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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AND
MAINE LAND USE PLANNING COMMISSION

IN THE MATTER OF
CENTRAL MAINE POWER COMPANY'S
NEW ENGLAND CLEAN ENERGY CONNECT PROJECT

NATURAL RESOURCES PROTECTION ACT
SITE LOCATION OF DEVELOPMENT ACT
SITE LAW CERTIFICATION

HEARING - DAY 6
THURSDAY, MAY 9, 2019

PRESIDING OFFICER: SUSANNE MILLER

Reported by Robin J. Dostie, a Notary Public and
court reporter in and for the State of Maine, on May
9, 2019, at the Cross Insurance Center, 515 Main
Street, Bangor, Maine, commencing at 8:00 a.m.

REPRESENTING DEP:
GERALD REID, COMMISSIONER, DEP
PEGGY BENSINGER, OFFICE OF THE MAINE ATTORNEY GENERAL
JAMES BEYER, REGIONAL LICENSING & COMPLIANCE MGR, DEP
MARK BERGERON, DIRECTOR, BUREAU OF LAND RESOURCES

1 REPRESENTING LUPC:

2 EVERETT WORCESTER, COMMISSIONER, CHAIR

3 LAUREN PARKER, LEGAL COUNSEL

4 NICHOLAS LIVESAY, EXECUTIVE DIRECTOR

5 BILL GILMORE, COMMISSIONER

6 DURWARD HUMPHREY, COMMISSIONER

7 BETSY FITZGERALD, COMMISSIONER

8 ROBERT EVERETT, COMMISSIONER

9 MILLARD BILLINGS, COMMISSIONER

10 BILL HINKEL, REG SUPERVISOR

11

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PARTIES

Applicant:

Central Maine Power Company

Matthew D. Manahan, Esq. (Attorney for Applicant)
Pierce Atwood
Merrill's Wharf
254 Commercial Street
Portland, ME 04101
Phone: (207) 791-1189
mmanahan@pierceatwood.com

Lisa A. Gilbreath, Esq. (Attorney for Applicant)
Pierce Atwood
Merrill's Wharf
254 Commercial Street
Portland, ME 04101
Phone: (207) 791-1189
lgilbreath@pierceatwood.com

Intervenors:

Group 1:

Friends of Boundary Mountains
Maine Wilderness Guides
Old Canada Road

Designated Spokesperson:
Bob Haynes
Old Canada Road Scenic Byway
27 Elm Street
Skowhegan, ME 04976
Phone: (207) 399-6330
Bob.haynes@myfairpoint.net

PARTIES

Intervenors (cont.):

Group 2:

West Forks Plantation
Town of Caratunk
Kennebec River Anglers
Maine Guide Services
Hawk's Nest Lodge
Mike Pilsbury

Designated Spokesperson:
Elizabeth A. Boepple, Esq.
BCM Environmental & Land Law, PLLC
3 Maple Street
Concord, NH 03301-4202
Phone: (603) 225-2585
boepple@nhlandlaw.com

Group 3:

International Energy Consumer Group
City of Lewiston
International Brotherhood of Electrical
Workers, Local 104
Maine Chamber of Commerce
Lewiston/Auburn Chamber of Commerce

Designated Spokesperson:
Anthony W. Buxton, Esq.
Preti, Flaherty, Beliveau & Pachios, LLP
45 Memorial Circle
P.O. Box 1058
Augusta, ME 04332-1058
Phone: (207) 623-5300
abuxton@preti.com

R. Benjamin Borowski, Esq.
Preti, Flaherty, Beliveau & Pachios, LLP
One City Center
P.O. Box 9546
Portland, ME 04112-9546
Phone: (207) 791-3000
rborowski@preti.com

PARTIES

Intervenors (cont.):

Group 4:

Natural Resources Council of Maine
Appalachian Mountain Club
Trout Unlimited

Designated Spokesperson:
Sue Ely, Esq.
Natural Resources Council of Maine
3 Wade Street
Augusta, ME 04330
Phone: (207) 430-0175
nrcm@nrcm.org

Cathy Johnson, Esq.
Natural Resources Council of Maine
3 Wade Street
Augusta, ME 04330
Phone: (207) 430-0109
nrcm@nrcm.org

David Publicover
Appalachian Mountain Club
P.O. Box 298
Gorham, NH 03581
Phone: (603) 466-8140
dpublicover@outdoors.org

Jeffrey Reardon
Maine Council of Trout Unlimited
267 Scribner Hill Road
Manchester, ME 04351
Phone: (207) 615-9200
jeffrey.reardon@tu.org

PARTIES

Intervenors (cont.):

Group 5:

Brookfield Energy
Wagner Forest

Designated Spokesperson:
Jeffrey D. Talbert, Esq.
Preti, Flaherty, Beliveau & Pachios, LLP
One City Center
P.O. Box 9546
Portland, ME 04112-9546
Phone: (207) 791-3000
jtalbert@preti.com

Group 6:

The Nature Conservancy
Conservation Law Foundation

Designated Spokesperson:
Rob Wood & Sean Mahoney
The Nature Conservancy in Maine
14 Maine Street
Suite 401
Brunswick, ME 04011
Phone: (207) 729-5181
robert.wood@tnc.org

Group 7:

Western Mountains and Rivers

Designated Spokesperson:
Benjamin J. Smith, Esq.
Soltan, Bass, Smith LLC
96 State Street, 2nd Floor
P.O. Box 188
Augusta, ME 04332-0188
Phone: (207) 621-6300
benjamin.smith@soltanbass.com

PARTIES

Intervenors (cont.):

Group 8:

NextEra

Designated Spokesperson:
Joanna B. Tourangeau, Esq.
Drummond Woodsum
84 Marginal Way
Suite 600
Portland, ME 04101-2480
Phone: (207) 253-0567
jtourangeau@dwmlaw.com

Emily T. Howe, Esq.
Drummond Woodsum
84 Marginal Way
Suite 600
Portland, ME 04101-2480
Phone: (207) 771-9246
ehowe@dwmlaw.com

Group 9:

Office of the Public Advocate

Designated Spokesperson:
Barry J. Hobbins, Esq.
Maine Office of the Public Advocate
112 State House Station
Augusta, ME 04333-0112
Phone: (207) 624-3687
barry.hobbins@maine.gov

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PARTIES

Intervenors (cont.):

Group 10:

Edwin Buzzell
LUPC Residents and Recreational Users
Carrie Carpenter, Eric Sherman, Kathy Barkley,
Kim Lyman, Mandy Farrar, Matt Wagner,
Noah Hale, Taylor Walker and Tony DiBlasi

Designated Spokesperson:
Elizabeth A. Boepple, Esq.
BCM Environmental & Land Law, PLLC
3 Maple Street
Concord, NH 03301-4202
Phone: (603) 225-2585
boepple@nhlandlaw.com

1	INDEX PAGE	
2		PAGE
3	<u>Vernal Pool Panel</u>	
4	Summary of Direct Testimony	
5	Aram Caloun	20
6	Gary Emond	26
7	Examination By:	
8	Ms. Boepple	30
9	Ms. Ely	40,54
10	Mr. Manahan	48,53
11		
12	<u>Groups 2/10 & 4</u>	
13	Summary of Sur-rebuttal Testimony	
14	Garnett Robinson	55
15	David Publicover	60
16	Jeff Reardon	65
17	Malcom Hunter	--
18	Examination By:	
19	Mr. Manahan	74,108
20	Ms. Boepple	83
21	Ms. Ely	87,111
22	Mr. Mahoney	90
23	Ms. Howe	93
24		
25		

	PAGE
1	
2	<u>Group 6</u>
3	Summary of Supplemental Testimony
4	Rob Wood 113
5	Erin Simons-Legard 117
6	Examination By:
7	Ms. Gilbreath 122
8	Mr. Publicover 132
9	Ms. Boepple 136
10	Mr. Smith 141
11	
12	<u>Applicant Witness Panel 1</u>
13	Summary of Supplemental Testimony
14	Terry DeWan 153
15	Amy Segal 154
16	Examination By:
17	Mr. Wood 165
18	Mr. Haynes 172
19	Ms. Boepple 180
20	Mr. Borowski 205
21	Ms. Ely 206
22	
23	
24	
25	

1		PAGE
2	<u>Applicant Witness Panel 2</u>	
3	Summary of Supplemental Testimony	
4	Lauren Johnston	231
5	Gino Guimarro	235
6	Gerry Mirabile	241
7	Mark Goodwin	--
8	Examination By:	
9	Mr. Publicover	246
10	Mr. Reardon	267,330
11	Mr. Wood	282
12	Ms. Boepple	290
13	Mr. Smith	296
14	Ms. Gilbreath	324
15		
16	<u>Engineering Witness Panel</u>	
17	Summary of Supplemental Testimony	
18	Kenneth Freye	336
19	Justin Bardwell	340
20	Nicholas Achorn	344
21	Justin Tribbet	346
22	Thorn Dickinson	350
23	Gil Paquette	351
24		
25		

	<u>Engineering Witness Panel (cont.)</u>	
		PAGE
1		
2		
3	Examination By:	
4	Mr. Smith	364
5	Ms. Boepple	367
6	Mr. Mahoney	372
7	Ms. Tourangeau	384
8	Ms. Ely	
9	Ms. Gilbreath	424
10	Mr. Borowski	482
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

1 TRANSCRIPT OF PROCEEDINGS

2 MS. MILLER: Good morning. I now call to
3 order this joint public hearing of the Maine
4 Department of Environmental Protection and the Land
5 Use Planning Commission on the Central Maine Power
6 applications for permits under the Natural Resources
7 Protection Act and Site Location of Development Act
8 and the Commission Site Law Certification for the New
9 England Clean Energy Connect project. This hearing
10 is a continuation of the hearing we conducted April 1
11 through 5, 2019 in Farmington.

12 This hearing will be conducted jointly by
13 the Department and the Commission with the Department
14 taking the lead role in conducting the hearing.

15 The criteria for consideration at the
16 hearing today are limited in scope to the specific
17 criteria spelled out in the Joint Seventh Procedural
18 Order and the Department's Tenth Procedural Order.
19 These include: Vernal pools, Department only
20 criteria; alternatives, including undergrounding,
21 re-routing, use of taller poles and/or tapering
22 vegetation; and impacts of various alternative forest
23 fragmentation, species of concern, and specific
24 locations of concern.

25 My name is Susanne Miller. I am the

1 Director for the Department's Eastern Maine Regional
2 Office and I am the Presiding Officer for this
3 matter. My role does not include the ultimate
4 decision-making authority on the merits of this
5 application, which the Department of Environmental
6 Protection Commissioner expressly retains.

7 Joining me from the Department today are to
8 my left Commissioner Jerry Reid; our Director of --
9 our Project Manager for the New England Clean Energy
10 Connect project Jim Beyer; our Director for the
11 Bureau of Land Management Mark Bergeron; also next to
12 me to my left is Peggy Bensinger, Assistant Attorney
13 General and counsel to the Department.

14 We are also joined by the Land Use Planning
15 Commission and they will introduce themselves.

16 MR. WORCESTER: Good morning. My name is
17 Everett Worcester. I am the Chair of the Commission
18 and the Presiding Officer in this proceeding for the
19 Commission. As Susanne mentioned, this is a
20 continuation of the previous joint hearing held on
21 April 2. The majority of testimony scheduled for
22 today pertains to the alternative analysis, a topic
23 previously selected for the Commission's hearing.
24 Given the nature of this topic, portions of the party
25 testimony are expected to address alternative

1 analysis both within and outside of the P-RR
2 subdistricts, which I remind you is the focus of the
3 Commission's consideration.

4 The Commission recognizes that not all
5 testimony today may be relevant to the Commission's
6 role in certifying whether the project is a use
7 allowed by special exception within the P-RR
8 subdistrict. The Commission's decision on the
9 requested Site Law Certification for the proposed
10 NECEC project will be based on the testimony that
11 pertains to the P-RR subdistrict including cost,
12 engineering and other considerations. And I might
13 add something, if you have testimony today that's
14 specific to the P-RR issue it would be helpful if you
15 pointed that out. Thank you.

