 imperceptible (2) 101:24;102:2 implementation (2) 15:11,12 implementing (1) 174:16 imply (1) 34:18 important (3) 81:4:171:5.9 imposed (3) 167:3:177:13: 178:20 imposition (1) 169:8 impossible (1) 28:6improved (1) 42:20 improvement (1) 42:14 improvements (1) 96:18 inappropriate (2) 17:6,8 incident (10) 126:2;127:2,8,22; 128:19,21;130:14; 131:24;133:3;137:21 incidents (11) 123:20;124:19,24; 125:4,8;127:11,14; 128:1,9,12,15 inclined (2) 163:1,7 include (7) 7:4;15:13;26:13; 28:3:32:19:34:14; 159:21 included (5) 6:21;42:24;98:10;

115:16;139:14 includes (2) 19:16:44:17 including (2) 21:1;104:5 inconsistencies (1) 171:12 increase (1) 167:15 increases (2) 54:14,17 in-depth (1) 37:3 indicate (2) 103:7;171:1 indicated (9) 55:23;72:1;81:20; 88:6;91:13;101:19; 117:21;121:6;128:23 indicates (3) 17:18:35:13:79:7 indicating (2) 83:17;168:20 indication (1) 66:12 indicator (2) 34:1;175:7 indicators (1) 28:1indirect (2) 126:4,9 individual (3) 37:17:48:21:84:3 induce (2) 81:22;82:2 induced (4) 64:20;72:5;79:11, 18 induction (3) 67:1;82:6;101:20 industry (10) 29:8,12:56:8; 82:16;83:3;118:17; 171:22,23;172:1,3 inference (3) 126:4,5,10 influence (1) 54:9 information (13) 25:20;32:13;72:24; 73:1:97:1:105:2; 139:1:161:10.11.20: 163:6:168:4.5 inherently (1) 161:13 input (1) 97:1 inputs (1) 99:14 inserted (1) 111:24 inside (7) 61:13,18,23;69:15;

70:5;72:14;82:2 insignificant (1) 166:10 instability (1) 171:17 installed (3) 76:5;77:7,10 instance (4) 57:17;77:8;96:24; 166:6 instead (1) 7:5 **Institute** (2) 48:13:95:20 instructions (1) 65:24 instrumentation (2) 50:9;98:23 insulated (4) 60:12;63:15;65:21; 68:22 insulating (1) 62:9 insulation (6) 62:9,15,16;63:9, 16:65:9 insulator (1) 74:18 insulators (1) 62:12 interact (2) 55:10:61:23 interaction (1) 103:4 inter-connectivity (1) 19:10 interest (5) 28:15.16.20: 165:24:166:3 interested (1) 178:16 interfere (2) 15:10:21:5 international (2) 92:17;94:1 interruption (2) 24:6;73:17 interrupts (4) 50:16;122:2,14; 137:3 intervenor (1) 170:17 into (33) 10:15;22:4;25:3; 27:17;31:20;68:8,16; 69:22;75:10,15;82:6; 87:1;90:3;96:4,22; 97:1;99:18;106:1; 107:10,21;111:21,21, 22;112:7;114:19; 122:12;131:20; 133:2:143:17: 159:14;161:21;

163:3;180:2 introduce (1) 135:22 introduced (2) 131:20:135:19 inverse (3) 77:5;85:20,23 investigate (1) 30:13 investigation (1) 133:2 involved (2) 48:6:141:14 iron (5) 75:5,7,8,9:105:20 ISO-New (2) 42:14;164:23 **ISO's (1)** 171:20 is's (1) 40:2 issuance (1) 174:17 issue (7) 11:18;32:6;120:12; 140:18;176:4;179:4, 11 issues (4) 64:14;95:13;141:9; 167:1 issuing (1) 174:1 J January (5) 114:17;115:1; 128:19;133:4;137:21 Jeremy (1) 43:20 jobs (1) 28:19 John (3) 18:13,14,14 Johnson (140) 43:18,24;44:4,14, 14;45:6,8,11,15,23; 46:3,7,21;47:7,11; 48:12;49:3,12,17; 50:8,18:51:3,9,16,22; 52:2.16.22:53:3.10. 14,23;54:6,16,22; 55:6,17,22;56:3,10, 18;59:23;60:5,9,23; 61:9,15;62:1,6,11,19, 24;63:4,7,13;64:3,7, 18;65:3,13,16;66:5, 12;67:7,20;68:1,11, 18;69:15,24;70:13, 17,19,23;71:4,7,11, 21;72:11,20,24;73:7; 74:1,12,15,17,21; 75:2,6,13,19,24;

113:16;142:3

102:17;111:13

119:8;175:2

8:20;37:19;42:13;

32:10;41:4;94:11;

identified (5)

identify (5)

IEEE (4)

BEC 2013-03	NIVKI ADJUDICATIV	E HEAKING DEFORE	SITE EVALUATION C	
76:10,24;77:14,18;	73:1	17:15,18;63:4	74:3,6;80:17,19;	live (4)
78:3,6,11,16,20;79:2,	Lands (1)	lesser (1)	86:7;87:3;88:10;	171:2,4,11;173:9
19;80:2,7,17,24;81:7,	16:1	165:21	98:3,5;100:3,3,16,17;	lived (1)
16;83:23;84:1;85:14;	landscaping (1)	letter (2)	101:15;102:5,24;	171:3
86:3;88:11,17;91:16,	172:20	132:13;137:13	101.15,102.5,24, 105:5,6,7,10;107:8,	lives (1)
				170:18
24;92:15,19,23;94:5;	land-use (2)	level (32)	19;108:13;109:1;	
95:3,7,17;96:16;97:4,	16:12;17:4	53:19;55:20;57:6,	117:5;121:10;	Living (5)
20,23;98:12,18;99:5,	lanes (1)	19,21;60:11;61:3;	124:14;126:12;	64:1;78:8;114:13;
18;100:5,18;101:10,	70:20	62:14,20;63:5,19;	129:23;177:4	123:10;126:14
18;104:24;106:11;	language (3)	68:5;70:4;71:23;	lines (89)	load (5)
107:15;108:5	178:19,23;179:2	72:4;75:20;76:11;	11:9;12:9,11;	43:5;54:16;91:17;
journals (1)	large (9)	82:9;83:13,20;84:12;	17:21;22:16;27:4,5;	112:6,8
101:4	18:2;38:8;41:1;	87:4,7;88:14;92:3;	35:19;36:8,10,15,17,	loading (5)
juggle (1)	65:22;66:17;71:24;	93:14;97:21;99:11,	22;37:8;38:6,11;	91:23;100:8,12,19,
157:13	79:23;112:16;166:19	18;103:24;118:18;	41:13;46:12;47:2,23;	19
jump (2)	largely (3)	167:18	49:8;51:7,13,20,22,	lobby (1)
66:15;73:20	164:19;165:7,11	levels (30)	23;52:4,8,11,18;	143:11
junipers (1)	larger (1)	54:15;57:16;60:2,	53:12;55:4,10,13;	Local (9)
112:19	162:9	17;67:10;69:7;75:8,	56:2;60:1,3;64:2,20;	6:17,17,20;13:23;
	largest (2)	14,15;83:3;84:9;	66:4;67:13,17;68:10;	14:1,5;20:9;21:14;
Κ	107:7;165:16	86:6;87:10,11;88:24;	69:2;71:2,15;72:18;	25:9
	Las (2)	89:3,5;92:16;93:10,	73:2,5,11,13,15;78:9;	locally (1)
Keep (5)	40:17;41:1	19,23;94:11,13,15;	81:14;86:5,6;88:9,10,	24:13
58:4;74:9;112:1;	last (5)	95:24;108:11,21;	14;90:16;91:22;92:4;	located (5)
128:7;167:19	122:16;164:1;	109:8;166:10;169:16	96:10;97:12;100:6,8,	11:9;17:14;33:10;
kilovolt (1)	170:22;171:22;174:7	liberty (1)	11;104:22,22;105:5;	38:10;79:10
89:11	late (1)	137:11	108:7;109:3,9;	location (10)
kilovolts (10)	143:14	licensed (4)	114:15;115:16;	48:9;50:9;51:21;
63:11;71:6,10;	later (4)	38:24;117:23;	121:3,8,20,23,24;	68:2;84:16;98:13;
83:19;89:7,14,18;	85:3,7;91:3;157:24	118:14,19	122:4;123:6,11;	99:21;102:6;129:24;
91:11,20;93:4	lattice (1)	licensing (1)	125:15,18;126:2,7;	137:23
kind (6)	115:2	38:21	127:9;129:1	locations (2)
34:24;37:2;39:18;	law (10)	lies (1)	link (1)	124:11;169:23
40:21;101:22;112:19	85:11,16,22,24;	173:22	125:13	log (6)
kinds (3)		light (2)	links (1)	124:9;125:10,24;
	86:1;90:2,5;91:12; 173:2,3	103:17,19	126:1	
32:11;38:24;		liked (1)		129:11,12;130:8
174:24	laws (3)		Lisa (1)	logs (1)
Knepper (5)	88:18,19;173:2	135:1	6:12	128:2
132:14,20,22;	leaching (1)	likelihood (1)	list (7)	Londonderry (3)
134:17,22	75:1	168:1	27:24;33:24;84:9;	10:18;12:19;14:7
Knepper's (2)	leader (1)	likely (4)	119:6;136:23;	long (6)
134:12,15	118:1	70:5;78:16;98:6;	137:16;159:16	25:14;28:5;72:7;
knowledge (10)	leading (1)	106:7	listed (5)	104:3;107:5;179:11
65:23;73:6;88:19,	95:23	limit (1)	15:19;16:5;33:10;	longer (3)
21;116:6,7;118:17;	least (3)	94:18	34:17;98:7	32:17;40:4,14
120:1,6;141:5	35:13;41:19;72:4	limited (8)	listened (1)	long-term (1)
known (1)	leave (2)	11:5;15:4;108:8;	172:17	102:7
95:13	104:18;178:22	117:22;118:12;	listing (4)	look (10)
	leaving (1)	117:22;118:12; 119:2;166:13;176:13	listing (4) 26:19,21;31:16;	look (10) 38:8;44:18;77:21;
95:13 L	leaving (1) 173:14	117:22;118:12; 119:2;166:13;176:13 limits (10)	listing (4) 26:19,21;31:16; 32:1	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9;
	leaving (1) 173:14 ledge (1)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12,	listing (4) 26:19,21;31:16;	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22;
	leaving (1) 173:14 ledge (1) 111:21	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11	listing (4) 26:19,21;31:16; 32:1	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21
L	leaving (1) 173:14 ledge (1) 111:21 left (1)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70)	listing (4) 26:19,21;31:16; 32:1 lists (1)	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22;
L labeled (2)	leaving (1) 173:14 ledge (1) 111:21	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21
L labeled (2) 70:19;88:5 ladder (2) 81:1,10	leaving (1) 173:14 ledge (1) 111:21 left (1)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18,	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3)	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1;
L labeled (2) 70:19;88:5 ladder (2)	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2;	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8;
L labeled (2) 70:19;88:5 ladder (2) 81:1,10	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18,	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3)	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1;
L labeled (2) 70:19;88:5 ladder (2) 81:1,10 laid (1)	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18, 21,22;40:22,24;41:1;	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3) 36:11;40:13,16	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1; 39:4,7,19;40:6;
L labeled (2) 70:19;88:5 ladder (2) 81:1,10 laid (1) 176:3 land (14)	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5 legal (1)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18, 21,22;40:22,24;41:1; 47:6;49:22;51:24;	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3) 36:11;40:13,16 little (6)	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1; 39:4,7,19;40:6; 41:22;64:7;111:4;
L labeled (2) 70:19;88:5 ladder (2) 81:1,10 laid (1) 176:3 land (14) 13:23;14:5,21;	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5 legal (1) 19:3 length (2)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18, 21,22;40:22,24;41:1; 47:6;49:22;51:24; 52:5,14;53:15;54:15, 16;55:19;59:3;60:8,	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3) 36:11;40:13,16 little (6) 13:23;38:5;94:8; 98:14;105:15;130:18	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1; 39:4,7,19;40:6; 41:22;64:7;111:4; 130:4 looking (9)
L labeled (2) 70:19;88:5 ladder (2) 81:1,10 laid (1) 176:3 land (14) 13:23;14:5,21; 15:20;16:18,21;17:9,	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5 legal (1) 19:3 length (2) 92:11;102:4	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18, 21,22;40:22,24;41:1; 47:6;49:22;51:24; 52:5,14;53:15;54:15, 16;55:19;59:3;60:8, 19,22,24;65:1,4,10,	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3) 36:11;40:13,16 little (6) 13:23;38:5;94:8;	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1; 39:4,7,19;40:6; 41:22;64:7;111:4; 130:4 looking (9) 25:12;33:8;37:13;
L labeled (2) 70:19;88:5 ladder (2) 81:1,10 laid (1) 176:3 land (14) 13:23;14:5,21; 15:20;16:18,21;17:9, 17;22:21;80:3;162:5,	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5 legal (1) 19:3 length (2) 92:11;102:4 lens (1)	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18, 21,22;40:22,24;41:1; 47:6;49:22;51:24; 52:5,14;53:15;54:15, 16;55:19;59:3;60:8, 19,22,24;65:1,4,10, 19;66:18;69:19;	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3) 36:11;40:13,16 little (6) 13:23;38:5;94:8; 98:14;105:15;130:18 Littleton (1) 7:21	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1; 39:4,7,19;40:6; 41:22;64:7;111:4; 130:4 looking (9) 25:12;33:8;37:13; 38:2;70:11;89:17;
L labeled (2) 70:19;88:5 ladder (2) 81:1,10 laid (1) 176:3 land (14) 13:23;14:5,21; 15:20;16:18,21;17:9,	leaving (1) 173:14 ledge (1) 111:21 left (1) 142:2 leg (1) 115:5 legal (1) 19:3 length (2) 92:11;102:4	117:22;118:12; 119:2;166:13;176:13 limits (10) 92:17;93:3,7,9,12, 22;94:6,12;102:9,11 line (70) 9:16;22:15;27:2; 29:22;30:24;39:18, 21,22;40:22,24;41:1; 47:6;49:22;51:24; 52:5,14;53:15;54:15, 16;55:19;59:3;60:8, 19,22,24;65:1,4,10,	listing (4) 26:19,21;31:16; 32:1 lists (1) 96:3 literally (2) 63:20;99:10 literature (3) 36:11;40:13,16 little (6) 13:23;38:5;94:8; 98:14;105:15;130:18 Littleton (1)	look (10) 38:8;44:18;77:21; 86:4;87:17;91:9; 103:24;115:22; 125:24;173:21 looked (16) 11:5;20:6,11;23:8; 27:12,15;30:22;31:1; 39:4,7,19;40:6; 41:22;64:7;111:4; 130:4 looking (9) 25:12;33:8;37:13;