16 MS. MILLER: Thank you. While not a part of
17 these proceedings, Mr. Jay Clement from the U.S. Army
18 Corps of Engineers will also be here today, Jay is
19 standing up in the back, in case anyone has questions
20 about the federal application process.

21 This public hearing is being recorded and it
22 will be transcribed. Copies of the transcript will
23 be made available when the transcript is completed.
24 Our court reporter is Dostie Reporting Service and
25 sitting up with us today is Robin Dostie. Prior to

1 presenting the summary of your testimony or
2 cross-examining a witness, please state your name
3 clearly, who you are affiliated with and whichever
4 intervenor group you represent. It will help our
5 transcriptionist keep track of who is who.

6 We have provided microphones for parties,
7 witnesses, and at our table, and for those asking
8 questions. I want to just mention that the
9 microphones are going to work a little bit
10 differently than they did in Farmington. Some
11 microphones don't have on/off switches, so I'm going
12 to tell you which ones those are. Those are the two
13 at the witness table, Group 6, Group 4 and the
14 Applicant. Now, the rest of us do have on/off
15 switches. I believe the default position is on right
16 now, so if you don't want them on turn them off. And
17 also just a reminder, our AB guy is going to go ahead
18 and shut everything off during the break, but you're
19 still advised if you're going to have some
20 conversations that you don't want broadcast to
21 everyone who is live-streaming you might want to just
22 step away from the table. And I'll try to just make
23 that announcement every now and then throughout the
24 proceedings because it's easy to forget that, but I
25 just want to make sure, you know, unwanted

1 conversations aren't broadcast.

2 Okay. So when you are speaking, please
3 remember to speak into the microphone so the sound
4 carries and so that both the live-streaming portion
5 and the transcriptions can capture what you're
6 saying.

7 I also wanted to acknowledge some additional
8 Department staff we have with us today. At the end
9 of this table we've got Doris Peaslee. She's going
10 to help us get stuff onto the projector. And we also
11 have April over there next to Robin and she's going
12 to help us, again, with the time keeping.

13 At this time, please turn off or silence
14 your electronic devices, including your cell phone,
15 so that there aren't any disruptions. Emergency
16 exits, we're going to be using those doors. Everyone
17 is going to be using those doors over there to get in
18 and out. The folks at the table, Commissioners and
19 staff are going to be using this door back here. The
20 restrooms are located if you leave this room and you
21 head to the left and you'll see a ramp that goes down
22 towards the right, they're right there.

23 This hearing is being held by the Department
24 pursuant to the Maine Administrative Procedure Act.
25 All witnesses at this hearing will be sworn. All

1 evidence already entered into the record will be
2 available in our Bangor office. I don't believe
3 we've brought a copy with us today. It's also on our
4 website publicly available. We do have some extra
5 copies of the agenda in the back of the room as well.
6 After the hearing today the project file will still
7 be available for public review by arrangement during
8 regular business hours at our Bangor office.

9 All witnesses and those questioning
10 witnesses must be aware of time constraints and
11 adhere to the time allotted to you. Please be
12 concise and keep testimony relevant to the limited
13 scope outline for today's portion of the hearing.

14 At this time, I ask all persons planning to
15 testify to stand and raise their right hand. Do you
16 swear or affirm that the testimony you are about to
17 give is the whole truth and nothing but the truth?

18 (Witnesses affirm.)

19 MS. MILLER: Thank you. As I mentioned, a
20 copy of today's --

21 MR. BOROWSKI: Excuse me. I just wanted to
22 note that Mr. Paquette is not yet hear, so he will
23 need to be sworn in later.

24 MS. MILLER: Okay. Thank you.

25 MR. WOOD: And I'll add that Dr.

1 Simons-Legard is not yet here and she will need to be
2 sworn in too.

3 MS. MILLER: Okay. Thank you. You both
4 might want to remind me when that time comes.

5 MR. WOOD: Okay.

6 MS. MILLER: Thank you. Okay. As I
7 mentioned, a copy of today's agenda is located on the
8 table in the back of the room. I do have a couple of
9 minor edits to make to the agenda, so I just want to
10 walk through that with everybody. The first thing is
11 Footnote Number 3 on the first page, when I did the
12 order of cross-examination I neglected to put Groups
13 2 and 10 in that order, so I apologize for that, so
14 the order should be Applicant, 1, 2 and just go
15 straightforward with 10 at the end.

16 And then the other thing that I -- that was
17 accidentally omitted was if you go to the second page
18 starting with the Engineering Witness Panel 1, I
19 neglected to include the rebuttal testimony which we
20 never had a chance to address for certain witnesses
21 for the Applicant during April and so I just want to
22 clarify that for some of the witnesses on that list
23 it should be rebuttal and supplemental testimony, so
24 to add Mr. Tribbet, Mr. Bardwell and Mr. Freye in
25 that -- in that list for rebuttal.

1 Okay. Any questions? Yes.

2 MS. TOURANGEAU: Joanna Tourangeau for Group
3 8. I was curious about the procedures for ceding
4 time to another group for cross-examination. Are
5 those still that we designate at the beginning of the
6 time or is it now that that time is passed down to be
7 distributed among all of the parties?

8 MS. BENSINGER: We would allow if it
9 comes -- when we call a certain witness a certain
10 group for their time for cross they could say we're
11 going to cede it to a different group, but we didn't
12 want a group to get two minutes in and then decide.
13 We're not going to fine tune it quite that much.

14 MS. TOURANGEAU: Understood. I just wanted
15 to be clear that it wasn't the case that the language
16 at the last sentence of Footnote 1 meant that you
17 couldn't cede it to a specific party, that it all
18 went down the chain, but I think I understand now.
19 Thank you.

20 MS. MILLER: Okay. With that, let's get
21 started and we'll start with our first witness panel,
22 which is Dr. Aram Calhoun and Mr. Gary Emond.

23 ARAM CALHOUN: Good morning and thank you
24 for the opportunity. Is this -- can you hear me?
25 Closer.

1 Good morning and thank you for the
2 opportunity to participate in this process. I'm the
3 Professor of Wetland Ecology at the University of
4 Maine. My research focuses on issues related to
5 forested wetlands and vernal pool ecology, policy and
6 conservation. For over two decades my lab has
7 conducted research on vernal pools in Maine and we
8 have published over 60 papers that focus just on
9 vernal pool ecology management.

10 I'm going to state the punchline first. The
11 proposed project will impact hundreds of vernal
12 pools; clearing for the power line will fragment pool
13 networks causing undue stress to amphibian
14 populations; the ability of amphibians to move from
15 pools to mature forest is a critical component of
16 their life history; the mitigation proposed by CMP is
17 inadequate because it only compensates for direct
18 impacts to a small subset of vernal pools; there is
19 no compensation for fragmentation of migration and
20 dispersal routes, which are measured in several
21 hundreds of feet; fragmentation of terrestrial home
22 ranges of amphibians in the right of way as well as
23 for pools beyond the property affected by the land
24 conversion and for the vast ecological landscape
25 scale function of vernal pools; therefore, I do not

1 believe that this project meets the no unreasonable
2 adverse impact standard. Its impacts are severe and
3 the Applicant's mitigation proposal is inadequate.

4 To review, vernal pools offer unique values
5 such as prime breeding habitat for amphibian and
6 invertebrate, mature forest specialists, resting and
7 foraging habitat for many species of birds, reptiles
8 and mammals including many state listed species,
9 carbon nutrient export to surrounding forests may
10 serve as hydrologic notes on the landscape. In
11 short, fragmentation of these ecological networks as
12 would be caused by 150 foot cleared utility right of
13 way we can see functions at multiple scales.

14 From an amphibian perspective in Maine, an
15 intact vernal pool must include shaded, full canopy
16 breeding pools, forested terrestrial habitat for
17 foraging, hibernating and cover, access to wetlands
18 and other vernal pools as stepping stones during
19 emigration, unfragmented forested habitat and home
20 ranges for adults and dispersal routes for juveniles.
21 Juvenile dispersal from native pools maintains
22 population connectivity and genetic health and the
23 only peer reviewed study addressing the effects of
24 power lines on behavior of wood frog juveniles
25 deMaynadier and Hunter showed that juvenile wood

1 frogs chose closed canopy habitat immediately upon
2 metamorphosis with preference for dense foliage of
3 both understory and canopy layers. The results
4 suggests populations of pool breeding amphibians will
5 likely decline due to fragmentation from power lines.

6 In another study by these authors on the
7 hard edge effects on movement patterns they found
8 that, one, the footprint of canopy removal goes well
9 beyond the cut boundary up to 100 feet into the
10 forest and, two, most sensitive species to those very
11 edge effects are vernal pool specialists, namely wood
12 frogs and salamanders. In short, vernal pool
13 amphibian populations need pools plus mature forest
14 because of this unfragmented connection and the
15 quality of habitats that link breeding and
16 non-breeding habitat elements are key to population
17 vitality.

18 Let's look at the direct and indirect
19 effects. Some of the direct effects of a clearcut
20 right of way include flipping the detrital-based
21 closed canopy pools only used by amphibian
22 specialists to open canopy pools not unlike farm
23 ponds driven by primary productivity with changes in
24 community structure leading to increases in predators
25 of all amphibian life stages, competition from green

1 frogs and other amphibians attracted by open, warm
2 habitats and increased incidences of disease
3 mortality events, degraded travel routes to and from
4 pools, direct impacts to animals in the right of way
5 during construction, habitat loss to home ranges for
6 pools and the uncut right of way and adjacent forest.
7 Indirect effects include altering the forest interior
8 climate conditions 100 feet or more from the hard cut
9 edge, impacts to forested wetlands along and adjacent
10 to the right of way. Forested wetlands are a primary
11 summer habitat for wood frogs and blue spotted
12 salamanders and often includes diffuse vernal pools
13 are not considered in the compensation.

14 The Army Corps of Engineers and state
15 compensation formula are of course limited by
16 restrictions of the existing regulations, thus
17 hundreds of non-jurisdictional pools which are
18 important elements of the overall vernal pool
19 landscape supporting amphibian metapopulations in
20 this region are not considered in the compensation
21 for losses. Compensation should include these
22 indirect impacts to jurisdictional pools beyond the
23 right of way, beyond 250 feet and including forest
24 pools, home range forest pools whose home ranges are
25 impacted by the clearing in the right of way.

1 Amphibian populations are already stressed by changes
2 in climate and fragmentation from existing roads and
3 forestry practices, this adds a further significant
4 stressor in the face of an already uncertain future.

5 CMP compensation does not include these
6 direct and indirect impacts to vernal pool ecosystems
7 in its compensation calculus. I recommend an
8 alternative analysis to the current proposal and for
9 any compensation plan to account for impacts to all
10 pools within a minimum of 750 feet of the cleared
11 right of ways; in other words, to acknowledge
12 significant fragmentation of vernal pool landscapes.
13 Thank you.

14 MR. MANAHAN: Ms. Miller, Matt Manahan for
15 Central Maine Power. I would just like to -- I
16 didn't want to interrupt Dr. Calhoun, but I would
17 just like to object for the record to the extent that
18 Dr. Calhoun testified to material that was stricken
19 from her direct testimony and there are several
20 portions that she did recite from her direct
21 testimony including functions of vernal pools, direct
22 impacts of vernal pools, indirect impacts for vernal
23 pools. So for the record, I'd like to object to
24 those portions of her statement. Thank you.

25 MS. MILLER: We will disregard those

1 portions upon review. Thank you. Go ahead, Mr.
2 Emond.

3 GARY EMOND: Can you hear me okay? Good
4 morning. My name is Gary Emond. I work for Power
5 Engineers as a Project Manager in the Environmental
6 Division. I'm a native of Maine and have 25 years of
7 experience as a project manager and environmental
8 scientist. My career focus has been on large
9 infrastructure -- energy infrastructure routing and
10 siting and associated natural resource impacts
11 assessments, field studies and surveys, and
12 environmental permitting. My scientific experience
13 encompasses vernal pools, wetlands, stream ecology,
14 special status species, wildlife and fisheries and
15 vegetation community ecology. I have been
16 professionally assessing and mapping vernal pools
17 since 2002 in Massachusetts and have done so in Maine
18 since 2007 when the state vernal pool regulations
19 were enacted.

20 My testimony presentation is in direct
21 response to some of the assertions in the pre-filed
22 testimony provided by Dr. Calhoun. Examples include
23 pointing to a single peer-reviewed reviewed study
24 addressing power line behavior of wood frog juveniles
25 in a controlled experiment with results suggesting

1 populations of pool-breeding amphibians in vernal
2 pools will likely decline due to fragmentation from
3 power lines. Under the one that's shrubby habitat
4 as -- is such as found in established right of ways
5 that has an understory of thick graminoids may be
6 difficult for dispersing amphibians to pass through
7 on their way to forested habitat. Another example is
8 impacts ranging from devastation for some individual
9 vernal pools to greatly compromised habitats for
10 others. And another one is what we do know is that
11 populations along the corridor will be compromised,
12 some lost and some severely degraded. We know that
13 significant numbers of animals will be directly
14 impacted through operations.

15 Such assertions are somewhat inconsistent
16 with the results of extensive vernal pool assessment
17 and mapping field surveys and data collected during
18 the spring of 2007 and 2008 associated with the Maine
19 Power Reliability Program permit application process.
20 Those surveys were conducted in accordance with
21 agency approved protocol and were consistent with the
22 requirements and recommended optimal indicator
23 species survey times contained in Natural Resources
24 Project Act Rules Chapter 335.

25 As part of those surveys, approximately 620

1 miles of right of way, the majority of which have
2 been clear of trees for more than 40 years, were
3 observed in field survey by biologists. Analysis of
4 the field surveys and associated data revealed some
5 of the following: 200 natural vernal pools were
6 documented within or adjacent to the proposed Maine
7 Power Reliability Program transmission corridor. Of
8 the 200 natural vernal pools, 88 or 44 percent
9 qualified as significant vernal pools under Chapter
10 335. This fell in the middle of the Maine Department
11 of Inland Fisheries and Wildlife's anticipated range
12 of 40 to 50 percent of all vernal pools assessed that
13 would be expected to meet regulatory definition of
14 significant. All 88 significant vernal pools were
15 either located within or immediately adjacent to
16 transmission corridors that had been maintained in
17 early successional scrub/shrub habitat for 40 years
18 or longer. 48 or 55 percent of these significant
19 vernal pools 250 foot critical terrestrial habitats
20 were 51 to 75 percent non-forested. Only 12.5
21 percent of the significant vernal pools had greater
22 than 75 percent forest habitat cover within their 250
23 foot critical terrestrial habitat.

24 In conclusion, based on the foregoing
25 including vernal pool survey data results associated

1 with the Maine Power Reliability Program and vernal
2 pool surveys conducted on other CMP transmission line
3 rights of way between then and now, the NECEC will
4 not result in unreasonable habitat fragmentation
5 related impacts to jurisdictional vernal pools and
6 vernal pool species within or adjacent to the
7 proposed. The NECEC right of way will be, quote,
8 unquote, a soft land use that would remain vegetated
9 with herbaceous plants, shrubs, woody vegetation
10 including mature shrubs and small trees. Similar to
11 other transmission line right of ways in Maine and
12 throughout New England, the NECEC right of way will
13 be surrounded by primarily forested habitat. Thus,
14 to the extent the vernal pool species benefit from
15 forested habitat within a portion of their critical
16 terrestrial habitat this cover type will continue to
17 be present and be available. As these vernal pool
18 survey data demonstrate, maintained transmission line
19 right of ways are compatible with and, in fact, will
20 support significant vernal pools. Thank you.

21 MS. MILLER: Thank you. So we'll start with
22 cross-examination and I believe we have Group 10
23 first.

24 ARAM CALHOUN: Can you identify who the
25 groups are for those of us who don't know the

1 numbers?

2 MS. MILLER: All right. Group 1 is --

3 ARAM CALHOUN: I mean, as they come up it
4 would be useful so I don't have to memorize them all.
5 Like Group 10 is?

6 MS. MILLER: Can I just let --

7 ARAM CALHOUN: Okay.

8 MS. BOEPPLE: Okay. Good morning. My name
9 is Elizabeth Boepple. I'm with BCM Environmental
10 Land Law. I am representing Groups 2 and 10. Group
11 2 consists of West Forks Plantation, Town of
12 Caratunk, Kennebec River Anglers, Maine Guide
13 Services, Hawk's Nest Lodge and Mike Pilsbury. Group
14 10 is comprised of Ed Buzzell, various Land Use and
15 Planning Commission intervenors, which I can list as
16 well, and that is Carrie Carpenter, Eric Sherman,
17 Kathy Barkley, Kim Lyman, Mandy Farrar, Matt Wagner,
18 Noah Hale, Taylor Walker and Tony DiBlasi.

19 My questions this morning for you are coming
20 from both Groups 2 and 10 and Group 1 has also ceded
21 their time to me.

22 MR. HAYNES: I just want it clear that for
23 the record, Bob Haynes, Group 1 cedes their time to
24 this group.

25 MS. MILLER: Thank you.

1 MS. BOEPPLE: And Group 1 consists of
2 Friends of Boundary Mountains, Maine Wilderness
3 Guides and Old Canada Road.

4 MS. MILLER: Ms. Boepple, just to be clear,
5 are you going to do that starting at the beginning?

6 MS. BOEPPLE: Yes.

7 MS. MILLER: Okay.

8 MS. BOEPPLE: All condensed.

9 MS. MILLER: Thank you.

10 MS. BOEPPLE: Thank you. So I think that
11 gives me nine minutes.

12 MS. MILLER: Yes.

13 MS. BOEPPLE: So, Ms. Calhoun, would it be
14 fair to say that you don't agree with the witness who
15 is sitting next to you in terms of his conclusions?

16 ARAM CALHOUN: I think that it would be fair
17 to say I don't agree with many of the things that
18 he's saying, but I would need to know specific things
19 you would like me to say I don't agree with.

20 MS. BOEPPLE: Okay. So --

21 ARAM CALHOUN: I don't want to answer
22 blanket statements.

23 MS. BOEPPLE: In general, you don't agree
24 with --

25 ARAM CALHOUN: Give me something specific to

1 respond to.

2 MS. BOEPPLE: Okay. Well, why don't I go
3 through some questions.

4 ARAM CALHOUN: Okay.

5 MS. BOEPPLE: Is it fair to say that only a
6 handful of people -- let's first start with your
7 qualifications. Would it be fair to say that there
8 is only a handful of people in North America who
9 published as much as you have on the terrestrial
10 habitat needs and migration movements of the
11 pool-breeding amphibians?

12 ARAM CALHOUN: I would say that's fair.

13 MS. BOEPPLE: And could you say what you and
14 others found to be the key components of habitat for
15 upland life history of species?

16 ARAM CALHOUN: Key components are mature
17 forests, different types of coarse, woody debris that
18 have to be at certain depths to maintain moisture and
19 nutrients and I guess that's -- those are the main
20 things is mature -- all of the things that come with
21 mature forest because they're forest specialist
22 species. These amphibians are the low diversity in
23 vernal pools, but the low diversity is because there
24 are very specialized species that use these woodland
25 pools and reduce competition on other species that

1 are open water habitats.

2 MS. BOEPPLE: And I believe one of the
3 points of disagreement may be that the transmission
4 corridors are compatible with that kind of habitat?

5 ARAM CALHOUN: Correct. I think there might
6 be a misunderstanding that because there are egg
7 masses in vernal pools in open habitats that that
8 makes them healthy vernal pools. We count lots and
9 lots of egg masses along roadside ditches and lots of
10 inappropriate places for breeding amphibians. What
11 happens is when they're on their way to appropriate
12 breeding habitats in forested landscapes, they hit
13 water, they're not the brightest animals on the
14 planet, they lay their eggs and we find densities of
15 egg masses. There are also pioneers in the group.
16 They're meant to travel distances to keep genetic
17 diversity healthy and they're the ones that go off
18 and look for new places to breed and, again, they
19 come into these integral breed places and they lay
20 their egg masses, so.

21 MS. BOEPPLE: Thank you. And what is the
22 average migration distance for each of those species?

23 ARAM CALHOUN: It differs by species, but we
24 have numbers ranging from median numbers between half
25 go less and half more ranging from 400 to 800 feet

1 for adults and measuring in miles for amphibians
2 dispersers, which are the juveniles.

3 MS. BOEPPLE: And the area that is going to
4 be impacted if this project is approved contains that
5 kind of habitat, is that fair to say?

6 ARAM CALHOUN: The -- do you mean are there
7 natural vernal pools?

8 MS. BOEPPLE: Yes.

9 ARAM CALHOUN: Currently there are natural
10 vernal pools in the forest. I noted reviewing the
11 maps there are a number of forested wetlands that
12 intersect the line and the number of forested
13 wetlands adjacent to the line and these are not
14 typically considered vernal pools, but they often
15 harbor diffuse vernal pools and they're critical for
16 summering habitat for blue frogs and wood frogs and I
17 think that those aren't in part of the calculus of
18 impacts to vernal pools.

19 MS. BOEPPLE: Thank you. So I'd like to
20 talk a little bit about regulations for significant
21 vernal pools and under NRPA. That only regulates
22 activity as far as 250 feet from the vernal pool; is
23 that correct?

24 ARAM CALHOUN: Correct. There is a zone of
25 consultation around a vernal pool, so if you want to

1 impact a vernal pool every landowner around the
2 vernal pool has a right to --

3 MR. MANAHAN: Excuse me, I would have to
4 object to this line of questioning. This -- vernal
5 pools is not a subject -- a DEP hearing topic for
6 this hearing. It's forest -- it's fragmentation and
7 talking about what is required under the rules of
8 vernal pools and Dr. Calhoun's testimony with respect
9 to vernal pools is not a hearing topic, so I would
10 just object to this line of questioning.

11 MS. BENSINGER: Are you going towards that
12 topic?

13 MS. BOEPPLE: Yes, I am.

14 MS. BENSINGER: I would recommend that the
15 question be allowed.

16 MS. MILLER: We'll allow it and go ahead and
17 proceed.

18 MS. BOEPPLE: Thank you. So given that, is
19 it true that there will be significant adverse
20 impacts to these animals if habitat beyond this
21 distance is impacted?

22 ARAM CALHOUN: Correct. 250 feet was a
23 compromise for significant vernal pools because it
24 can't be in completely sunny spaces influenced by
25 politics, so that number means nothing to the animals

1 and they use habitat far beyond 250 feet.

2 MS. BOEPPLE: And that goes directly to the
3 fragmentation issue --

4 ARAM CALHOUN: Correct.

5 MS. BOEPPLE: -- is that correct?

6 ARAM CALHOUN: Correct. Fragmenting of not
7 just dispersal pools but home ranges for pools
8 that -- that's my point, for pools that are outside
9 the right of way that intersect within 1,000 feet or
10 so will be impacted by that clearcut.

11 MS. BOEPPLE: So when we talk about forest
12 fragmentation we're talking about it in the whole
13 universe of the ecosystem?

14 ARAM CALHOUN: I'm speaking of vernal pool
15 landscapes. I'm speaking of poolscapes that vernal
16 pools do not separate -- do not separate -- do not
17 function separately. They function with other vernal
18 pools because the amphibian populations are organized
19 in metapopulations and for them to remain vital they
20 need to have connections among all of the different
21 vernal pools and they even distribute their egg
22 masses among several vernal pools making egg mass
23 numbers lower meaning that a lot of significant
24 vernal pools cutoff a lot of pools that are actually
25 quite ecologically relevant.