58:6;72:24;100:1 lose (1)40:2 lost (1)23:19 lot (10) 36:12;39:15;41:22; 47:19:57:11:95:24; 108:9;120:19,21; 135:18 lots (2) 120:14;157:9 loved (1) 106:24 lower (9) 19:15,21;33:23; 40:3;67:1;84:10; 86:17;98:6,9 low-growing (1) 112:18 Μ Madam (7) 43:19;45:16; 109:15;140:11; 141:10;143:16;174:4 magnetic (41) 44:11;46:1,12; 49:7:50:6:52:14.23; 54:15.18.20.23.24: 55:3,12,17,20;61:13, 15,20;62:2;69:20,22; 70:1,3,4,8;82:4,5; 88:24;92:24;93:20; 95:4;97:8;99:2; 100:9;102:18; 103:18;119:17; 169:14,22;176:10 main (1) 74:2 maintain (1) 43:2 maintaining (1) 66:17 maintenance (1) 112:12 major (2) 56:16;100:5 makes (1) 74:20 makeup (2) 121:19.22 making (3) 13:21;14:8;111:15 man(1) 123:10 management (2) 19:21:74:8 managing (1) 44:15 many (14) 8:20;12:15;21:2; maybe (14)

22:17:37:7.7:46:21; 62:11:83:19:93:5: 118:12:120:14; 171:16:172:23 **map** (4) 70:14;124:11; 129:24;162:4 March (8) 132:13;136:20; 138:6:139:16; 141:12,12,17;142:4 **MARGARET** (2) 113:18.23 marginal (1) 96:18 mark (1) 160:14 marked (4) 113:15;114:1; 116:3;142:2 market (46) 10:11:26:13.17.24: 27:11,12,22;28:1,4,8, 10:29:20:30:6:31:14. 15,17,24;32:2,7,8,11, 15,17;33:4,4,16,20, 22,23;34:1,9,12,22; 35:6,7,11,15;36:2,6, 18;37:15,21;38:19; 39:19:166:11.16 marketing (1) 21:14 markets (1) 21:15 mask (1) 109:7 Mass (1) 7:23 Massachusetts (1) 25:8 master (12) 14:6,10,15,19;15:1, 11,18;24:17,20;25:1, 3.11 material (1) 131:8 materials (4) 20:7;129:16;131:6; 174:13 matter (3) 44:23:45:7:66:22 may (31) 7:15;17:14;23:14; 30:3,23;31:3,3,21; 32:18,19;40:2;41:18; 55:7,8;58:24;66:8, 18;70:7;76:10,14; 79:11;82:9;110:1; 135:5;141:15; 143:13;157:7; 161:23;162:1;165:6; 178:7

31:18,19;32:15; 36:4,7;52:6;92:12; 94:10:98:8;104:8; 106:2:107:19: 143:13:176:8 McLane (1) 43:20 mean (19) 28:5;32:3,6,9; 36:14:43:1:48:13; 57:10;59:4,11;60:6; 61:18;68:12;69:21; 71:9;84:15;97:18; 103:16;112:9 meaning (1) 96:22 meaningful (1) 35:2 means (1) 138:5 measurable (1) 176:14 measure (4) 103:14,15,23; 177:10 measured (2) 93:11;99:5 measurements (16) 46:8,24;47:1,15, 20;48:16;49:4,19,20; 87:18,19;88:7;96:9; 98:2.22:140:8 measures (1) 167:17 measuring (1) 98:20 medical (8) 124:23:125:3: 127:21.24:131:14.20. 23:132:2 medicine (3) 117:20,22;118:4 meet (2) 170:8;176:2 meetings (3) 138:13,16,21 meets (1) 170:4 member (3) 23:19;104:20; 157:12 members (5) 29:1:133:6:157:5: 164:10:174:5 memorandum (1) 140:10 memos (1) 157:24 mentioned (1) 67:7 mere (1) 18:2 merely (5)

60:18:61:21,24; 114:18:132:20 Merrimack (8) 11:3:16:9:19:9.13. 15,21;22:14;170:19 met (3) 134:22;137:14; 174:15 metal (3) 70:2,2,9 meter (9) 91:20:92:3.8:93:4. 5;94:1,3,4;99:11 method (1) 111:11 methodology (1) 48:23 mic (1) 134:9 Microseconds (1) 63:4 middle (1) 71:1 Middleton (1) 43:21 mid-span (3) 49:5,11;92:9 midst (1) 6:6 might (18)10:7:41:15,18; 69:12:76:18:77:1: 81:6;97:16,21;98:9; 102:5:105:8.16: 106:6;129:4;177:11, 21;178:20 mile (4) 10:7,8;27:21;33:14 miles (2) 19:17:48:18 milliamperes (2) 89:23:90:1 milliamps (7) 83:18;84:1,6,18; 85:21;86:6;90:3 million (2) 7:6;180:5 mind (2)18:3;35:10 mine (2) 89:18:128:6 minimal (1) 165:12 minimum (1) 97:13 minor (1) 6:8 minute (2) 67:21;115:22 minutes (9) 23:23:92:12: 109:22;141:20; 157:14,21,22;164:6;

177:22 missed (1) 163:19 mistaken (1) 139:11 misunderstand (1) 23:5 mitigate (1) 175:2 mitigated (1) 165:7 mitigating (1) 175:8 mitigation (2) 29:24;30:14 mixture (1) 112:5 model (11) 28:18;46:4,12; 49:9;95:2;97:1;99:4, 5,14,19;170:4 modeled (5) 87:18,19;88:7; 89:6:100:2 modeling (15) 46:1,9,23;47:15, 16;49:1,23;50:2,12; 67:11,14;95:3;96:18; 169:15,18 models (9) 46:21:47:3,13; 95:1.2:96:21:97:5. 18:98:15 modern (1) 62:12 modify (2) 70:2:106:17 moment (4) 14:23;47:8;98:4: 162:18 money (1) 171:5 monitor (1) 97:22 month (2) 31:21,22 **moon** (1) 88:21 more (26) 9:19;30:19;33:7, 19,20,23;35:15:72:3; 75:12;78:12,16;79:4; 96:14,20;98:6;99:14; 102:4;106:14; 108:10;142:11; 157:21;162:3;171:5, 7,9;179:1 morning (2) 67:19;68:9 Morrisev (3) 28:21:42:11.24 Morrisey's (2) 6:14.19