1 MS. BOEPPLE: Okay. So is it in your
2 professional opinion in this landscape setting, would
3 you predict small, moderate or large impacts to
4 pool-breeders beyond the 250 feet?

5 ARAM CALHOUN: Large.

6 MS. BOEPPLE: Large impacts. Okay. So
7 there will be losses, is that a fair assessment?

8 ARAM CALHOUN: That is a fair assessment.

9 MS. BOEPPLE: Okay. And have you -- I think
10 you've already stated this, but will other pools in
11 this region suffer permanent impacts without any kind
12 of compensation?

13 ARAM CALHOUN: Yes.

14 MS. BOEPPLE: So, for example, pools within
15 say 400 or 600 feet may also suffer?

16 ARAM CALHOUN: Yes.

17 MS. BOEPPLE: Habitat loss, correct?

18 ARAM CALHOUN: Yes, because of the home
19 range distances and the dispersal distances of
20 pool-breeding amphibians.

21 MS. BOEPPLE: Okay. And based on your
22 knowledge of pool densities in Maine, would you say a
23 handful or 10s or hundreds of pools?

24 ARAM CALHOUN: There definitely would be
25 hundreds of pools impacted.

1 MS. BOEPPLE: And can you -- can you tie
2 that to what that means for the ecosystem of the
3 forest?

4 ARAM CALHOUN: Well, I -- I alluded to the
5 fact that the vernal pools -- again, we shouldn't be
6 looking at them as discreet single wetlands that are
7 primarily habitat for pool-breeding amphibians, but
8 they have a large number of other ecosystem
9 functions, hydrologic, biogeochemical support of
10 non-breeding wildlife. And I also was highlighting
11 that they should be assessed as a network of wetlands
12 that are integrated into the forested ecosystem, so
13 the greater the distances between vernal pools from
14 losses, all of these things have effect on the
15 ecology of vernal pools in forests in wetlands.

16 MS. BOEPPLE: Thank you. So how well --
17 would vernal pools in the right of way be affected by
18 tree removal?

19 ARAM CALHOUN: Yes. I -- the easiest way to
20 think about that is thinking of a mature forested
21 pool, which is a pool that's shaded and a farm pond.
22 Now, there will be a higher diversity of species in
23 these and a lot of people equate higher diversity
24 with better health but that's not true. For forest
25 specialists low diversity is what allows them to

1 complete and be successful. Open farm ponds are
2 based on primary productivity, so they're more --
3 they're more productive, they attract green frogs and
4 bullfrogs and a larger array of predatory
5 invertebrate. So even though there are pool-breeding
6 amphibians still in these areas they can become
7 ecologically stressed where these animals are less
8 successful.

9 MS. BOEPPLE: Okay. And so just one final
10 question then. In your assessment and your review of
11 CMP's application, did you see a proper assessment of
12 the potential of the environmental --

13 ARAM CALHOUN: All that I saw was a survey
14 of egg mass counts of vernal pools. I saw no before
15 and after study. I saw no marked recaptured studies,
16 which you would need to prove that animals were
17 coming back to breed there that were recruited from
18 the next generation. I saw no health surveys of the
19 amphibians, which my lab has done lots of doing
20 disease assessments and fitness assessments.

21 MS. BOEPPLE: Okay. Thank you.

22 MS. MILLER: So now we have Group 8.

23 MS. TOURANGEAU: Good morning. Group 8
24 cedes its time for cross-examination of Mr. Emond to
25 Group 4.

1 MS. MILLER: Okay. Group 7.

2 MR. SMITH: Group 7 cedes its time to the
3 Applicant.

4 MS. MILLER: Okay. Group 6.

5 MR. WOOD: Group 6 cedes its time to Group
6 4.

7 MS. MILLER: Okay. That's okay. I've got
8 it. Group 5.

9 MR. NOVELLO: Group 5 has no questions.

10 MS. MILLER: Okay. So Group 4, you have
11 nine minutes.

12 MS. ELY: Sue Ely representing Group 4,
13 which is The Natural Resources Council of Maine, the
14 Appalachian Mountain Club and Trout Unlimited.

15 Mr. Emond, I have questions for you.
16 Starting with your testimony on Page 5, the fourth
17 bullet in you testify that construction --
18 constructing and maintaining transmission line
19 corridors does not negatively affect vernal pool
20 hydroperiod; is that correct?

21 GARY EMOND: That is correct.

22 MS. ELY: Did you or TRC, whose two season
23 survey of vernal pools in the MPRP you cite
24 throughout your testimony, do any long-term studies
25 comparing hydroperiod of vernal pools prior to

1 clearing the MPRP right of way period and then after
2 clearing?

3 GARY EMOND: No, we followed the regulatory
4 standards which require surveys on them.

5 MS. ELY: Okay. So isn't it true then that
6 you can't claim that there is no effect on
7 hydroperiod compared to before or after if you have
8 not done those studies?

9 GARY EMOND: Can you rephrase the question,
10 please?

11 MS. ELY: If you have not done a study of
12 before and after -- before clearing and after
13 clearing, how can you claim that there is no effect
14 on hydroperiod?

15 GARY EMOND: The only effect to the right of
16 way was clearing vegetation. The ground was not
17 disturbed. Everything was left intact in terms of
18 grade, so the pool basins were not affected.

19 MS. BENSINGER: Could you maybe put the
20 microphone a little bit farther away? It's a little
21 hard to hear you.

22 GARY EMOND: Oh, I've got the opposite
23 affect.

24 MS. ELY: Also on Page 5 in your testimony
25 the bottom bullet you state that the lifespan of the

1 spotted salamander averages 15 to 20 years and that
2 the majority of these corridors have been in
3 existence for 40 or more years, a period of which
4 therefore spans multiple generations of spotted
5 salamander. Is this -- is this correct, this bullet
6 here?

7 GARY EMOND: Yes.

8 MS. ELY: Okay. Did you or TRC do any mark
9 and recapture studies to document which salamanders
10 are spawning in these vernal pools?

11 GARY EMOND: No. Again, we followed the
12 regulatory standards for performing surveys, but the
13 information that we use and that was used to create
14 that report was based on some of Dr. Calhoun's
15 research and other researchers.

16 MS. ELY: But you did not do a mark and
17 recapture study?

18 GARY EMOND: That's correct.

19 MS. ELY: Without mark and recapture studies
20 that would tie juvenile salamanders leaving the pool
21 and then recapture them when they return you can't
22 say conclusively that multiple generations of
23 salamanders have spawned in these pools; is that
24 correct?

25 GARY EMOND: That is correct. We did no

1 studies. It would be outside of the survey standards
2 and the regulated public doesn't need to do that type
3 of stuff.

4 MS. ELY: But you didn't do the study?

5 GARY EMOND: That is correct, but that is
6 because it was not required as part of the permitting
7 process.

8 MS. ELY: I understand. Thank you. Staying
9 on Page 5, the second to last bullet in your
10 testimony you write that early successional shrub and
11 herbaceous vegetation habitat associated with
12 transmission line corridor is permeable to amphibian
13 migration; is that correct?

14 GARY EMOND: That's correct. It's not a
15 wall.

16 MS. ELY: Did you or TRC do any studies that
17 looked at whether the shrub/scrub habitat made
18 amphibians more vulnerable to predation when compared
19 to forested habitat?

20 GARY EMOND: No, we did not.

21 MS. ELY: Have you reviewed the work on
22 power line amphibian movement by Dr. Hunter in
23 2000 -- I'm sorry, 1999, which was published in the
24 Journal of Wildlife Management?

25 GARY EMOND: Yes, that was one of the

1 publications we reviewed and we prepared of the
2 study.

3 MS. ELY: Okay. Are you aware that it
4 concludes that wood frogs showed an immediate
5 preference for enclosed preference for closed canopy
6 habitat over a power line habitat upon emerging from
7 pools?

8 GARY EMOND: Yes.

9 MS. ELY: Are you aware that this study
10 demonstrated that the numbers of juvenile and adult
11 wood frogs declined sharply across the gradient of
12 habitat ranging from mature forest to clearcuts such
13 as power lines?

14 GARY EMOND: Yes.

15 MS. ELY: Move to page -- moving to Page 9
16 of your testimony. At the close, you write
17 maintained transmission line right of ways are
18 compatible with and, in fact, co-exist with and
19 support healthy and productive significant vernal
20 pools; is that correct?

21 GARY EMOND: Yes, that is correct, based on
22 the 620 miles of surveys we did plus other surveys
23 that have been done between then and now.

24 MS. ELY: Okay. Did you or TRC do any
25 studies of individual amphibian health in these pools

1 for the MPRP survey?

2 GARY EMOND: No, there was nothing done.

3 MS. ELY: Did you or TRC do any studies of
4 the number of generalist species such as green frogs
5 that may prey on juvenile forest specialists that
6 were present in these pools?

7 GARY EMOND: That was outside the scope of
8 the permitting process, so no.

9 MS. ELY: So -- I'm sorry, did you or did
10 you not?

11 GARY EMOND: We did not.

12 MS. ELY: Okay. Did you do any studies on
13 what percentage of wood frogs and spotted salamander
14 eggs that survived to maturity and leave the pool in
15 the right of way?

16 GARY EMOND: No, we did not.

17 MS. ELY: Is the TRC study that you cite as
18 the basis for your conclusions about power lines and
19 vernal pool ecosystems a peer-reviewed study
20 published in a scientific journal?

21 GARY EMOND: Not in a scientific journal,
22 no.

23 MS. ELY: Are you -- are you aware of EPAs
24 April 25 letter to the Army Corps about CMP's
25 application for the NECEC project?

1 GARY EMOND: Yes, I am.

2 MS. ELY: Okay. Have you reviewed it?

3 GARY EMOND: Briefly.

4 MS. ELY: I'm going to pass EPAs letter
5 around. I believe it's already in the record; is
6 that correct?

7 MS. MILLER: Yes, it is.

8 MS. ELY: Okay. So I brought a copy for
9 everyone just in case, but I'm going to --

10 MR. MANAHAN: Could I just -- could I just
11 object for a minute? How did it make it into the
12 record? I'm not sure exactly how it got introduced
13 into the record.

14 MS. BENSINGER: EPA sent it to the DEP.

15 MR. MANAHAN: I see. Thank you.

16 MS. ELY: I'm passing around a copy to
17 parties and hopefully everyone has gotten it. At the
18 bottom of Page 4 -- sorry, we should have -- hey,
19 Jeff, can you pass everyone a copy?

20 JEFF REARDON: I'm sorry.

21 MS. ELY: If you turn to the bottom of Page
22 4, would you mind reading that bottom paragraph
23 that's labeled vernal pools?

24 MR. MANAHAN: I would object to this
25 question -- this line of questioning which relates

1 solely to vernal pools and doesn't relate to a
2 hearing topic.

3 MS. ELY: Similar to the questioning from
4 Ms. Boepple earlier this is related to fragmentation
5 from the -- the fragmenting feature of the right of
6 way and the clearing of trees.

7 MR. MANAHAN: There is nothing in this
8 letter about fragmentation in this section that
9 you -- that Ms. Ely is reading from.

10 MS. MILLER: Is your question about --
11 related to fragmentation?

12 MS. ELY: It is. It's about the fragmenting
13 characteristics of the right of way.

14 MS. MILLER: Then I'll -- go ahead.

15 GARY EMOND: High value vernal pools are one
16 of the most valuable aquatic ecosystems we have in
17 New England, rivaling salt marshes in their
18 productivity, yet the bulk of breeding animals only
19 use them in the spring. These animals typically live
20 in the forest and must travel to and from vernal
21 pools each year. Tree clearing near vernal pools
22 would cause secondary impacts to the pools,
23 especially where clearing occurs within the 100 foot
24 envelope adjacent to the vernal pool. This 100 foot
25 envelope is of critical importance to vernal pool

1 ecosystems containing vegetation that provides shade,
2 regulates temperature, maintains water quality,
3 contributes to leaf litter and woody debris, and
4 provides terrestrial habitat for pool-breeding
5 amphibian populations. Juvenile pool-breeding
6 organisms are particularly susceptible to loss of
7 tree canopy in the areas immediately surrounding
8 vernal pools.