mortgage (2)	nature (5)	93:3	nuclear (1)	27:7
35:9,13	62:24;70:7;74:11,	Nevertheless (1)	172:5	off (10)
most (5)	12,14	22:9	number (18)	10:22;32:8,11;
35:10;69:24;107:9;	near (17)	New (30)	7:5;12:12,20,21;	35:6;58:4;75:1;
131:11;164:17	20:1,4;54:2;60:3,7,	7:22,22;8:13;9:8,	35:4;46:11;47:14;	79:10;108:12,17;
motions (1)	19,24;65:9;72:17;	16;10:18;12:10,17;	56:11;63:13;65:22;	124:4
158:10				offer (4)
	78:8;102:1;104:21;	14:7,11,22;15:21;	72:16;83:22;92:7;	
move (3)	111:17;115:15;	16:24;29:22;38:4,11;	95:8;100:6;136:4;	62:15;157:20;
158:1,24;159:14	123:11;126:14;127:8	48:18;58:6;71:5;	166:13,15	164:1;178:15
moved (3)	nearby (7)	77:8;92:21;107:6,9,	numbered (1)	offered (4)
107:6;121:17;	47:18;61:2;65:19;	10;132:14,24;162:4,	122:17	41:9,9;163:20;
163:21	73:21;75:10;99:22;	9;167:10;171:13	numbers (3)	172:20
moves (1)	104:17	next (12)	33:2,9;98:9	office (1)
52:20	necessarily (1)	27:2;31:21;36:15;	numerous (1)	20:8
moving (2)	103:16	43:16;61:21,24;	115:14	OFFICER (104)
99:8;178:17	necessary (2)	87:14;98:21;110:16;	nut (2)	6:4;7:7,13;19:4;
much (9)	164:23;168:16	127:6;137:1;143:13	111:20,23	22:11;23:12,18,22;
9:8;10:7;40:4;	need (13)	nighttime (1)		24:4;26:4;28:24;
53:24;112:21;	7:1;23:14;42:13;	105:3	Ο	29:15;30:17;31:6;
113:12;170:13;	43:2;49:10;90:23;	nobody's (1)		37:10;42:8;43:9,14,
171:21;172:7	132:23;134:8;142:5,	28:9	obituaries (2)	22;45:18;50:23;
multiple (1)	14;159:14;168:20;	noise (15)	124:5,6	84:13,23;87:12;90:7,
55:6	176:17	44:18,18;52:15,15;	object (12)	22;91:2,5;94:22;
municipal (2)	needed (2)	53:3,4;95:4,5,14;	19:2;26:1;60:12,	101:13,17;102:4,23;
6:17,20	77:23;166:20	107:23,24;108:7,12,	12;61:1,2,12;69:11,	103:5;109:10,13,16,
municipalities (1)	NEEDLEMAN (34)	14;109:8	21;87:8;132:18;	24;110:7,14,19,24;
28:14	19:2;22:6,9;26:1;	non-conductive (1)	161:7	112:22;113:2,5,11;
muscle (1)	43:13;109:21;110:3;	64:22	objected (2)	116:11,15;133:7,17,
104:12	116:14,17;122:22;	non-confidential (1)	134:7,10	21;134:3,6,14;136:6,
muscles (4)	123:2;132:22;	116:19	objection (8)	11,14,18,24;137:4,9,
57:8;82:11,19;	133:11,13;134:4;	none (5)	19:5;87:13;134:8;	18;138:2,11,15,19,
83:15	135:4;136:22;	86:6;103:2;113:9,	158:14,19;160:8;	23;139:4,9,19;140:1,
muscular (3)	139:24;140:11,22;	10;134:23	163:13;176:12	19;141:2,19,24;
56:20;57:3;104:6	142:10;143:4,22;	Non-Ionizing (1)	objections (4)	142:13,20;143:10;
MVRP (9)	158:4,13;159:4,12,	94:2	159:8;160:7;161:4;	157:4,11,17;158:6,
8:1,22;9:2,20;	23;160:2;161:2;	non-medical (2)	163:11	21;159:2,7;160:6,11,
10:15;41:8,10;44:12;	174:4;179:24;180:3,	125:7;128:4	objection's (1)	16,24;161:3,24;
77:9	8	non-shrink (1)	26:5	162:13,19,22;163:4,
myself (1)	needs (2)	112:4	objectives (1)	9,15,23;170:14;
118:9	6:9;42:16	nor (2)	15:16	174:2;177:18;178:2;
118.9	negative (4)	27:23;161:14	objects (12)	174.2,177.18,178.2, 179:3,10
Ν	17:23;24:17,23;			
14		norm (1) 55:16	53:21;54:20;55:1;	officials (2)
	36:17		60:18,24;65:20;	175:18,21
name (6)	neighbor (3)	normal (1)	69:24;70:2;72:17;	often (2) 49:20;115:4
44:5,14;58:5;	123:8;125:14;	92:17	80:14;97:12;105:1	
110:16;113:22;139:7	172:20	north (2)	obligation (7)	Ohm's (8)
namely (1)	neighborhood (1)	10:17;70:19	168:9,24;169:3,9;	85:11,15,22,24;
37:5	123:5	Northern (3)	176:16,22;177:13	86:1;90:2,5;91:12
names (1)	neighbors (4)	8:8;27:16;38:13	observed (1)	older (2)
162:6	172:22;173:11;	note (2)	104:21	62:7,11
name's (1)	175:5,21	136:22;141:8	Obviously (1)	once (4)
43:20	NEP (2)	noted (4)	99:14	41:8,11;112:10;
National (9)	51:3;78:15	16:19;20:14;	occupation (1)	140:14
55:24;56:6;67:8;	nerves (4)	134:23;135:1	44:6	one (62)
69:6;73:1;132:14,24;	57:8;82:11,19;	notes (2)	occupational (1)	7:21;8:1;17:8,16,
137:13;162:7	83:15	15:2;128:7	104:3	19,24;18:3;23:4;
natural (7)	nervous (1)	notice (2)	occur (3)	24:18;25:22;28:11;
14:20;15:14,14,20;	177:12	72:14;138:4	77:4;83:18;97:16	32:10,12,13;35:22;
172:3,6,12	NESC (4)	noticeable (1)	occurred (3)	40:17;49:24;51:21;
naturalist (1)	60:2,15;72:3,4	100:9	41:18;141:12,17	52:6,8;55:8;56:18;
118:5	neuro (1)	notify (3)	occurring (1)	57:21;59:22;61:9;
naturally (1)	104:6	167:23;168:23;	177:11	65:4;66:7,15,16;
118:9	neurostimulation (1)	176:23	occurs (1)	67:21;78:5,18;83:11;
	1	1	1	1

87:14:89:23,24; 100:18:104:15: 112:23;114:18,20; 115:1:119:7.9: 122:19:123:12,13; 135:5;137:14; 138:24;140:1,7; 142:21:157:12; 159:6,13;162:17,19; 172:22;175:7; 179:15,17 ones (4) 33:20;106:24; 143:19;160:3 one's (2) 39:4,6 one-year (1) 40:7 only (19) 26:16,23;31:1; 34:23;37:4;55:1; 64:23;68:20;92:9,11; 106:6;115:24; 125:12;138:2;142:2, 14;143:2;158:6; 180:12 onto (3) 60:3;107:21;173:4 open (6) 15:8:31:16:32:1; 97:11:143:13:158:10 open-circuit (1) 60:11 opened (1) 68:15 operate (1) 56:12 operating (2) 91:22;96:10 operation (4) 21:9;44:12;51:5,12 operations (1) 92:1 operator (1) 164:23 opinion (7) 15:13;21:18;22:5; 81:17;125:12; 137:10;173:3 opinion-based (1) 135:24 opinions (6) 41:9;45:24;125:2, 6;128:4;131:22 opportunity (17) 11:14;91:3;134:13, 18,20;135:2,7,17,20; 138:4:140:3,9,15: 141:16;164:3;177:8; 178:4 opposed (1) 33:19 opted (1)

111:18 own (5) oranges (1) 35:1 oranges-to-oranges (1) owner (4) 48:2 order (8) 35:17;83:16;93:15, oxide (1) 21;103:8;143:8; 157:18;167:19 75:9 ordinances (2) 14:6;25:12 75:5 **Organization** (1) 102:21 organizations (3) 93:12;94:19;101:6 original (1) 114:18 Page (28) oscillating (2) 81:22,24 others (2) 83:12;124:15 Otherwise (2) 35:1:36:20 out (20) 9:1;27:20;32:13; Pages (3) 41:12;47:17;59:17; 71:15,16;73:4;78:18; 98:12;99:7;102:8,12; paid (1) 106:18;107:6; 7:3 121:17:157:15; pain(2)158:1:176:3 outcome (1) 176:14 Outdoor (1) panel (2) 16:2outreach (2) paper (1) 175:16,16 outside (8) 9:22;55:15;68:21; 71:1:75:19:76:7; 79:7;81:18 over (9) 21:1;46:10;66:2, 11;95:7;96:13; 115:22;117:14;172:4 overall (1) 92:2 overhead (3) 51:7;52:3,7 overlook (3) park (5) 17:22;24:16,22 overly (1) 49:16 overnight (6) 67:16;68:10,14; 124:14;125:19;126:8 overrun (1) 177:7 overruns (3) part (20) 167:20;177:11; 178:12 over-voltage (2) 92:6:97:14

20:10:21:16:78:15: 92:22;142:19 30:3,5,7,13 owners (2) 30:1.4 oxidized (1) Р pacemaker (1) 108:3 7:2;15:2,21;64:17; 75:23;76:1;79:6,22; 88:2,4;114:12;117:4, 14,15;119:12;122:8, 11,12,15,18,24,24; 123:1;126:11,22; 130:21,22;131:13 15:24;119:12; 144:3 115:5.5 palpitations (1) 115:7 43:16,17 157:9 papers (4) 101:2,2,3,8 paragraph (8) 73:9.10:114:16: 123:8:126:23:127:6: 179:21,22 paragraphs (3) 122:17,18:123:3 parcels (4) 10:6;16:2,13,21 Pardon (1) 75:24 64:24;65:9;66:3, 11:67:15 parked (8) 64:22;65:3;67:21; 68:9,13;124:12; 125:18;126:6 parking (1) 66:13 17:19;19:19;29:23; 40:15;42:4;46:13; 51:24;118:15; 122:16;133:10,24;

137:16:165:19,24; 166:5:167:9:168:13: 169:10:170:11:179:8 participated (1) 140:24 particular (18) 46:7,16;47:21; 48:7:57:21:65:6.18; 66:9;69:2;73:8;84:2; 86:19:100:7:102:6; 103:10;111:12; 119:9;137:23 particularly (2) 38:12;64:21 parties (7) 113:7,8;139:5,6; 142:22;158:11;178:7 parts (2) 66:21;134:24 party (4) 137:16;139:2; 157:21:167:17 Pass (3) 8:8;27:16;168:6 passed (2) 27:16;167:15 passes (2) 56:22;57:5 past (7) 46:10,18:47:9,12; 48:11:122:20,23 path (2)73:16:79:23 patina (1) 74:24 pattern (1) 39:21 patterns (1) 14:5 Pause (3) 134:2;157:16; 170:16 pay (1) 6:17 payment (1) 30:2 peak (3) 91:22;93:6;100:19 peaking (1) 91:17 pedal (1) 69:10 peer-reviewed (3) 101:2,4,6 Peggy (1) 159:21 Pelham (2) 7:22;14:6 people (29) 32:6.10:35:11; 57:11,12;59:14; 77:20;78:20,21;81:5; 87:6;88:20;92:1;