9 MS. MILLER: Just so you know your time is
10 up, so one more question.

11 MS. ELY: The clearing right of way for the
12 CMP power line, would that cause a loss of tree
13 canopy in the areas immediately surrounding vernal
14 pools?

15 GARY EMOND: In some cases.

16 MS. ELY: Thank you.

17 MS. MILLER: Thank you. So we have Group 3.

18 MR. BOROWSKI: Group 3 cedes its time to the
19 Applicant. Thank you.

20 MS. MILLER: Okay. So then we have
21 Applicant with nine minutes.

22 MR. MANAHAN: Good morning, Dr. Calhoun, my
23 name is Matt Manahan and I represent Central Maine
24 Power. Dr. Calhoun, you state in your testimony and
25 we heard you state again this morning that, and I'm

1 quoting here from your testimony, CMP's proposed
2 compensation for vernal pool impacts is insufficient
3 and then you say that's because the thresholds for
4 significance are the result of a legislative
5 compromise that limits coverage of ecologically
6 valuable tools. So your disagreement here today is
7 with the laws and regulations that apply to the
8 project; is that right?

9 ARAM CALHOUN: No, not entirely.

10 MR. MANAHAN: But you do disagree that
11 the -- with the laws and regulations that apply to
12 the project?

13 ARAM CALHOUN: I don't disagree with them.
14 I helped to create them. I am pointing out the
15 ecological shortcomings of that and I was asked to
16 consider whether compensation was sufficient and if
17 it were not why not and that's what my testimony was
18 about.

19 MR. MANAHAN: So do you -- are you
20 retracting your statement that you believe that the
21 laws and regulations do not go far enough in
22 protecting vernal pools?

23 ARAM CALHOUN: No, I'm not saying that.

24 MR. MANAHAN: Okay. So you do believe that
25 the laws and regulations that apply here are

1 insufficient?

2 ARAM CALHOUN: Correct.

3 MR. MANAHAN: Okay. Thank you. Does
4 commercial forestry result in habitat fragmentation
5 of vernal pools?

6 ARAM CALHOUN: I have that in my testimony
7 as well. It's -- it's knowledge that roads create
8 fragmentation, clearcuts create fragmentation,
9 partial cuts create fragmentation. It's not an issue
10 of whether or not forestry practices have some
11 deleterious effects on pool-breeding amphibians.
12 It's the question of whether a clearcut 150 feet is a
13 fragmenting event.

14 MR. MANAHAN: Right. But I'm talking about
15 commercial forestry right now, that's my question.
16 So -- so is there a commercial forestry operation in
17 the vicinity of the proposed project?

18 ARAM CALHOUN: Yes.

19 MR. MANAHAN: Okay. And do you know how
20 many acres of commercial forest are harvested each
21 year in the western mountains region?

22 ARAM CALHOUN: I do not now how many acres.
23 I can look at the maps and see the corridors
24 happening, I don't know how many acres.

25 MR. MANAHAN: Okay. Are you aware that

1 Maine IF&W has agreed to CMP's proposed compensation
2 plan which includes relations to habitat
3 fragmentation?

4 ARAM CALHOUN: I am, of course, aware of
5 that.

6 MR. MANAHAN: Okay. Do you think IF&W has
7 expertise in management of wildlife and habitat
8 fragmentation?

9 ARAM CALHOUN: IF&W has wonderful expertise
10 in this and they are also limited by the constraints
11 of the current regulations in their current mission.
12 Again, I was asked to comment on the ecological
13 effect of this fragmentation on vernal pools as a
14 scientist and an ecologist. I was not asked to make
15 a -- some sort of -- I don't know about the policy.
16 This isn't -- this isn't a hearing about whether our
17 policies are sufficient or not. I was asked to come
18 as a scientist and talk about fragmentation and
19 vernal pools.

20 MR. MANAHAN: So you disagree with IF&W's
21 conclusions?

22 ARAM CALHOUN: I do on that respect.

23 MR. MANAHAN: Have you reviewed the MPRP
24 vernal pool transmission line data that Mr. Emond
25 did?

1 ARAM CALHOUN: I certainly have.

2 MR. MANAHAN: Okay. Are you aware that the
3 report concludes that the early successional habitat
4 associated with transmission line corridors is
5 permeable to amphibian migration?

6 ARAM CALHOUN: I certainly am aware of what
7 was in that report.

8 MR. MANAHAN: Okay. Thank you. I have no
9 further questions.

10 MS. MILLER: Thank you. We're now going to
11 turn this over to agency questions, so -- and
12 Commission questions and Department questions, so
13 let's start -- well, I guess this isn't a Commission
14 topic, right, so we're going to skip the Commission
15 on this one. Sorry. So we'll just do agency
16 questions, so we'll start with Commissioner Reid.
17 Mr. Beyer.

18 MR. BEYER: Dr. Calhoun, I only have one
19 question. If the Department was to require tapering
20 in certain locations, would that reduce the impacts
21 to all vernal pools not just significant vernal
22 pools?

23 ARAM CALHOUN: Is that the end of your
24 question? Sorry.

25 MR. BEYER: Yup.

1 ARAM CALHOUN: Yeah, okay. It's an
2 interesting idea, but my answer would be as a
3 scientist that I have no data on that and I have
4 actually no information on the exact way that that
5 would be done and how it would be done and if
6 clearing would happen first and then the vegetation
7 would come back, so I'm hesitant to give an opinion
8 on something that I don't have any information on.

9 MR. BEYER: Thank you.

10 MS. MILLER: Okay. That does it for agency
11 questions. Any redirect? Mr. Manahan.

12 MR. MANAHAN: Just quickly for Mr. Emond.
13 Ms. Ely asked you about studies that -- whether you
14 did certain studies and you responded to several no
15 you did not, they weren't required by regulations.
16 Do you believe it would be -- it was necessary for
17 you or someone else to have conducted those studies
18 in order to reach the conclusion that you did about
19 lack of adverse fragmentation impacts?

20 GARY EMOND: Based on my experience with
21 transmission lines in Maine, no. There is a
22 difference between academic research and performing
23 environmental surveys in support of permitting
24 requirements.

25 MR. MANAHAN: Thank you. No further

1 questions.

2 MS. MILLER: Did Group 4 have any redirect
3 for Dr. Calhoun?

4 MS. ELY: Just one. Dr. Calhoun,
5 Mr. Manahan asked you about whether you agree or
6 disagree with the regulation and the mitigation
7 requirements of surrounding vernal pools and I wanted
8 to ask you about the mitigation required by the Army
9 Corps of Engineers and whether there is anything --

10 MR. MANAHAN: I would object to this. This
11 has nothing to do with the DEP's approval criteria.

12 MS. BENSINGER: You may respond.

13 MS. ELY: The question was do you or do you
14 not agree with the mitigation and these regulations
15 and so I'm following-up with whether she does or
16 doesn't agree with them.

17 MR. MANAHAN: I would object to the extent
18 it doesn't involve DEP's regulations.

19 MS. MILLER: I'm not clear on -- well, I
20 guess I'm not clear on which -- can you clarify the
21 question?

22 MS. ELY: Sure. I want to ask Dr. Calhoun
23 about the mitigation compensation -- the calculation
24 of mitigation by the Army Corps of Engineers.

25 MR. MANAHAN: I would object. It doesn't

1 involve DEP regulations.

2 MS. MILLER: Yeah, I'm going to sustain
3 that.

4 MS. ELY: Thank you.

5 MS. MILLER: Thank you. Any recross?
6 Hearing none. Seeing none. I want to thank our
7 witnesses.

8 ARAM CALHOUN: Thank you.

9 GARY EMOND: Thank you.

10 MS. MILLER: The next witness panel we have
11 is Group 2 and 10 and 4. We have Garnett Robinson,
12 Dr. Publicover and Jeff Reardon.

13 MS. MILLER: So we have 25 minutes for this
14 panel. And just let us know when you're ready.
15 April, let us know when you're ready.

16 MS. KIRKLAND: I'm ready.

17 MS. MILLER: Okay. Let's start.

18 GARNETT ROBINSON: My name -- is this on?

19 MS. MILLER: Pull it a little closer.

20 GARNETT ROBINSON: I don't know if I have to
21 reintroduce myself. My name is Garnett Robinson. I
22 own Maine Assessment and Appraisal Services. I have
23 a degree in land use planning. I re-value numerous
24 towns in this state.

25 MS. MILLER: Can you just lift the mic up a

1 little?

2 GARNETT ROBINSON: Sorry.

3 MS. MILLER: Perfect.

4 GARNETT ROBINSON: I have re-valued numerous
5 towns in the state. I have a background where I've
6 appraised utility company assets. I re-valued
7 numerous dams and I guess that's it. I think I've
8 introduced myself before.

9 Dear Board Members and Staff, I've condensed
10 my testimony. I'll synopsise and address my
11 assertion points. I have many concerns about CMP's
12 new testimony, but the main concern is that they are
13 attempting to make an argument that adding an
14 underground alternative would make the project too
15 expensive because they had chosen to -- because had
16 they chosen to include that in the original bid into
17 the Massachusetts RFP they might not have been
18 awarded the contract. It is clear from these
19 proceedings that CMP has already won that bid and as
20 part of the awarded contract Thorn Dickinson
21 explained in his testimony that Massachusetts
22 ratepayers are responsible for the cost of the
23 project up to the bid price with the exception that
24 any cost overruns or contingencies would be the
25 responsibility of the winning bidder.

1 The argument that they might not have won
2 the bid if they hadn't included undergrounding HVDC
3 line and other mitigation is irrelevant to these
4 proceedings and in no way demonstrates that being
5 required to underground the line or other mitigation
6 is not reasonable or practicable. In fact, it is
7 clear in the redacted independent evaluator report,
8 CMP's 1.1 Page 59, that NECEC was chosen due to the
9 low cost and that Thorn Dickinson in his testimony
10 described that an end cost would defeat the purpose
11 of the project, which apparently means low cost even
12 if it includes not considering alternatives as
13 required by Maine DEP reg 310.5-A, which states a
14 project will not be permitted if there are
15 practicable alternatives that would meet the project
16 purpose and have less environmental impact.

17 What is very clear is that the exhibit in
18 the -- exhibits in the evaluator's report at Exhibit
19 CMP 1.1-B are useless for Maine DEP and the LUPC to
20 use in determining reasonableness or practicableness
21 or feasibility of undergrounding the 54 mile section
22 of new corridor. CMP was the low bidder because they
23 chose not to consider undergrounding the HVDC lines
24 as competing projects in New Hampshire and Vermont
25 had in theirs, an alternative which would have

1 largely mitigated the diminution and destruction of
2 the use and/or threat to forest fires. In fact,
3 Justin Tribbet in his rebuttal testimony tries to
4 make the argument that neither of those competing
5 bids which included undergrounding were awarded
6 contracts as a point of unreasonableness for
7 considering this alternative. Although as stated
8 above, CMP was awarded the contract based on being
9 lowest bidder not for being the least environmentally
10 destructive option.

11 CMP has not provided Maine DEP and LUPC in
12 their permit application testimony, exhibits, or
13 record, the information required to establish burying
14 the HVDC line is not reasonable or practicable. CMP
15 as part of their rebuttal now provided estimated
16 costs for burying the entire line, the 54 new mile
17 corridor -- corridor section and other smaller
18 sections but has not provided actual contract prices
19 and power purchase -- power purchase agreements,
20 excuse me, i.e., the financial data that is needed to
21 determine whether burying is reasonable or
22 practicable.