95:8;102:15;105:16; 123:5:135:20: 142:15,16,21,24; 143:2:171:10: 172:10,19,23;173:6, 10 people's (3) 18:24;172:15; 173:4 per (9) 91:20;92:3,8,12; 93:4,4,24:94:3,4 perceived (1) 57:22 percent (14) 13:1;17:16,19,24; 18:3;24:19,24;25:16; 92:5;97:14;99:3,13; 168:3;177:7 percentage (3) 25:4,6:37:22 perception (2) 83:16;172:10 perceptions (1) 104:16 perfectly (1) 112:20 perform (5) 48:16;49:9,19,20; 118:18 performed (4) 46:8.23:48:22: 88:11 perhaps (6) 30:3,8;101:14; 166:10;170:6;177:13 period (15) 31:23;32:7;34:10, 17;38:17,17,23;39:1; 40:7,18:41:7:92:2; 101:19:127:3:128:8 periods (1) 40:9 permission (1) 142:18 permit (1) 41:16 permits (1) 165:15 permitted (1) 102:11 permitting (1) 17:12 person (26) 25:22;56:21;57:4; 59:9,18;61:5;68:5,8, 13,24;69:13;71:14; 72:7,13;80:20,24; 84:5,17;86:11,11; 87:14:90:13:91:9; 98:24;99:11;140:9 personal (3) 81:16;107:3;128:7

persons (1) 89:4 person's (2) 86:13.16 perspective (2) 42:19;107:3 Phase (2) 11:9,9 phases (1) 52:12 photographs (1) 161:16 phrase (2) 65:13:90:23 physical (4) 52:10;54:1;96:8,9 physically (1) 73:19 physician (1) 104:14 physics (4) 88:18,19,22;119:1 picked (2) 78:18;131:7 picture (5) 58:8,10;59:17; 90:16;129:22 pictures (4) 115:2,14;129:19, 21 piece (4) 16:7.18:173:9.14 pieces (2) 13:4:17:9 Pipes (3) 76:1;77:8,12 piping (1) 76:21 place (1) 112:10 placed (2) 10:11:180:2 places (3) 48:23;83:7;175:3 plan (14) 14:10,15,20;15:1, 11,18;19:21;24:17, 20;25:1,3;168:13; 169:6;176:19 planned (1) 38:23 planner (1) 18:16 planning (4) 18:11,21;175:19, 20 plans (2) 14:6;25:11 plant (1) 119:15 Plante (3) 109:22;110:10; 113:1

plants (3) 171:7:172:5.6 play (1) 99:16 please (6) 89:22;113:22; 114:10,22;122:7; 164:5 Plus (2) 75:8:88:10 pm (9) 6:2;24:2;110:5,6; 141:22,23;177:24; 178:1;180:12 point (10) 7:2;12:17;27:9; 31:11;69:16;102:12; 133:9;142:11;167:9; 176:17 pointed (1) 102:8 points (4) 105:21,23;106:16; 174:20 pole (12) 58:2,17,19;59:4, 15;80:22,24;110:16; 121:9,15,15,17 poles (6) 59:1:61:8:81:6.15: 92:11:129:23 police (3) 101:13,17:102:23 **Pond** (12) 10:23;11:4,15; 16:4,11;18:5;19:12; 20:16,18,24;21:7; 161:17 population (1) 14:20 populations (1) 102:15 portion (6) 13:3;16:8;18:2; 42:3;116:20;157:2 portions (2) 49:14;52:9 Portsmouth (1) 8:14 pose (1) 80:15 position (3) 18:15,19:99:9 positive (4) 14:1;24:12;25:7,7 possess (3) 129:4;130:13; 131:15 possessed (4) 123:19;124:18,22; 127:13 possibility (4) 26:21;66:2,24;

71:22 possible (8) 13:16,18:30:14; 49:4:61:11:90:5: 110:20:168:14 possibly (3) 38:15;82:14;88:13 post-construction (2) 39:16;41:4 post-study (1) 41:17 potential (14) 13:5,5,9,12;25:22; 55:15;59:12;63:17; 67:4;71:19;75:16; 102:7;166:16;167:20 potentially (8) 12:7,13,23;30:12; 37:14;42:21;73:17; 166:8 power (23) 51:21,23;56:1; 58:6;60:1,3,8;63:1, 24;64:2;73:19,21; 88:14;95:9,19; 104:22,22;123:6; 125:18;126:7;127:9; 129:1.23 practical (4) 82:12;85:15; 177:14:178:14 practice (1) 175:13 practices (1) 80:18 precaution (2) 76:9:77:9 precautions (1) 78:8 precede (1) 115:5 precedented (1) 43:1 precious (2) 171:6,7 precise (1) 88:18 prefiled (25) 9:6;12:5;13:22; 19:7;21:20;24:11; 44:23:45:3,6,9,11,13; 55:22;56:24;59:24; 81:21;91:16;93:1; 94:9;114:4,7;116:2; 117:11;121:6;122:6 preparation (1) 140:21 prepared (1) 139:21 preparing (1) 139:6 pre-project (1)

presence (3) 82:4:106:16: 125:14 present (13) 21:23:30:5:61:17; 62:1:92:9;120:23; 121:1;122:4;137:15; 138:18:139:22; 171:18;175:10 presented (3) 100:13;129:22; 170:5 presenting (1) 83:3 preserving (1) 15:14 PRESIDING (99) 6:4;7:7,13;19:4; 22:11;23:12,18,22; 24:4;26:4;28:24; 29:15;30:17;31:6; 37:10:42:8:43:9.14. 22;45:18;50:23; 84:13,23;87:12;90:7, 22;91:2,5;94:22; 109:10,13,16,24; 110:7,14,19,24; 112:22;113:2,5,11; 116:11,15;133:7,17, 21:134:3,6,14:136:6, 11,14,18,24;137:4,9, 18:138:2.11.15.19. 23:139:4,9,19:140:1, 19:141:2.19.24: 142:13,20:143:10; 157:4,11,17;158:6, 21;159:2,7;160:6,11, 16.24:161:3.24: 162:13,19,22;163:4, 9,15,23;170:14; 174:2;177:18;178:2; 179:3.10 pressure-grouted (1) 112:3 pretty (3) 35:24;53:24; 139:17 preventing (1) 56:14 previously (2) 110:11:117:23 price (9) 27:24,24;33:24,24; 35:8;36:19;37:17,24; 40:3 prices (3) 26:19,21;39:20 primarily (1) 20:12 primary (1) 59:13 primary-care (1) 118:7

principal (2) 44:8:135:5 principles (2) 96:7,8 printout (1) 162:4 prior (4) 40:18;46:13;48:20; 169:9 private (3) 18:24;166:2;173:4 privy (1) 142:24 probably (13) 35:10;75:6;76:13; 81:18;84:7;86:24; 106:18;107:18; 113:7;119:22; 139:11;165:16; 175:12 probative (1) 135:16 problem (2) 179:7.9 problems (1) 108:20 procedures (2) 48:15:80:16 proceeding (3) 123:16:175:14.24 proceedings (7) 44:16:115:3:134:2: 157:16:164:12; 170:16:174:22 process (4) 133:10;134:21,24; 170:21 produce (7) 54:5;60:10;76:20; 82:18:98:6:105:13: 123:18 produced (9) 52:19,22,24;53:8; 55:1;69:20;109:8; 125:22;135:23 profession (2) 39:14;118:20 professional (4) 18:16;117:10,19; 118:7 professionals (2) 125:3.7 Program (2) 95:14;111:13 programs (3) 74:8;95:23;96:5 prohibit (1) 79:9 prohibited (1) 66:13 Project (88) 6:17;8:17;10:16; 12:11;13:23;14:14,

38:16

18;15:7;16:10,14,15,	170:19;178:19	pulse-power (1)	94:2	reasonably (1)
16;17:5,11,17,20;	Proprietary (1)	74:19	radio (9)	176:13
19:23;20:2,5,10,14;	144:6	pupil (1)	44:18;52:15;53:3;	reasons (3)
21:5,7,13;22:15;	PROPRIETARY***** (12)	103:21	107:23,24;108:7,11,	32:12;35:5;112:18
24:10,12,18,23;	145:11;146:11;	purchased (5)	14;109:8	recall (36)
25:10,11,23;28:9,16,	147:11;148:11;	37:24;120:8,22;	raindrops (1)	9:5;10:2;12:4;
20;32:16;37:18;	149:11;150:11;	121:2,7	108:9	13:21;14:10,13,18;
38:22;39:3,18;40:8,	151:11;152:11;	pure (2)	Randy (3)	17:15;18:20;19:23;
21;42:13;43:1;44:12,	153:11;154:11;	74:14,15	132:14,20,22	21:9;40:24;41:3;
20;46:6;47:6,7;	155:11;156:11	purely (1)	range (1)	63:23;117:13;
48:10,17;49:11,15;	protect (4)	33:5	83:18	123:20,21,24;124:2,
48.10,17,49.11,13, 51:6;87:9;91:19;	15:8;17:13;62:4;	purpose (2)		4,5,6,14,16,20;
92:16;97:3,5;164:22;	164:13	44:9;59:13	ranges (1) 84:7	4,5,6,14,16,20, 127:14,15;129:5,6,
				20,21;130:21;131:1;
165:2,6,8,14,19;	Protection (1) 94:2	pursuant (1) 164:12	rare (1) 171:6	
166:5,14,18,20,23;				133:11;143:4,6
167:5,7,9;168:2,9,21;	protects (2)	pursue (2)	ratepayers (3)	receive (6)
169:15,23;170:1,3,8,	55:24;56:3	36:23;142:8	167:10,11,16	65:16;136:7,12,15,
20;171:2;175:5,11;	protocol (3)	purview (1)	rates (1)	19;178:3
176:11,18;180:2	48:7,13,21	81:19	38:9	received (8)
projected (3)	prove (1)	push (1)	rather (4)	68:6;133:13;
167:13;168:2;	171:12	98:1	27:13;37:13;	136:16;137:5;138:5,
169:15	provide (6)	put (11)	116:24;131:7	6;161:16;178:6
projects (6)	41:19;44:10;73:16;	32:6;35:5;59:10;	ratio (1)	recently (1)
40:10;41:20;46:18;	88:22;129:7,10	69:10;78:21;96:4;	33:24	66:7
48:6;164:17;174:23	provided (17)	97:7;108:15;112:6;	ratios (1)	recess (4)
Project's (1)	6:19;92:17;94:13;	169:11;178:18	27:24	24:1;110:4;141:21;
11:3	100:19;123:22;	puts (2)	reach (2)	177:23
promptly (3)	124:3;126:16,19;	28:7;80:24	87:10,11	recognizance (1)
167:22;168:23;	129:11,15,19,21,24;	Putting (1)	reached (2)	20:10
176:23	130:1,7;161:10,20	81:10	29:10;67:10	recognize (1)
prong (1)	provides (1)	puzzled (1)	reaction (2)	114:4
165:3	62:14	94:8	82:22;83:4	recommend (5)
165:3 proper (3)	62:14 providing (3)		82:22;83:4 read (7)	recommend (5) 167:2,21;168:17;
		94:8 Q		
proper (3)	providing (3)		read (7)	167:2,21;168:17;
proper (3) 56:9;80:16;86:1	providing (3) 28:15;124:4,6		read (7) 73:9;76:2;84:24;	167:2,21;168:17; 169:4,19
proper (3) 56:9;80:16;86:1 properly (5)	providing (3) 28:15;124:4,6 proximate (3)	Q	read (7) 73:9;76:2;84:24; 114:22;119:5;	167:2,21;168:17; 169:4,19 recommendations (1)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17,	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19	Q qualified (3)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8	167:2,21;168:17; 169:4,19 recommendations (1) 170:7
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6)	Q qualified (3) 73:8;104:9;120:3	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27)	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2;	Q qualified (3) 73:8;104:9;120:3 quality (1)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5;
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6,	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2)	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7,	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1;
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49)	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8;
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15,	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15;	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33)	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2,	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4,	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20;	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15;	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24;
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10,	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20;
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19,	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14;	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17;	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15;20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23;	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24;	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13,	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11 Recreation (1)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15;20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8;	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11 Recreation (1) 16:2
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1)	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2)	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2) 93:8;126:12	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2 proposed (22)	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2) 164:11;165:3	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5 reask (1)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21 red (1)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2 proposed (22) 8:7,16;9:1,20;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2) 164:11;165:3 published (4)	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2) 93:8;126:12 R	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5 reask (1) 110:22	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 128:14;131:3,14,20; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21 red (1) 71:2
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2 proposed (22) 8:7,16;9:1,20; 10:14,16;16:9;21:21;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2) 164:11;165:3 published (4) 101:1,3,5,8	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2) 93:8;126:12 R Rachel (1)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5 reask (1) 110:22 reason (6)	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21 red (1) 71:2 redirect (2)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2 proposed (22) 8:7,16;9:1,20; 10:14,16;16:9;21:21; 23:10;25:13;27:16;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2) 164:11;165:3 published (4) 101:1,3,5,8 pull (2)	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2) 93:8;126:12 R Rachel (1) 110:21	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5 reask (1) 110:22 reason (6) 17:22;24:16,22;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21 red (1) 71:2 redirect (2) 43:12;109:14
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2 proposed (22) 8:7,16;9:1,20; 10:14,16;16:9;21:21; 23:10;25:13;27:16; 44:20;46:5;47:24;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2) 164:11;165:3 published (4) 101:1,3,5,8 pull (2) 66:2,11	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2) 93:8;126:12 R Rachel (1) 110:21 radar (1)	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5 reask (1) 110:22 reason (6) 17:22;24:16,22; 47:16;91:6;172:2	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21 red (1) 71:2 redirect (2) 43:12;109:14 reduce (4)
proper (3) 56:9;80:16;86:1 properly (5) 59:5;79:19;80:17, 19;108:6 properties (27) 9:1;10:3;11:1;12:6, 12,21;29:19,21; 30:22;31:1;34:20,23; 36:13,14,21;37:6,7, 20,21;38:9;39:5,7; 41:13;119:17;166:7, 13,15 property (33) 6:15,16;9:11;13:4, 6,13,17,24;19:1; 21:14;30:1,5,7,13; 34:14,16,19;36:20; 37:14,17,18;39:24; 40:1,2;41:11;119:16; 134:23;166:3,11; 172:15;173:4,7,13 property-by-property (1) 38:2 proposed (22) 8:7,16;9:1,20; 10:14,16;16:9;21:21; 23:10;25:13;27:16;	providing (3) 28:15;124:4,6 proximate (3) 33:19,23;35:19 proximity (6) 11:2;30:24;31:2; 73:23;74:6;114:14 PSNH (2) 51:4;78:15 Public (49) 21:23;22:2;28:15, 15,20;43:16,17; 44:13;45:19;51:15; 56:1,3;65:24;66:2, 10;94:7,11;104:20; 118:15;132:15; 133:1,4,5,14;135:10, 11;157:1;158:15,19, 24;160:9,18;163:14; 164:2,5,13;165:23; 166:3,19,22;169:13, 17,19;175:18;176:8; 178:3,18;179:1,19 Public's (2) 164:11;165:3 published (4) 101:1,3,5,8 pull (2)	Q qualified (3) 73:8;104:9;120:3 quality (1) 164:14 quantities (1) 97:9 quarter (1) 33:17 quarter-mile (1) 107:19 quick (1) 177:21 quickly (2) 34:19;62:22 quite (8) 35:23;39:14;61:17; 89:2;115:23;142:24; 174:13,23 quoted (2) 93:8;126:12 R Rachel (1) 110:21	read (7) 73:9;76:2;84:24; 114:22;119:5; 131:10;141:8 reader (3) 58:11,14;59:12 reading (3) 58:10;94:10; 118:22 readings (3) 88:12;129:13; 138:8 reads (1) 58:3 ready (2) 119:3;174:3 real (9) 21:15;26:16;36:18; 119:15,23;172:1; 177:10,14;179:6 really (10) 32:4,16;36:2,15; 43:3;73:7;82:20; 95:7;158:2;177:5 reask (1) 110:22 reason (6) 17:22;24:16,22;	167:2,21;168:17; 169:4,19 recommendations (1) 170:7 recommended (3) 94:6,19;178:11 record (14) 6:5,12;7:9;24:5; 44:5;87:21;110:8; 117:16;133:4;142:1; 157:2;159:14; 167:14;174:10 recorded (1) 128:8 records (8) 124:23;127:21,24; 132:2 recovery (1) 167:11 Recreation (1) 16:2 recruitment (1) 42:21 red (1) 71:2 redirect (2) 43:12;109:14