23 CMP is offering hundreds of millions of
24 dollars both short and long-term mitigation as well
25 as for advertising the lobbying but is not providing

1 the information needed to make the analysis. In his
2 testimony, Thorn Dickinson talked about the estimated
3 40 year life of the project and his fixed charge
4 rate, which would include capital costs, operations
5 and maintenance, property taxes, depreciation and
6 return on investment, income tax, but never provided
7 supporting documentation or details to support any
8 analysis with actual contracts and power purchase
9 agreements but only information considered in
10 bidding.

11 My job as an assessor or appraiser is to
12 review proposed projects such as subdivisions or
13 condominiums that require discounted cash flow
14 analysis to determine if these proposed projects are
15 feasible and what their value might be. And it is
16 not often that data would be as readily available for
17 review as it should be here with this NECEC project,
18 but CMP has failed to provide it. The actual power
19 purchase agreement, power distribution price --
20 contract prices, et cetera, all of which would allow
21 a review of protected revenues, it is impossible for
22 Maine DEP or LUPC to determine whether it would be
23 unreasonable, not feasible or not practicable to bury
24 the lines at the estimated costs provided. To put it
25 simply, billions and billions of dollars will be made

1 if this project is permitted and there is no way to
2 weigh whether 650 million or any other amount is
3 unreasonable without that information being made
4 available for a real analysis to be performed.

5 DAVID PUBLICOVER: Is this working?

6 MS. MILLER: Yes.

7 DAVID PUBLICOVER: All right. Thank you.

8 My name is David Publicover, Senior Staff Scientist
9 with the Appalachian Mountain Club, witness for Group
10 4.

11 The Department has requested supplemental
12 testimony as to whether any of these techniques,
13 i.e., undergrounding tapering or taller pole
14 structures in areas identified during the hearing as
15 environmentally sensitive or are of special concern
16 would satisfy concerns raised at the hearing or be a
17 preferred alternative. Discussion of the potential
18 use of these techniques has arisen in the course of
19 Intervenor testimony, cross-examination or
20 questioning by the Department. The Applicant has not
21 amended its application to include these techniques
22 beyond its current mitigation package and I'm not
23 prepared to comment on the impacts or benefits of an
24 undefined alternate proposal.

25 My testimony is confined to a general

1 discussion of the proposed mitigation strategies on
2 fragmentation. I do not believe that any of the
3 proposed techniques would adequately correct the
4 fatal flaws in the application. A direct burial
5 trenching within the proposed corridor either in
6 short sections or for long distances is an inadequate
7 solution of the issue of fragmentation as it would
8 still require the clearing of a new, albeit, narrower
9 corridor through this undeveloped forest region. It
10 is not the above-ground line that is of concern but
11 rather the permanent deforested corridor. Horizontal
12 direct drilling may allow short portions of the line
13 to remain forested but would still result in
14 significant disturbance in the areas near the
15 injection points and there would still be extensive
16 sections of above-ground line with its associated
17 corridor.

18 In addition, the new impacts created by the
19 use of either of these burial techniques would have
20 to be thoroughly described and analyzed in an amended
21 application. It is highly unlikely that a properly
22 designed underground route would be proposed in a
23 remote undeveloped location due to the numerous
24 environmental and logistical challenges identified by
25 both CMP witnesses and Group 3 witness Gil Paquette.

1 It should not be surprising that the evaluation of
2 undergrounding along a route not selected with this
3 technique in mind indicates that it is not
4 well-suited for this location. This after the fact
5 attempt to fix the flaws in the application is a poor
6 substitute for properly selecting an appropriate
7 underground route and related technology in the first
8 place. We maintain that the proper approach is
9 burial along existing disturbed corridors as has been
10 proposed in other projects, which would eliminate the
11 need for a major or new fragmenting corridor.

12 Tapering was proposed as a way to mitigate
13 the scenic impacts of the corridor in certain
14 locations not as mitigation for fragmentation impacts
15 and it would have limited benefits for the latter
16 purpose. Tapered vegetation would have little
17 benefit for maintaining connectivity across the
18 corridor. It would not meet the minimum conditions
19 for marten habitat and most of the corridor would
20 remain in an early successional condition that would
21 provide little or no habitat connectivity for mature
22 forest species.

23 Maintaining taller vegetation would have
24 greater value than tapering, but would be difficult
25 to assess its effectiveness in the absence of a

1 specific proposal as to where and how extensively
2 this technique would be applied. Creating travel
3 corridors with taller vegetation in a few widely
4 scattered locations would only be a marginal
5 improvement. Maintaining full height mature forest
6 vegetation would be the most effective as it would
7 allow for the presence of larger trees and the
8 retention and the recruitment of woody debris.
9 Shorter vegetation in the range of 30 to 40 feet
10 would meet the minimum height and density
11 requirements for marten but would require the removal
12 of larger trees and limit the recruitment of woody
13 debris which would reduce its value of mature forest
14 species.

15 Finally, maintaining taller vegetation would
16 require towers extending well above the surrounding
17 forest canopy and significantly increasing their
18 visibility allowing this technique to be implemented
19 without an amended Visual Impact Assessment and full
20 opportunity for parties to assess its increased
21 visual impact should not be considered.

22 To summarize, in my opinion none of the
23 proposed techniques would adequately address the
24 fragmenting impacts of the project. They are
25 inadequate fixes to salvage a project that was

1 improperly located in the first place and are a poor
2 substitute for burying the project along existing
3 already disturbed corridors.

4 And I also offer the following as rebuttal
5 to the Applicant's supplemental testimony: Applicant
6 witnesses Mark Goodwin and Gino Guimarro continue to
7 argue that the project would not have an adverse
8 fragmenting impact and that no additional mitigation
9 is required. Mr. Goodwin states, and I quote, CMP
10 has demonstrated that its proposed clearing and
11 vegetation management practices will not cause an
12 unreasonable impact or an adverse effect. Mr.
13 Guimarro states, and I quote, the maintained project
14 right of way is structurally similar to much of the
15 forest matrix, any consequences of any fragmentation
16 from the scrub/shrub right of way will be minimal.
17 No new evidence is presented to support these
18 conclusions. The flaws in the application remain.
19 As stated in my original pre-filed testimony, the
20 Applicant's assessment of fragmenting impacts is
21 cursory, overly general, lacking in specific analyses
22 and inappropriately conflates the impacts of the
23 corridor with those of timber management. In
24 addition, these conclusions have been contradicted by
25 multiple expert witnesses. No matter how many times

1 the Applicant repeats these conclusions the record
2 does not support them.

3 In addition, the Applicant has presented
4 extensive testimony that the proposed techniques
5 present multiple technical, financial and
6 environmental challenges if applied to the proposed
7 corridor. Rather than seeking ways to minimize the
8 impacts of the project they are reduced to arguing
9 additional mitigation is not necessary. If the DEP
10 rejects this conclusion, a position that is strongly
11 supported by the evidence in the record, the
12 Applicant's own testimony provides evidence that the
13 project's impacts cannot be mitigated and thus the
14 DEP should deny the permit. Thank you.

15 JEFF REARDON: Can I just get a time check?

16 MS. KIRKLAND: 13 minutes.

17 JEFF REARDON: Oh, we should be fine. With
18 the combination of my height and my loud voice, have
19 I got this right?

20 MS. MILLER: Yes.

21 JEFF REARDON: We need taller mic stands for
22 Garnett and me.

23 Good morning. My name is Jeff Reardon. I
24 appreciate the opportunity to summarize my pre-filed,
25 sur-rebuttal testimony and supplemental testimony

1 today. My sur-rebuttal addressed Ken Freye's
2 rebuttal testimony, part of CMP's March 25, 2019
3 submissions and I just want to emphasize a few key
4 points that I won't have time to cover all of today.

5 Regarding the Cold Stream crossing Mr. Freye
6 stated that, and I quote, the language and structure
7 of the deed for the Cold Stream Forest Parcel makes
8 placing transmission lines very difficult. Had the
9 parties to the acquisition of the CSF been open to an
10 alignment across the CSF, CMP would have seriously
11 considered expanding the 100 foot wide Jackman tie
12 line corridor. As one of those parties who was
13 involved from the beginning and until the end I can
14 state unequivocally that we were never approached by
15 CMP or any other party to discuss that option. And
16 I've also checked with the Trust for Public Lands and
17 they weren't -- they were similarly not approached.
18 The state contact we worked with at the time has
19 retired and I have not been able to contact her and
20 there may have been discussions with the state that I
21 wasn't aware of, but I don't believe so. We would
22 have seriously considered the Jackman tie line
23 option. I don't know whether we would have agreed to
24 it back in 2014 or 2015, but we would seriously have
25 considered it as an alternative to the crossing

1 location, which I would have had the same concerns
2 about back then that I do now.

3 In response to concerns raised by Elizabeth
4 Caruso, Mr. Freye's rebuttal testimony stated that
5 the Jackman tie line follows Route 201 from West
6 Forks to Jackman. Following this route along Route
7 201, as Dr. Publicover discussed, would have avoided
8 most of the 53 mile long greenfield section of the
9 NECEC limiting it to just 16 miles from Jackman to
10 the Canadian boarder which also could have followed
11 Route 201 and I share Dr. Publicover's assessment
12 that that would have been much preferable to the
13 route that we have in front of us.

14 Regarding the proposed crossing of Cold
15 Stream, Mr. Freye -- can you bring up the figure that
16 was on my thumb drive? Regarding the proposed
17 crossing of Cold Stream, Mr. Freye makes two
18 statements that appear to contradict each other. He
19 first notes that, quote, the location where the NECEC
20 corridor crosses Cold Stream is very open, and then
21 I'm skipping a few sentences here, tree cover between
22 the two roadways is sparse and then goes on to state
23 based on ground inspection of the former location of
24 the Capital Road the area will revegetate quickly
25 with alders and other non-capable species.

1 This is a -- go to the next page, please.
2 This was my sur-rebuttal Exhibit Number 1. These are
3 three photos from Google Earth. I don't know if the
4 dates read well here, but I'll walk through them. Go
5 back to the first one, please. So this is prior to
6 the realignment of the Capital Road and the
7 construction of the new bridge. The date on the
8 photo is 10/30/2007. You can see the old crossing.
9 That's the old alignment of the Capital Road and
10 there is a snowmobile bridge that's also discussed in
11 the testimony and that's the snowmobile route and the
12 snowmobile bridge right there. The old crossing
13 there.

14 Next slide, please. This is a photo the
15 date of which is November 25, 2011. This is -- I
16 don't know what the exact date of this reconstruction
17 is, but this is relatively soon after. It's the
18 first photo where I can see the new line. You can
19 see the old route, which is here, has been abandoned.
20 This bridge has been removed and the road has been
21 relocated here. Again, that's 2011, so that's
22 seven-and-a-half years ago now.

23 And the next slide. And here is the -- the
24 latest photo I could find on Google Earth is 2016.
25 Having been on this site last summer, I don't think

1 much has changed then. Again, here is the new
2 alignment, the old alignment, the snowmobile bridge
3 and then these are -- they're very faint here. They
4 show up better in my figure. The yellow line here
5 and here are the clearing limits. And the red line
6 is the center line of the corridor. My point here is
7 that this vegetation, which is essentially all that
8 remains here because it wasn't removed for this road
9 crossing or this road crossing, all of that
10 vegetation now, which I don't think is sparse in the
11 area within the clearing lines is proposed to be
12 removed and the impacts go from about a 40 foot wide
13 impact and a 60 foot wide impact and in between them
14 we're going to add 150 foot wide impact that will
15 remove virtually all of the vegetation that's left.
16 Those new impacts could have been avoided by
17 increasing pole height to eliminate the need for that
18 new tree clearing. I'll also say having been on this
19 a number of times for work I do in the area, I
20 disagree that this road corridor is growing in with
21 alders seven years later and I don't see any in this
22 photo, which was six years later.