reduced (3) 67:9:70:5:180:6 reduction (1) 54:24 redundant (1) 49:16 **refer** (12) 41:7:57:23:64:9. 16;70:10;72:15,21; 78:4,14:82:20:85:4: 118:5 reference (9) 19:14;64:3;93:10; 94:13,15:96:2; 108:16:118:23; 179:20 referenced (4) 7:10;40:13;42:5; 115:21 references (2) 105:16:106:15 referred (10) 63:24;77:22;78:1, 3,6,10,23;105:9; 119:2;128:20 referring (1) 123:12 refuse (1) 171:18 regard (6) 44:12:45:24:50:4: 168:7:169:13:178:11 regarded (1) 89:2 regarding (1) 131:24 regardless (3) 17:13;25:16; 167:12 regime (1) 49:13 region (6) 37:16;42:18,22; 43:8;165:1;166:22 regional (5) 14:2;21:15;24:14; 168:22;175:20 regular (1) 118:6 regulations (2) 174:16:176:4 regulators (1) 128:12 reinforce (1) 16:20 reiterate (1) 22:1 relate (1) 142:12 related (4) 117:11;127:13; 129:4:135:12 relates (1)

137:20 relating (3) 85:16:115:24; 161:16 relationship (3) 85:15;86:2;120:1 relative (1) 38:10 relatively (1) 166:15 relevance (2) 84:14:87:8 relevant (7) 41:10;135:14,16; 137:20,24;140:12,17 Reliability (16) 8:17;11:3;16:10; 22:23;42:15,20;43:2, 6;161:12;164:22; 165:1;166:20,21; 168:21;170:20; 171:16 reliable (1) 42:23 relied (1) 21:18 relocated (2) 12:11:51:13 rely (1) 131:16 remain (1) 162:12 remainder (1) 119:6 remaining (2) 159:5,8 remember (5) 18:4;64:3;66:7; 117:12:123:23 **REMI (3)** 6:19;28:18;42:24 remind (1) 42:3 removed (2) 120:19,21 replacing (1) 172:6 report (20) 15:2;21:17;40:14, 14,15;100:1;132:24; 135:3,6;138:6;139:1, 6.21:140:5.7.20: 141:6;142:4;168:19; 177:2 reported (3) 90:18,19;105:19 Reporter (7) 44:1:50:16:110:12; 113:19;122:2,14; 137:3 reports (2) 25:17:101:5 represent (1)

164:13 representative (2) 49:21:169:22 represented (1) 9:8 represents (2) 8:12;57:19 request (11) 41:16;123:17; 127:12;129:5; 159:20,22;160:1; 161:21:173:23; 178:3.21 requests (3) 78:5;123:17; 128:11 require (3) 84:7;111:16; 168:18 required (4) 50:5;72:3;93:15; 170:9 requirement (3) 47:5;168:12; 177:15 requirements (4) 17:12;69:6;77:15; 174:15 requires (3) 26:17;167:22; 169:5 requiring (1) 169:20 research (18) 12:6;34:11,12; 35:17,23;82:21;83:2; 95:11,19,21;102:13, 22;103:12;107:17; 129:16;131:5,6,8 researchers (2) 95:9,22 reservations (1) 106:24 resided (1) 106:24 residences (1) 124:12 resident (1) 170:18 residents (2) 73:4;171:21 resistance (9) 28:1:33:22:34:1; 85:12;86:11,14,16, 17,23 resources (11) 14:21;15:14,15,20; 17:13:20:1:118:6.21; 119:2;175:4,4 respect (13) 26:17:96:19: 119:20,23;123:6,19; 124:18;162:2;176:9,

15,21;177:6;179:18 respectfully (1) 161:21 respective (1) 55:4 response (4) 94:8:103:20.22: 107:15 response] (3) 109:12;113:4; 163:22 responses (1) 159:21 responsibility (4) 171:15,19,20,20 rest (6) 80:12;84:9;124:14; 126:5;158:10;163:10 restriction (1) 94:20 restrictions (7) 78:1;79:1;93:14, 17,21;94:6,16 result (5) 25:23;51:10;82:10; 97:3:133:2 results (6) 97:18;99:4,5; 100:13;170:1,4 resume (1) 6:8 Resumed (5) 6:2:24:2:110:5: 141:22:177:24 resumes (1) 157:1 retirement (3) 168:24:169:9: 176:21 returns (1) 110:12 revenue (2) 25:8;28:13 revenues (1) 14:2 review (8) 14:5;16:13;25:10; 128:12;140:15; 165:3;166:1;174:7 reviewed (7) 15:16:16:21:21:17; 24:20;25:17;102:22; 166:4 reviewing (5) 14:10;15:1;17:4; 25:11;133:6 reviews (4) 14:24;15:23;64:10; 130:24 Rielly (3) 134:1;136:8,17 right (43) 6:4;7:7,13;16:15;

18:23:26:6:29:15; 30:2:31:17.18:32:8: 38:4:43:9:57:18; 61:10;75:15;76:22; 79:16,20,24;80:2; 85:8;95:17;105:14; 110:1,7;119:5,20; 120:24;123:3;129:8; 130:9,23;133:16; 137:19:141:24; 142:20;157:17; 158:8;162:17;163:7; 164:4:180:8 right-of-way (41) 9:19;10:5,9;12:8, 23;15:7;16:9,14,15, 16,22;17:19,20; 20:13;22:14,16,20, 22;23:3;25:13;31:4; 33:11;48:24;49:1; 51:23:55:5.21:69:4, 5:79:8.10.11.16:80:5: 84:16;101:14;107:1; 108:1;165:9,20; 173:17 **Riparian** (2) 111:5,8 rise (1) 136:3 risk (10) 58:22:59:22:61:5; 71:18:80:15:101:13. 17:102:23:103:7.8 River (8) 19:9.13.15.16.17. 18.20.21 Road (15) 10:18,22;11:15; 12:18;65:24;66:7,16, 19:67:16:71:24:72:1; 101:15:115:12: 121:17;126:7 roadway (1) 70:15 **ROBERGE** (4) 30:19,21;94:24; 100:21 **Robinson** (9) 16:4,11;18:4; 19:11;20:16,17,24; 21:7:161:17 robustness (1) 49:23 rock (2) 64:23;111:18 rod (3) 111:19,23;112:2 role (3) 44:15;99:17; 164:11 **room** (4) 103:18:139:23; 142:15;143:13

SEC 2015-05	MVRP ADJUDICATIV	E HEARING BEFORE	SITE EVALUATION C	COMMITTEE
DOCE (4)			22 6 26 6 40 2	105 17 106 0
ROSE (4)		scout (2)	33:6;36:6;49:3;	125:17;126:9;
29:2,3;42:10,12	S	21:2;118:1	55:11;74:5;81:8;	128:24;129:18;
ROSS (99)		scouts (1)	170:3	130:2;133:3
6:4;7:7,13;19:4;	safe (6)	120:6	sensory (1)	shocked (3)
22:11;23:12,18,22;	60:17;69:7;79:4;	screenshot (1)	83:16	64:24;65:5,6
24:4;26:4;28:24;	80:11,18;169:16	162:3	sent (1)	shocks (1)
29:15;30:17;31:6;	safely (2)	screenshots (1)	133:14	56:1
37:10;42:8;43:9,14,	56:12;64:2	161:19	separate (1)	short (1)
22;45:18;50:23;	Safety (13)	screw (2)	144:4	92:2
84:13,23;87:12;90:7,	43:16,17;44:13;	111:11,15	separates (1)	short-circuit (1)
22;91:2,5;94:22;	51:15;55:24;56:3,6,	Seacoast (1)	11:20	60:11
109:10,13,16,24;	17;67:8;69:6;80:16;	8:16	series (2)	shorten (1)
110:7,14,19,24;	114:13;169:18	seated (1)	117:10;129:15	116:24
112:22;113:2,5,11;	sake (1)	25:18	seriously (1)	shorter (1)
116:11,15;133:7,17,	25:7	SEC (5)	173:24	23:4
21;134:3,6,14;136:6,	sale (10)	17:3;166:1;169:7;	service (1)	shortness (1)
11,14,18,24;137:4,9,		171:14;175:12	180:2	115:6
18;138:2,11,15,19,	11:6,8;26:17,24;	second (7)	services (1)	short-term (1)
23;139:4,9,19;140:1,	27:2,24;37:1,13,16;	8:4;21:10;63:4;	15:5	101:19
19;141:2,19,24;	40:3	122:24;123:1,15;	SESSION (13)	showed (3)
142:13,20;143:10;	sales (15)	135:10	6:1;116:21;117:8;	36:3;129:13;130:1
157:4,11,17;158:6,	8:20;10:20;27:3,	seconds (1)	124:17;126:12;	showing (1)
21;159:2,7;160:6,11,	17,17,19,20;33:24;	63:3		124:9
	37:23;38:8,11;39:19,		127:20;130:20,22;	
16,24;161:3,24;	19;40:6;41:13	section (7)	139:11;141:11,13,15;	shown (2)
162:13,19,22;163:4,	same (8)	49:24;64:16;100:7;	180:12	89:9;99:3
9,15,23;170:14;	28:18;49:8;94:16;	102:13;143:1,20;	sessions (5)	shows (2)
174:2;177:18;178:2;	96:20;101:24;	160:22	138:12,16,21;	22:2;59:18
179:3,10	118:10;119:8,20	sections (2)	139:16;141:17	shrubbery (1)
roughly (3)	sampling (1)	93:5;100:3	set (7)	99:22
71:1,11;84:5	169:23	Seeing (2)	26:3;47:22;56:10;	shrubs (3)
rounded (1)	satisfaction (1)	29:16;172:14	97:24;161:14,18;	47:19;74:10;
7:5	22:8	seek (1)	167:14	112:16
route (4)	satisfied (1)	167:17	sets (2)	side (7)
39:3;51:7;66:21;	76:16	seeking (2)	67:9;72:4	10:21;19:17;55:9;
91:20	satisfy (1)	164:13,14	setup (2)	67:16;80:11;115:12;
routinely (1)	20:23	seem (1)	111:4,6	126:7
66:6	saw (1)	139:5	several (3)	sign (10)
ROW (5)	59:19	seemingly (2)	22:16;30:4;143:2	58:3,8,14;59:10,
11:20;66:1;80:4;		123:10;126:13	SHAPIRO (6)	14;66:10;81:9,13;
91:19;172:19	saying (4)	seems (2)	6:11,12;7:10;	115:2;129:22
RSA (2)	23:1;94:14;158:14;	29:18;102:3	28:13,17;180:4	significant (7)
164:12;174:15	176:2	sees (1)	sharp (2)	20:19;22:19;73:18;
rub (1)	scenario (1)	30:5	105:23;106:16	111:16;165:22;
57:12	100:14	selected (1)	sheer (1)	166:8,12
rule (1)	scenarios (1)	9:7	106:16	significantly (1)
137:19	168:15	self-education (2)		• • •
	scenes (1)		sheet (1) 72:24	50:6
ruled (2)	171:8	118:12,21		signs (1)
158:7;159:6	scenic (1)	self-weathering (2)	shield (1)	115:9
rules (3)	171:9	74:23;75:3	54:1	similar (10)
17:3;166:2;169:7	schedules (1)	sell (5)	shielding (1)	36:21;39:12,18;
ruling (1)	157:5	28:5;31:21;32:4,7;	97:11	49:15;50:10;83:12;
72:4	school (1)	36:14	shifted (1)	107:15;108:21;
run (1)	119:1	selling (2)	55:8	109:2;112:5
117:14	science (2)	36:7;37:6	shock (39)	simple (3)
running (2)	119:14,18	send (1)	56:15,19;57:2,10,	85:24;90:5;97:23
31:18;70:21	scientific (3)	88:20	11,12,17,18,19;	simply (4)
runoff (2)	101:1,3;103:6	senior (1)	58:24;59:19;61:7;	33:15;39:1;76:14;
75:1,4	scientist (2)	44:15	65:10,16;68:7,7,19;	179:4
runs (2)	44:8,15	sensation (2)	69:14,16;71:18;	simultaneous (1)
10:22;16:10	Scobie (3)	56:20;57:3	80:15,23,23;81:3;	115:4
rust (1)	10:23;11:4,15	sensations (2)	83:4,14,21;84:10;	single (4)
74:24	scope (1)	104:12,16	87:5;88:16;90:15;	118:16;121:10;
	166:14	sense (7)	104:13;106:10;	159:22;171:11

104:13;106:10;

sense (7)

166:14

159:22;171:11

sit (1) 72:7 site (5) 96:23:99:16.20: 161:11:162:5 sites (2) 161:12.15 site-specific (1) 96:22 siting (1) 165:8 sits (1) 28:10 sitting (8) 69:8:72:8,14; 90:15;116:2;128:24; 135:8;143:15 situation (9) 35:9;37:5;57:15; 63:21;77:21;97:10; 98:2,13,20 situations (2) 76:12;79:15 six (1) 75:24 size (12) 53:5,16;54:6,7; 63:17;68:2,24;80:8; 103:20,21;105:8,12 sizes (2) 16:23:22:18 skew(1) 32:19 skip (1) 85:2 slightly (3) 32:5:99:8,10 Slowly (2) 114:24;141:8 small (15) 12:13;13:3;24:18, 23:25:4,6,16:86:24; 99:12;103:1,2; 105:10;120:18; 166:15;173:14 Smoke (1) 79:22 soil (1) 75:9 sold (16) 10:12:26:14:28:4; 31:14.16:33:4.10: 34:19,20,23;36:20, 21;37:7,21,22;39:7 solid (1) 70:24 somebody (3) 28:7;35:5;106:9 someone (1) 39:18 someone's (1) 108:3sometimes (1)

177:10 somewhat (3) 125:19;167:12,16 somewhere (3) 55:12;84:7;115:23 son (1) 157:10 son's (1) 173:16 soon (1) 143:11 sophisticated (1) 96:15 sophistication (1) 99:19 sorry (22) 11:11;23:18,20; 24:5;29:16;31:8,9, 11;56:23;86:14; 87:22;88:1;89:10,17, 21:113:6:117:23: 134:4,6,10;136:9; 143:14 sort (9) 32:13;48:8;52:7; 95:23;100:14; 105:18;108:4; 115:13:157:15 sound (2) 119:13,13 source (5) 56:7.8:59:6: 104:17:108:16 sources (2) 42:23;82:13 southbound (1) 70:20 Southern (2) 8:13;38:13 space (3)15:8;53:9;60:24 spacer (1) 112:1 spare (1) 80:12 spark (1) 105:16 sparks (3) 104:21,23;106:7 speak (4) 73:8;75:13;76:10; 78:17 special (1) 78:7 species (1) 171:6 specific (8) 38:3;47:7;61:16; 74:4;80:7;97:2; 98:13:99:20 specifically (5) 75:13;77:24;78:17; 117:5:121:22

specifics (1) 49:18 specify (1) 178:19 spoke (1) 98:14 St (2) 105:17:106:8 stable (1) 47:23 stage (1) 178:23 stand (1) 173:23 standard (10) 35:24;76:7,8,9; 77:16,19;83:1,9; 115:7,9 standards (6) 56:9,11,17;92:22; 104:4;170:8 standing (5) 71:14;97:22; 101:13;102:5,23 start (6) 99:20;117:4,18; 158:4,13;177:21 started (1) 68:16 starting (3) 7:16:44:22:68:18 starts (1) 114:16 state (20) 6:18;7:4;9:8;13:3; 14:2;16:24;17:2,11; 19:19:20:8,21:25:8; 38:13,14;42:19;44:4; 92:21;104:21; 128:11:172:18 stated (5) 7:20;47:8;90:4; 114:18;118:11 state-designated (1) 19:15 statement (8) 64:19;73:24;76:14, 15;77:2;126:17; 178:6,14 statements (2) 79:3;164:9 states (4) 76:17,24;92:20; 162:8 statewide (1) 24:14 static (1) 52:8 stating (1) 97:24 Station (1) 95:19 statistical (3)

33:1.6:38:7 statute (2) 17:2;176:3 stav (1) 164:5 stayed (1) 96:19 steel (6) 74:23;75:3,7; 111:19:115:2:161:9 steeples (1) 105:22 steering (1) 69:11 still (9) 29:10;47:10;60:13; 67:4;80:10,20; 126:19;132:1;173:23 stimulate (1) 57:8 stimulated (1) 83:15 stimulation (4) 82:10,18;101:23; 104:7 stipulation (4) 7:1,2,10;179:19 stop (1) 173:16 stopped (2) 72:7.9 strategies (1) 15:12 strategy (1) 29:24 strength (5) 53:19:54:10:63:8; 65:8:169:22 strictly (2) 31:2;162:17 structure (5) 13:10,11:53:15; 54:1.1 structures (11) 21:21,22;22:2,16, 19,20,23;23:2,11; 47:19;53:23 stuck (1) 17:1studied (3) 40:18;41:12;171:4 studies (8) 8:24:39:16:40:5, 11,12;41:6;46:15; 119:13 study (21) 7:17;8:12;9:7,10, 14,18;10:1,3,10,16, 20;11:1,14,21,23,24; 26:12;28:18;37:3; 41:2;118:16 studying (2) 34:8;102:14

stuff (1) 112:20 subject (4) 17:11;38:24; 165:23;167:8 submit (9) 44:22:45:6.17: 168:12,19;169:5; 170:1;176:19;179:1 submitted (5) 40:15;132:24; 133:9:160:1:165:11 subsequent (1) 141:13 subset (1) 166:3 substantial (1) 168:1 Substation (1) 11:4 Subsurface (1) 111:13 subtleties (1) 99:12 success (1) 175:7 successfully (1) 175:6 suffer (1) 61:6 suffered (1) 124:10 sufficient (6) 57:7:88:22:104:1: 105:15;118:17;138:3 sufficiently (2) 105:24;112:7 suggest (2) 170:10:175:6 suggested (4) 17:5;21:6;36:10; 169:16 suggesting (1) 84:15 suited (1) 30:9 summarize (2) 159:10;176:1 summary (3) 14:13;157:22; 162:6 supplemental (2) 6:22,24 supply (4) 164:15,18,24; 166:21 support (5) 126:17;129:16; 131:16,23;132:2 supported (1) 52:3 supporting (2) 22:22;174:12