23 Regarding Tomhegan Stream, Mr. Freye's
24 rebuttal testimony discusses several adjustments of
25 the location of the crossing. He notes that

1 relocation in any direction, and he discusses
2 several, to reduce the impacts on Tomhegan Stream
3 would have increased impacts on other streams or
4 wetlands nearby. This highlights the ecological
5 values and sensitivity of the corridor CMP has
6 chosen. Essentially, I believe that crossing of
7 Tomhegan Stream is maybe the best of a bad set of
8 options at best. Mr. Freye states that the crossing
9 location at Tomhegan Stream consists of one primary
10 channel and a number of other braided channels and I
11 suggest one wouldn't have chosen to cross there if
12 there were a better option available. Impacts on
13 these multiple channels would be eliminated again
14 with taller poles to protect an intact forested
15 canopy but have not been proposed here.

16 With respect to the questions that DEP asked
17 in its Tenth Procedural Order I address three issues.
18 One, specific locations where undergrounding,
19 tapering or taller pole structures would be
20 beneficial; two, whether undergrounding, tapering or
21 taller pole structures are technically feasible and
22 economically viable in minimization or mitigation
23 measures; three, whether tapering within the 100 foot
24 buffers around streams would provide adequate large,
25 woody vegetation for streams in Segment 1, which are

1 typically less than 10 feet wide. I addressed
2 several specific locations in my direct testimony and
3 in my response to DEP questions at the April hearing.
4 Maps of several sites were included as exhibits to my
5 direct testimony, sites included the crossings of the
6 West Branch and South Branch of Moose River, crossing
7 of Piel Brook and its tributaries, the Cold Stream
8 crossing, the Tomhegan Stream crossing and the
9 crossing of the West Branch Sheepscot River. These
10 were examples, not a comprehensive list. Based on
11 the correspondence with IF&W there are multiple other
12 locations with significant brook trout habitat that
13 could also benefit from alternative methods. Based
14 on a consideration of brook trout and salmon habitat
15 only, these are all sites where the NECEC proposal
16 has severe impacts and an alternate route or
17 incorporating taller pole structures to maintain
18 intact tree canopy would minimize or avoid those
19 impacts.

20 CMP has already proposed taller poles to
21 maintain intact forest canopy for several sites, so
22 taller pole structures are clearly feasible and
23 viable. CMP's own witnesses have argued that taller
24 poles provide intact canopy and reduce stream impacts
25 on stream habitat at Gold Brook and Mountain Stream,

1 two sites I also identified and praise CMP for
2 proposing the taller pole structures at those sites.
3 Visual impacts of taller poles would be minimized by
4 their locations near valley bottoms because we're
5 talking about stream crossings and the canopy
6 protect -- vegetation they protect, which would
7 minimize visibility from up-close and below. CMP
8 witness DeWan in his supplemental testimony evaluated
9 several sites where this would be the case including
10 the crossings I identified at the South Branch of the
11 Moose River and Tomhegan Stream.

12 Regarding undergrounding I would have
13 substantial concerns about the impacts of trenching
14 on stream habitat on the proposed route.
15 Directionally drilled stream crossings might have
16 little or no impact on streams, but, as Dr.
17 Publicover said, we don't have that proposal in front
18 of us to evaluate in a site specific way.
19 Undergrounding along the existing corridor, for
20 example, the Spencer Road or as I discussed earlier,
21 Route 201 could substantially reduce the impacts in
22 Segment 1. I do not believe undergrounding on the
23 existing Segment 1 would be a desirable alternative.

24 I also do not believe that tapering as
25 proposed in CMP's Exhibit 10-2 would have much

1 benefit for streams. Any increase in shade from the
2 taller trees on the margins of the corridor with only
3 the corridor of the two edges of a 150 foot wide
4 corridor, the remainder of the corridor would be
5 maintained as currently proposed, and those trees
6 would be cut and removed as soon as they reached a 35
7 feet -- 35 feet in height limiting their contribution
8 to shading nor would tapering provide much additional
9 large, woody vegetation recruitment. 35 foot high
10 trees would likely be in the vicinity of 2 to 6
11 inches in diameter not the minimum 10 inches in
12 diameter called for in standards -- Maine Forest
13 Service standards for large wood additions on 10 foot
14 wide streams. Because trees will only be allowed to
15 grow 35 feet at the two edges of the corridor even if
16 these trees did reach 10 inches the total amount of
17 wood available to be recruited would be very small,
18 essentially one tree at each margin of the corridor.
19 This will provide little additional shade, bank
20 stabilization or other important buffer functions
21 that I discuss more extensively in my written
22 testimony.

23 In conclusion of the methods DEP has asked
24 us to evaluate, I believe that taller pole structures
25 would have significant benefits for cold water

1 fisheries. Undergrounding might also have benefits
2 but only if a significant portion of the Segment 1
3 corridor would be co-located within an existing
4 disturbed corridor like Route 201 or perhaps the
5 Spencer Road. Thank you.

6 MS. MILLER: Thank you. So we'll go ahead
7 and start with cross-examination. First, we have the
8 Applicant, but before the Applicant comes up I'm just
9 going to ask now if any of the other Intervenor
10 groups want to cede their time to the Applicant?

11 MR. SMITH: Ben Smith for Group 7, Group 7
12 cedes its time to the Applicant and I believe the
13 same is true with regard to Group 3.

14 MR. BOROWSKI: The same is true with Group
15 3.

16 MS. MILLER: Okay. So that's 27 minutes for
17 the Applicant then.

18 MR. MANAHAN: It will relieve you to know I
19 won't be taking that full amount of time. Hopefully
20 significantly less.

21 Good morning. My name is Matt Manahan
22 representing the Applicant. We've met before.
23 Mr. Robinson, I'll start with you briefly.

24 GARNETT ROBINSON: Yup.

25 MR. MANAHAN: On Page 3 of your sur-rebuttal

1 testimony you say whether the costs -- if you want to
2 find that it's on Page 14 and 15 -- on Lines 14 and
3 15 of Page 3 rather.

4 GARNETT ROBINSON: Yup.

5 MR. MANAHAN: Whether the costs of burying
6 defeats the purpose of the project is not the concern
7 with Maine DEP and then lower down on that page you
8 quote DEP's Chapter 310 which says that, quote, a
9 project will not be permitted if there are
10 practicable alternatives that would meet the project
11 purpose and have less environmental impact. So isn't
12 it true, Mr. Robinson, that contrary to your
13 statement and by your own admission that if the cost
14 of burying defeats the purpose of the project then
15 that is, in fact, a concern of the DEP under Chapter
16 310?

17 GARNETT ROBINSON: I don't believe that
18 was -- the wording there isn't the same as what
19 you're saying.

20 MR. MANAHAN: Well, let me just --

21 GARNETT ROBINSON: Why don't -- why don't I
22 explain what my intention was with my statement. My
23 intention is is that this entire portion that I read
24 from the rebuttal testimony of Thorn Dickinson in
25 that was relating to permitting, not actual cost, and

1 that your job if you're looking at practicable
2 whether these numbers are -- are reasonable. And so
3 there is nothing being offered here that says it's
4 reasonable, so I'm not contradicting whether there
5 should be a review of those costs, I'm saying they
6 haven't offered any -- CMP has not offered any
7 information to show -- to do that determination.

8 MR. MANAHAN: Okay. Thank you for that.
9 Could you just read Lines 14 and 15 of your testimony
10 on Page 3 starting with the word whether?

11 GARNETT ROBINSON: Yup. Again, whether the
12 costs of burying defeats the purpose of the project
13 is not the concern of Maine DEP.

14 MR. MANAHAN: Okay. So what you're saying
15 today though is contrary to that, which it is the
16 concern as long as the DEP accepts the cost as being
17 reasonable?

18 GARNETT ROBINSON: I think their evaluation
19 should be looking at the actual cost of what they,
20 you know, what they're being presented with CMP
21 related to the actual income or what's -- what's
22 being proposed going forward. You shouldn't be
23 looking at whether they would have gotten a permit or
24 not.

25 MR. MANAHAN: But I just want to make sure

1 we're on the same page and that is that costs are
2 irrelevant criterion for the DEP to consider.

3 GARNETT ROBINSON: Costs are irrelevant.

4 MR. MANAHAN: Are?

5 GARNETT ROBINSON: Are irrelevant.

6 MR. MANAHAN: Irrelevant. Thank you. Thank
7 you for that. Turning to Dr. Publicover, do you
8 believe that tapering would have benefits as
9 mitigation for fragmentation impacts?

10 DAVID PUBLICOVER: I think they could have
11 some limited benefit in reducing edge effects by
12 reducing the penetration of light and wind into the
13 adjacent forest. It wouldn't eliminate them because
14 the tapered vegetation would be maybe half the height
15 of the adjacent vegetation. There is -- they
16 wouldn't do much, I don't think, for preventing
17 blowdown along the corridor edge, but they would have
18 some limited benefit. I don't think they have -- I
19 think they have very little benefit for maintaining
20 connectivity across the corridor from mature forest
21 species.

22 MR. MANAHAN: Okay. Well, would -- let me
23 rephrase it. Would undergrounding or tapering
24 additional portions of the proposed transmission line
25 or using taller pole structures to allow taller

1 vegetation in some locations address your concerns
2 with the project?

3 DAVID PUBLICOVER: I'd have to know
4 specifics. I'd have to see a specific proposal,
5 where was it being proposed, how extensively. I
6 can't comment on a -- on a hypothetical mitigation
7 that does not yet exist.

8 MR. MANAHAN: Okay. So you can't tell us
9 here today in general whether any of those three
10 options would address your concerns of the project
11 without knowing the specifics?

12 DAVID PUBLICOVER: If the entire line could
13 be horizontally direct drilled without requiring
14 forest clearing of the corridor, potentially, yes,
15 but, again, I can't comment on a hypothetical
16 proposal that doesn't exist. They could address some
17 of the concerns if used extensively enough. I'd have
18 to see the analysis of what the associated impacts
19 with use of some of the burial techniques are.
20 Again, I don't think tapering has much benefit. I
21 agree with Jeff that taller vegetation is a more
22 useful technique depending on how extensively it's
23 used. I don't think trenching is much of a benefit
24 and horizontal direct drilling could be a benefit,
25 but, again, I'd have to know where and how

1 extensively it's used. And I'm not prepared to sit
2 here and try and say how much of that -- those
3 techniques would have to be used to satisfy my
4 concerns. It's not my job to design a project that
5 satisfies DEP criteria.

6 MR. MANAHAN: On Page 2 of your supplemental
7 testimony you stated, as a general opinion, I do not
8 believe that any of the proposed techniques would
9 adequately correct the fatal flaws in the
10 application. Is that still your belief?

11 DAVID PUBLICOVER: I think they all have
12 concerns. I haven't seen anything -- any proposal
13 that would indicate that use of those techniques
14 would satisfy my concerns.

15 MR. MANAHAN: Okay. And on Page 6
16 you say -- I'll give you time to get there. To
17 summarize, in my opinion none of the proposed
18 techniques, and we're talking undergrounding,
19 tapering and taller vegetation, would adequately
20 address the fragmenting impacts of the project. They
21 are inadequate fixes proposed to salvage a project
22 that was improperly located in the first place and
23 are a poor substitute for burying the project along
24 existing and already disturbed corridors. Is that
25 still your belief?

1 DAVID PUBLICOVER: Yes.

2 MR. MANAHAN: Okay. Mr. Reardon, if I could
3 ask you just a couple of questions. In your
4 sur-rebuttal testimony on Page 7 you say that CMP
5 does not provide any protection for streams on the
6 preservation parcels.

7 JEFF REARDON: I did.

8 MR. MANAHAN: Thank you. Are you aware of
9 the various aspects of CMP's compensation plan to
10 protect and mitigate -- mitigate for impacts of cold
11 water streams?