supports (3) 15:7;110:15; 165:12 suppose (3) 26:20;34:16;38:14 supposed (2) 123:4;143:1 supposing (1) 76:14 sure (19) 11:17;26:16;60:15; 61:17:64:7.12.23; 68:11;112:6;114:23; 116:22;117:2; 119:10;136:21; 140:2;143:23;158:8; 160:4;177:2 surface (14) 54:9,11;62:13; 64:22;65:21;75:17, 18;81:22;82:1; 105:11,14;111:14,17; 112:23 surrounding (2) 53:9;163:2 survey (1) 40:16 sustain (6) 19:4;59:19;69:14; 80:22;87:12;88:15 sustained (5) 26:5:90:14:91:9: 124:10:125:10 sustaining (1) 71:18 swear (3) 45:3,13:116:3 swings (1) 166:23 sworn (3) 43:24;110:11; 113:18 symbol (1) 58:12 symptom (2) 125:16;126:8 symptoms (11) 68:17;84:11;85:1; 86:10;87:2;91:10; 114:17,20,21;115:4,9 system (10) 22:24;59:5;76:6, 21;111:2,7,19;112:1; 164:23;168:22 Т table (16) 25:18:83:17:85:4, 14;87:17,24;88:3;

talk (1) 79:12 talking (6) 69:3;70:23;95:3; 131:5;143:18;177:3 talks (1) 77:14 taller (2) 22:19;23:2 tariff (1) 167:8 tax (3) 7:4;14:2;40:1 taxes (6) 6:15,16,17;7:3; 25:9;28:14 tech (3) 138:12,16;141:16 technical (14) 101:5;116:20; 117:8;124:17; 126:11:127:20: 130:20,22;138:21; 139:11,15;141:11,13, 15 techniques (7) 46:9,14;49:23; 95:12:96:1,6,19 **Telephone** (1) 76:1 telling (1) 173:5 temporary (1) 29:6 ten (1) 109:19 tend (4) 53:11;99:23: 108:17:112:15 term (2) 27:19:97:17 terms (19) 11:6;17:3;33:20, 22;48:17;52:9;74:1; 81:17;84:3;85:16; 96:14;99:15;101:12; 103:4;104:6;166:9, 11,16;167:3 terrain (6) 47:18;97:7,11; 98:3:99:15,21 test (10) 47:2;48:22;67:12; 96:10;112:6;135:15; 164:16,20;165:24; 166:4 testament (1) 175:15 testified (4) 26:11:46:20:86:4; 180:4 testify (1) 91:3

testimonies (1) 100:24 testimony (55) 6:10.14.14.21.22. 24;9:6;12:5;13:22; 19:7;21:20;24:11; 25:19,21;28:13;44:9, 23;45:1,4,6,10,12,14; 55:23;57:1;59:24; 81:21;87:9,13;91:16; 93:2;94:9;102:8; 114:5,7,11;115:20; 116:2,4,8;117:12; 121:6;122:6,10; 126:22;128:21; 163:2;165:10,17; 166:7;168:8,10; 169:14;172:17; 174:11 testing (16) 11:24:46:6,19; 47:5;48:7,8,9,21,23; 49:9,13;50:5,7; 98:15;169:21;176:10 Thanks (1) 42:7 then-applicable (1) 169:7 theoretical (1) 71:22 Theoretically (3) 61:9.11:70:3 therefore (3) 39:1:54:15:66:19 therein (1) 116:4 thereto (1) 165:15 thinking (1) 36:11 third (4) 8:11;126:22; 135:15;167:17 though (4) 13:2;36:23;78:18; 100:1 thought (5) 28:5;36:2;114:19; 115:17;132:9 thoughts (1) 21:11 three (17) 7:20;11:12;16:2; 19:17;27:13,22; 33:16;35:22;36:23; 41:5;52:4,11;124:5,7, 8;162:23;170:6 three-dimensional (1) 96:17 three-pole (1) 13:10 thresholds (1) 101:22

throughout (2) 16:24:83:3 throw (1) 107:7 tie (1) 125:17 ties (2) 125:19,20 times (2) 21:14:102:11 tingling (4) 56:20;57:3;104:12, 15 tiny (2) 103:23,23 tires (5) 62:4,7,11,12,14 tissue (2) 57:7;83:14 tissues (2) 82:10:93:4 title (1) 18:20 TL (1) 95:18 today (6) 117:17;126:19; 129:22;130:5; 139:22;140:5 together (5) 78:22:108:15; 127:11:138:10: 178:19 told (2)121:16:126:20 took (2) 28:5;140:7 top(3)121:14;124:4; 131:13 topographic (1) 70:14 total (2) 7:3;17:16 touch (2) 73:19;81:1 touched (2) 68:5;106:9 touching (5) 60:21;61:7;74:6; 80:21;106:12 tourism (8) 13:24;19:24;20:8, 24;21:6,8;29:8,12 tourist (1) 20:19 tourist-related (1) 20:1 tourists (1) 20:24 toward (1) 98:1 towards (2)

10:23:103:19 tower (5) 76:5.13.19:81:8: 115:3 towers (4) 75:1;77:6,10;81:15 town (14) 13:3;14:16:15:3, 17;16:3;17:16;18:5, 7,15,22,23;24:17; 25:11;27:15 towns (4) 8:21,23;20:9,15 town's (3) 15:7,8;18:11 traffic (4) 72:8,9;101:16; 103:1 trails (1) 173:18 trained (2) 118:16.20 training (7) 117:10,19,20,24; 118:1,3,16 transaction (4) 26:22,23;27:6,7 transcript (10) 116:20,23;117:4, 15:119:12:126:11; 143:20;144:3;158:1; 160:22 transfer (2) 60:7:63:12 transmission (71) 17:20;22:15,23; 27:2,4,5:35:19: 36:22;38:10;39:17, 20,22;40:21,24; 41:13:42:15:46:11: 47:6:51:13.19.22.24: 52:3,14,18:53:12: 59:2;60:19,22;61:8; 65:1,4,19;66:4; 67:17;68:10;69:19; 72:18;73:2,5,11,13, 15;78:9;81:14;90:16; 91:22;95:11,21;96:2, 10;101:15;102:24; 107:8,17;114:15; 115:12,15;120:23; 121:3.8.10.24:122:3: 123:11:124:13; 125:15;126:2;165:9; 168:22;171:24 travel (1) 20:8 treat (1) 118:9 tree (8) 31:3;73:22;74:2,5; 165:17,18,19;173:18 trees (11)

89:9,10;93:6,18;

113:24;130:1

94:3:98:8:110:13:

SEC 2013-03	
12.0.52.21 22.	umbr
13:9;53:21,23;	
54:21,22;73:10,13,	127
14,18;74:9;172:14	unaff
trespassing (1)	36:
173:7	uncol
triple-tower (1)	55:
111:4	uncov
true (7)	171
60:23;64:21;75:6;	unde
77:5;116:4,8;126:19	15:
try (8)	60:
16:22;32:10;74:9;	19;
84:20;116:23;164:5;	68:
175:2;179:12	17;
trying (7)	79:
62:8;85:19;91:1,8,	82:
10;99:19;157:13	90:
tune (1)	102
118:8	4;1
turn (5)	124
79:6;103:19;117:3;	126
122:6;128:19	164
turn-off (1)	174
12:18	unde
turns (1)	118
10:21	unde
two (22)	171
27:14;28:1;34:17,	Unde
18;35:22;36:23;	76:
40:12;41:4,6;52:7;	unde
71:2;87:6;95:12,23;	56:
120:18;122:16,18;	unde
123:3;127:11;	55:
140:22;161:16,19	87:
two-part (1)	undo
164:16	171
two-pole (1)	13
13:10	undu
two-year (1)	173
40:7	uneas
type (6)	177
48:2,8;50:4;	unfol
107:15;128:24;	173
177:13	Unfo
types (2)	128
6:16;104:5	uninf
typical (3)	27:
39:9;62:13;109:8	Unite
typically (23)	92:
38:7,20;49:21,24;	unkn
52:4,6,16;62:7;	161
63:16;66:20;72:2;	Unles
75:11;92:11;97:4,8,	109
13;99:3;106:2;108:8,	unlik
22;109:7;111:9;	80:
163:24	unlin
	102
\mathbf{U}	unrea
	29:
Ultimately (1)	unrel
98:18	161
ultra (1)	unsol

80:11	36:

mbrella (1)	
127:4 maffected (1)	
36:22	
ncommon (1)	
55:19 Incover (1)	
171:15	
nder (43)	
15:19;16:1;55:3; 60:20;61:10;64:17,	
19;65:16;66:3;67:16;	
68:10;71:14;72:12,	
17;73:10;76:24;77:2; 79:6,20,22,24;80:2;	
82:17;86:5,23;88:14;	
90:15;101:14;	
102:23;105:4;106:3, 4;114:12;115:11;	
124:13;125:18;	
126:7;129:1;144:4; 164:6;165:2;166:2;	
174:15	
ndergo (1)	
118:1 indergone (1)	
171:21	
J nderground (2) 76:1,21	
inderlying (2)	
56:16;94:18	
nderneath (6) 55:13;66:18;86:7;	
87:3;96:9;102:5	
ndoubtedly (5) 171:17;172:8,9,11,	
13	
ndue (1) 173:8	
neasy (1)	
177:15	
nfold (1) 173:22	
Unfortunately (1)	
128:17 ninfluenced (1)	
27:3	
J nited (2) 92:20;162:8	
nknown (2)	
161:11;166:10	
J nless (1) 109:21	
nlikely (1)	
80:10 Inlimited (1)	
102:10	
nreasonable (2) 29:11;51:14	
nreliable (1)	
161:13	
insold (1) 36:13	
	1

unsuccessfully (1)
10:12
unusual (5)
76:17,24;77:2;
82:17;175:12
up (24)
36:3;54:17,18,19;
62:17,22;63:5;65:14,
15;67:18;80:24;
81:10;92:7;108:3,17;
109:22;112:16;
119:22;142:9;
157:21;158:2;
167:12;178:15;
179:12
updated (1)
96:13
upheaval (1)
172:13
upon (5)
42:22;43:2;83:22;
131:16;169:8
use (21)
13:24;14:22;17:7;
22:21;26:18,19,21;
34:14;46:14;65:13;
67:11;90:2,5;96:21;
07.17.00.1.111.15
97:17;99:1;111:15;
116:23;159:13;
161:1;162:6
used (9)
27:18;46:9,11;
56:11;74:17;83:3;
97:10;160:3;173:17
usefully (1)
32:13
using (6)
20.7.77.11.01.12
20:7;77:11;91:12; 98:24;132:19,19
98:24;132:19,19
Utilities (5)
132:15;133:1,5,14;
135:12
135:12 utility (5)
135:12
135:12 utility (5) 10:21;15:5;29:23;
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1)
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1)
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2)
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4)
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4)
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15;
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19 value (11)
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19 value (11) 26:17;29:20;30:6;
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19 value (11) 26:17;29:20;30:6; 33:4;35:11,15;36:18;
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19 value (11) 26:17;29:20;30:6;
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19 value (11) 26:17;29:20;30:6; 33:4;35:11,15;36:18; 40:3;94:4;166:11,17
135:12 utility (5) 10:21;15:5;29:23; 66:1;82:16 utilizing (1) 15:6 V vagaries (1) 39:1 validity (2) 47:2;50:1 Valley (4) 11:3;16:9;22:15; 170:19 value (11) 26:17;29:20;30:6; 33:4;35:11,15;36:18;

41:12;93:8;94:3;
119:16
variable (2)
36:3;38:19
variation (2)
89:4;99:7
variations (1)
86:22
varies (2)
86:11;87:14
variety (3)
104:16;112:17;
123:17
various (11)
16:23;21:1;22:18;
44:19;48:23;49:14;
96:10,16;98:7;175:3,
18
Varney (41)
13:21;14:4,9,12,17,
23;15:1,16,24;16:6,
12,20;17:10,18;18:1,
6,9,11,13,16,18,20;
19:14;20:3,6,12,17; 21:4,17,19;22:14;
21:4,17,19;22:14;
23:6;24:10,15,20;
25:1,10,17;29:4,9,13
Vegas (2)
40:17;41:1
vegetation (5)
73:21;74:8;112:10,
14,14
vehicle (34)
vehicle (34)
vehicle (34) 60:7;62:4,5,7,9,17,
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14,
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16,
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1) 173:3
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1) 173:3 visibility (9)
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1) 173:3 visibility (9) 12:9,10,16,24;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1) 173:3 visibility (9) 12:9,10,16,24; 30:24;121:18;
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1) 173:3 visibility (9) 12:9,10,16,24; 30:24;121:18; 165:22;166:9,16
vehicle (34) 60:7;62:4,5,7,9,17, 21,23;63:6,7,12,14, 18;64:21;65:7,9,11; 67:3,15;68:2,9,20,23; 69:1,8,9,16,22;71:16, 17,19,24;72:9,13 vehicles (6) 60:3;64:17,20; 66:3,11,17 verbal (3) 109:12;113:4; 163:22 version (2) 85:24;90:5 versions (2) 83:6,8 vicinity (1) 55:13 view (6) 13:5,13;17:6;31:4; 142:15;172:11 views (3) 13:11;171:9;176:2 violated (1) 173:3 visibility (9) 12:9,10,16,24; 30:24;121:18;

41:12:93:8:94:3;

173:12 visual (1) 34:2 vitality (1) 177:4 vitals (1) 129:13 voltage (48) 40:24;52:1,20,23; 53:5,12:54:4,5,6,8; 58:4;60:3,7,12,16,20, 24:61:2,3,14:62:21; 63:19;64:20;68:4,15; 69:12;71:15,20,23; 72:5,10,19;74:3; 76:20;79:12,18,21; 81:9;85:16;87:4; 88:24;96:11;97:15, 16;98:5,19;105:6,7 volts (5) 71:12;85:12,22; 89:12,15 volumes (1) 131:7 volunteer (2) 18:15,17 voting (1) 21:2 W wait (3)21:10;143:11; 157:14 waiting (2) 133:8;134:4 waiver (1) 168:12 walk (1) 81:6 WALKER (7) 43:19,20;44:3; 45:16;87:8;88:2; 109:15 walking (4) 114:13;123:11; 126:14;127:3 wants (2) 140:14;178:22 warn (2) 66:1,10 warning (5) 58:10,12;59:11; 81:9;115:13 warnings (1) 65:24 warranted (1) 36:9 water (14) 16:17;19:11;74:11, 13,14,15,20,22;75:9, 11,14,15,17,18 watershed (6)

SUSAN J. ROBIDAS, N.H. LCR (603) 622-0068 shortrptr@comcast.net

16:4,10,23;18:5;	109:23	58:2	14:6;25:12	16th (2)
19:12;162:5	whole (5)	woods (1)	-	133:4;137:21
watersheds (1)	32:21;37:15;38:23;	107:21	1	17 (1)
16:24	134:21;138:9	words (2)	1 (11)	15:2
way (18) 27:18;30:1;32:9,	who's (2) 140:20;163:20	33:21;46:4 work (11)	1 (11) 10:22;11:7,9,21;	170 (1) 31:18
20;34:24;35:16,17;	wide (1)	25:14;30:7;38:6;	89:11,19;141:12,17;	18 (1)
36:19;64:23;65:4;	97:11	41:6;46:13;83:9;	158:15,19;159:1	48:18
72:8;77:19;87:1;	wife (1)	84:20;95:18;101:7;	1,000 (4)	-0.10
97:24;101:24;	107:5	118:19;179:12	89:12,20,23,24	2
125:13;131:16;142:5	Wikipedia (3)	worked (4)	1:30 (1)	
ways (2)	161:9,13;162:14	78:20;107:16;	6:2	2 (6)
35:22;49:13	wildlife (1)	120:5;175:1	1:52 (1)	11:9;27:15;126:12;
weak (2)	119:14	workers (1)	24:2	141:12,17;180:11
82:5;101:20	Wiley (4)	82:15	10 (12)	2:00 (1)
weather (3)	10:18,22;11:15;	Working (4)	15:21,24;67:22;	24:3
108:8,23;109:6	12:18	64:1;107:11;108:6;	157:21,21;161:8,8;	20 (4)
WEATHERSBY (3)	William (4)	176:9	163:10,17;164:6;	13:1;22:3;29:21;
29:17;37:12;	43:18,23;44:7,8	works (1)	168:19;177:3	37:20
106:21	willing (1) 178:18	118:9 world (2)	100 (5)	2001 (3)
web (4) 161:11,12,15;	willingness (1)	world (2) 95:10;102:20	9:19;12:20,22; 33:9;34:12	120:8,22;121:3 2006 (1)
161:11,12,13, 162:5	30:11	worst (1)	100-foot (1)	162:7
weigh (1)	Windham (1)	97:19	9:23	2009/2010 (1)
118:21	14:7	worst-case (2)	100-page (1)	126:23
weighed (1)	wire (4)	98:2;100:14	40:14	2012/2013 (1)
165:4	76:19;80:6;110:15;	worth (1)	10-acre (1)	127:7
weighs (1)	112:9	35:14	10:5	2013 (3)
165:2	wires (10)	write (1)	11 (6)	27:13,14;33:17
weight (1)	52:7,21;61:8;76:6;	137:12	15:21,24;161:8,8;	2014 (2)
140:14	77:6,10;111:3,4;	written (1)	163:10,17	27:14;33:17
welfare (1) 56:4	112:17;115:12 wish (2)	134:22 wrong (2)	12 (2) 117:4,14	2016 (6) 114:17;115:1;
well-being (1)	109:14;142:8	32:19;94:10	11 /.4,14 13 (11)	128:19;131:24;
173:12	wishes (1)	wrote (1)	85:4;87:17,24;	132:13;141:13
weren't (2)	15:3	140:10	88:3;89:9,10;93:6;	21 (1)
40:20;43:4	within (29)	110110	94:3;98:8;113:23;	72:21
wetlands (3)	11:8;12:20,22;	Y	121:16	21st (4)
75:11;111:10;	16:16;18:15;22:17,		14 (5)	132:13;136:20;
119:14	20;33:12;48:24;	yard (2)	93:18;161:8,15;	138:6;142:4
what's (15)	51:20;55:4;57:7;	121:16,19	162:2,23	22 (1)
22:3;34:22;52:16;	60:16;63:2,3;69:5;	year (7)	145 (1)	82:20
70:12;71:7;74:2;	74:22;78:8;79:10;	7:3;92:2,12;	144:3	23 (7)
89:9;95:13,15;98:7;	84:16;91:19;99:3;	170:22;171:22;	14-year-old (1)	7:12;85:8;87:21,
108:22;109:2,5; 113:24;139:7	108:2;111:7;114:10; 165:8,20;169:16;	174:7;180:2 years (16)	123:9 15 (9)	23;88:5;93:18; 179:18
wheel (1)	175:19	27:13,14;36:12;	34:20;161:8,15;	24 (4)
69:11	without (7)	40:18,19;41:5;56:12;	163:10,17;168:3;	57:23;66:10,12;
Whenever (1)	49:15;60:21;61:7;	95:8;96:20;103:11;	171:3;177:7,22	81:13
174:3	97:11;104:16;	121:12;122:20,23;	156 (1)	25 (2)
whereas (1)	117:17;121:22	168:19;171:3;177:3	144:3	84:7;116:19
164:17	WITNESS (14)	yellow (2)	15-acre (1)	26 (2)
Whereupon (8)	6:11;14:24;15:23;	70:21,24	10:6	143:19;160:20
24:1;43:23;110:4,	22:12;64:10;109:20;	Yesterday (1)	15-minute (1)	26.8 (1)
10;113:18;141:21;	110:13;113:1,14;	104:20	109:18	93:24
177:23;180:11 Whomeyon (1)	116:9,13;130:24;	York (3)	15-year (1)	27(2)
Wherever (1) 115:21	140:20;141:14 witnesses (10)	107:6,9,10	40:17 16 (3)	143:21;160:17 28 (5)
WHITAKER (8)	6:7;26:8;43:15;	Z	117:5,15;119:12	132:5;158:9;
32:22,24;42:2,7;	109:17;140:23;		162-H (1)	152:5,158:5,
110:18,22;111:1;	141:4,12;163:5;	zone (2)	174:16	29 (4)
112:21	170:24;172:18	111:6,8	162-H9 (1)	159:13,15;160:13,
Whitaker's (1)	wooden (1)	zoning (2)	164:12	14
-		_ · · ·		

SEC 2013-03		E HEARING BEFORE	SITE EVALUATION C	
	06.20	01 (3)		
	96:20	91 (2)		
3	500 (5)	88:2,4		
	27:20,21;33:12,12,			
	14			
3 (2)				
83:18;84:1	50-year-old (1)			
3:55 (1)	123:9			
110:5	51 (2)			
	7:2;179:21			
30 (6)				
31:19,20;34:21;	52 (4)			
124:1;125:21;126:11	13:1;113:15;114:1;			
301.16b (1)	116:3			
166:2	53 (2)			
	130:21,22			
30kV (1)				
84:8	54 (1)			
340 (1)	131:13			
71:6	58 (1)			
	9:1			
345 (2)	5kV (1)			
71:10;105:7				
345,000 (1)	93:4			
71:12	5th (1)			
345kV (3)	141:15			
		4		
71:7;105:4;107:19	6			
35 (1)	0			
36:12				
36.4kV (1)	6 (6)			
94:2	63:11;75:23;76:1;			
	89:14,18;122:18			
4	6,000 (1)			
4	89:15			
4 (4)	6,600 (2)			
9:1;127:12;129:5;	89:16,17			
160:2	6.6 (2)			
4.17 (1)	89:7;91:11			
	6:07 (1)			
93:4	178:1			
4:09 (1)				
110:6	6:08 (1)			
4:48 (1)	180:12			
141:22	60 (4)			
	34:21;62:24;63:3;			
4:55 (1)	94:13			
141:23	94.15			
40 (2)	-			
13:1;103:11	7			
40-acre (1)		1		
10:6	7 (2)			
45-degree (1)	64:17;79:6			
	70s (1)			
111:22	108:15			
49 (1)				
70:10	71 (1)			
	165:18			
5		1		
	- 8			
5 (14)		-		
5 (14)	8 (2)			
83:18;84:1,6;92:5;	8 (2)			
97:14;99:3;114:12;	7:2;79:22			
122:11,12,15,24;	8.6 (1)			
123:18;126:22;160:2	91:20			
	8.6kV (3)			
5,000 (1)	92:3,8;94:4			
33:14				
5:40 (1)	8kV (1)			
177:24	93:24			
50 (8)		1		
22:3;64:9;72:15;	9			
	-	4		
75:22;76:5,11;77:12;				