12 JEFF REARDON: Yes, I think I addressed this
13 fairly completely in my direct testimony, but if I am
14 remembering now there were essentially three
15 components. One of those was a, if I'm remembering
16 correctly, \$200,000 contribution to the Maine Nongame
17 and Wild -- Wild -- Maine Nongame Fund. One was
18 \$180,000 contribution to work on culverts. I may
19 have those two reversed, but they're about the same
20 size.

21 MR. MANAHAN: Sounds right.

22 JEFF REARDON: And the other was the
23 compensation parcels, three of which along the Dead
24 River, were viewed as providing benefits for brook
25 trout habitat.

1 MR. MANAHAN: And are you aware that CMP in
2 addition to those three aspects of the compensation
3 plan for cold water fisheries also is proposing
4 expanded buffers 100 feet adjacent to all cold water
5 fishery streams?

6 MS. MILLER: Mr. Reardon, can you just speak
7 into the mic, please?

8 JEFF REARDON: Oh, I'm sorry. I am and I
9 believe you and I discussed this with respect to my
10 direct testimony and my rebuttal testimony. My view
11 of those 100 foot expanded buffers is that limited as
12 they are under the wire line or, sorry, the wire zone
13 to I believe it's 5 to 10 feet high vegetation and
14 from the wire zone to the edges of the corridor to
15 vegetation in the 15 to 25 foot high range, which
16 would be removed when it reaches the potential to get
17 higher from that range those benefits would be quite
18 limited.

19 MR. MANAHAN: Okay. So are you aware that
20 IF&W has agreed that those 100 foot buffers for cold
21 water fishery streams would be adequate protection?

22 JEFF REARDON: I am aware that IF&W sent you
23 a note saying that they'd done a consultation and
24 were satisfied with your compensation plan. I
25 disagree with them.

1 MR. MANAHAN: Okay. Does DEP have any in
2 lieu fee or preservation ratio requirements for
3 impacts to cold water streams?

4 JEFF REARDON: I don't know.

5 MR. MANAHAN: Okay. So you're not aware
6 then whether or not CMP's proposal meets DEP's
7 requirements?

8 JEFF REARDON: For in lieu fee for cold
9 water streams? That's a fairly specific question.

10 MR. MANAHAN: Yes. Yes.

11 JEFF REARDON: I am not. I do not believe
12 you have made any proposal for in lieu fee. If DEP
13 has such a requirement you don't meet it, but I don't
14 know whether they do or not.

15 MR. MANAHAN: Right. Mr. Reardon, would
16 tapering of the proposed transmission line address
17 your concerns about the project?

18 JEFF REARDON: As proposed, as I understand
19 the tapering plan it's essentially a narrow zone on
20 each edge of the corridor, just, you know, my back of
21 the envelope assessment is you're talking about
22 potentially one tree at the margin for I think it's
23 20 feet, that's going to be one, you know, moderate
24 size stand of a tree, 35 foot high tree and have a
25 canopy about 25 feet wide, so we're talking about one

1 taller tree on each edge of a 150 foot wide corridor
2 and I think that's -- again, as Dr. Publicover said,
3 is there some limited benefit? Yes. Does it reduce
4 the impacts in a significant way? No.

5 MR. MANAHAN: Thank you. I have no further
6 questions.

7 MS. MILLER: Thank you. Okay. Group 1.

8 MR. HAYNES: Group 1 cedes its time to Group
9 2.

10 MS. MILLER: Okay. Group 2. Group 2 and 10
11 and 1, I guess.

12 MS. BOEPPLE: So I'm not sure how much time
13 that gives me at this time.

14 MS. MILLER: So friendly cross 2, 4, 6
15 minutes.

16 MS. BOEPPLE: Okay. Thank you. I'm not
17 going to have to use all of that. Again, Elizabeth
18 Boepple representing Groups 2 and 10 and taking Group
19 1's time. So just to couple of questions. Dr.
20 Publicover, you're a scientist, correct?

21 DAVID PUBLICOVER: Yes.

22 MS. BOEPPLE: Okay. And as a scientist, how
23 do you arrive at conclusions? What do you assess to
24 arrive at a conclusion?

25 DAVID PUBLICOVER: In this case, my primary

1 method for reaching conclusions is an understanding
2 of the literature on forest fragmentation, the
3 research that's been done. I have not done primary
4 research on the issue, so it's reliance on research
5 that has been done by others. The conclusions have
6 been drawn in summary papers and meta-analyses of
7 forest fragmentation that demonstrate impact across a
8 wide range of studies and taking those lessons and
9 applying them to the specific landscape as I
10 understand it.

11 MS. BOEPPLE: Is it fair to say that part of
12 that includes reviewing facts?

13 DAVID PUBLICOVER: Reviewing facts, yes.

14 MS. BOEPPLE: Okay. And so some data
15 information, you have to review data information; is
16 that correct?

17 DAVID PUBLICOVER: Yes, such as information
18 on studies that show, you know, some of the
19 environmental changes in forest adjacent to edges,
20 how far does it extend inward, information on
21 understanding the habitat requirements of marten.
22 There has been an extensive study at the University
23 of Maine what kind of habitats they use, what kind of
24 habitats do they avoid.

25 MS. BOEPPLE: Okay. And in doing that

1 assessment, did you review what CMP filed as
2 supplemental testimony?

3 DAVID PUBLICOVER: In terms of the things
4 relevant to my testimony, yes.

5 MS. BOEPPLE: And did you find that lacking?

6 DAVID PUBLICOVER: I did. I -- as I stated
7 in my summary, I thought they draw the same
8 conclusions that they draw in the application and I
9 don't think they're conclusions are supported by
10 sufficient evidence in the application.

11 MS. BOEPPLE: So the facts are missing, is
12 that a fair assessment?

13 DAVID PUBLICOVER: The facts are missing,
14 yes. You know, when they say that the scrub/shrub
15 habitat will provide sufficient connectivity all they
16 do, you know, their conclusion is essentially that,
17 well, there is lots of timber harvesting in the
18 region so animals will adapt. Well, the animals that
19 can utilize early successional habitat and fragmented
20 landscapes will adapt. The animals that require
21 mature forest habitat and sort of connected
22 landscapes may not adapt as well, but they show --
23 they conclude no evidence that shows how species that
24 are mature forest specialists will cross those
25 corridors, how they will not be impacted by the

1 corridor, they don't cite any studies to that effect
2 that show that corridors do not impact movement of
3 mature forest species, so, yes, there is a lack of
4 evidence.

5 MS. BOEPPLE: So from a scientist -- from a
6 scientist's perspective this is not a complete -- the
7 information on which conclusions need to be reached
8 is not complete from the applicant -- from the
9 information that was provided by the Applicant?

10 DAVID PUBLICOVER: I believe it is
11 incomplete, yes.

12 MS. BOEPPLE: Okay. Thank you.
13 Mr. Reardon, I have a similar question for you.
14 You -- you're pretty familiar with what brook trout
15 require for habitat, correct?

16 JEFF REARDON: I've worked on brook trout
17 conservation in Maine for 20 years.

18 MS. BOEPPLE: Okay. And in your review of
19 CMP's information that was provided to the DEP and
20 the LUPC to make their determinations and their
21 decisions, do you find it deficient from a factual
22 basis?

23 JEFF REARDON: From a -- from a factual
24 basis?

25 MS. BOEPPLE: Factual basis to arrive at the

1 conclusions that they have reached?

2 JEFF REARDON: I disagree with the
3 conclusions that several of their experts have
4 reached about the adequacy of their buffers and I
5 disagree about the adequacy of their evaluation of
6 alternate routes to the proposed route.

7 MS. BOEPPLE: Okay. Thank you. No other
8 questions.

9 MS. MILLER: Thank you.

10 MS. BOEPPLE: I will want to do redirect
11 with Mr. Garnett (sic) when the time comes.

12 MS. MILLER: Yup. Okay. Thank you. Okay.
13 Group 4.

14 MS. ELY: Sue Ely, Group 4 representing The
15 Natural Resources Council of Maine, Appalachian
16 Mountain Club and Trout Unlimited. Mr. Garnett
17 (sic), I have just a short -- a short question for
18 you. You -- are you a lawyer?

19 GARNETT ROBINSON: No.

20 MS. ELY: Okay. What is your --

21 MS. MILLER: I'm sorry, can we just have him
22 speak into the mic.

23 GARNETT ROBINSON: Sure. No, I'm not a
24 lawyer.

25 MS. ELY: You -- you do appraisal work; is

1 that correct?

2 GARNETT ROBINSON: I do appraisal and
3 assessing.

4 MS. ELY: Okay.

5 GARNETT ROBINSON: Revaluations. I revalue
6 towns. I actually teach property tax law.

7 MS. ELY: Great. And so in -- in your
8 testimony were you testifying on how an assessor or
9 an appraiser would approach the information provided
10 by Central Maine Power in its testimony?

11 GARNETT ROBINSON: Yes.

12 MS. ELY: And in your opinion was that
13 information sufficient to do that job?

14 GARNETT ROBINSON: No, not at all.

15 MS. ELY: Okay. What information would you
16 have wanted to see in an application to evaluate the
17 statements made by CMP in its testimony?

18 GARNETT ROBINSON: You'd want to see their
19 actual power purchase agreement. You'd want to see
20 their contracts for distributing the power. What
21 they're talking about in -- in their -- in their
22 testimony and their testimony is whether they would
23 have had a bid. That's beyond that point now where
24 they have won that bid and we should be looking at
25 what the actual money that's going to be -- or

1 revenues that are projected into the future. So when
2 you're looking at those costs you should be looking
3 at those comparative revenue streams or proposed
4 revenue streams.

5 MS. ELY: Then so you're saying it should be
6 the -- not what was necessary to win the bid, that's
7 not the component that is critical in your opinion?

8 GARNETT ROBINSON: No. I mean, when you're
9 looking at whether they would have -- I'll give you
10 an example. I could make a, you know, you can get a
11 bid by being low bidder, that's what essentially
12 happened when you read the Intervenor report is that
13 they were picked because they were the lowest bid,
14 but it doesn't look forward into the future what
15 the -- to the actual revenue streams. If you're
16 going to look now that they have the bid, the first
17 \$950 million is being paid for by Massachusetts
18 ratepayers so you should be looking at what you're
19 asking them in the future. So if you're saying
20 mitigation costs \$650 million or \$200 million or any
21 amount, you should be weighing that against what
22 they're -- what they should be receiving out into
23 that 40 year life of that project. I mean, if you're
24 doing an analysis you'd be looking at what the actual
25 amounts would be coming in not what hypothetically

1 would be needed for winning a bid.

2 MS. MILLER: Ms. Ely, one last question.

3 MS. ELY: I'm actually finished. Thank you.

4 MS. MILLER: Okay. Thank you. Group 5.

5 MR. NOVELLO: Group 5 has no questions on
6 this topic and actually we're not expecting to have
7 any for the rest of the day.

8 MS. MILLER: Okay. Thank you. Group 6.

9 MR. MAHONEY: Good morning. I'm Sean
10 Mahoney with the Conservation Law Foundation. And I
11 have a microphone and I'm not Group 6 -- I mean, I'm
12 not Group 4, I'm Group 6. Jeesh, I need coffee.

13 I just have a limited set of questions for
14 Mr. Reardon. Mr. Reardon, and it actually goes to
15 the testimony of Mr. Goodwin which I believe you
16 reviewed; is that correct?

17 JEFF REARDON: I have.

18 MR. MAHONEY: And I specifically want to
19 call your attention to Page 5 of Mr. Goodwin's
20 testimony concerning the nine areas identified by TNC
21 and ask you about -- so, A, have you reviewed that --
22 you have reviewed that testimony, correct?

23 JEFF REARDON: I have.

24 MS. MILLER: Mr. Reardon, I'm sorry, can you
25 move the mic back over to you?

1 JEFF REARDON: Oh, I'm sorry.

2 MR. MAHONEY: And you have also reviewed
3 Exhibit 77 from IF&W in connection with their
4 essentially inventory of streams and watersheds in
5 the area and suitable habitat for brook trout; is
6 that correct?

7 JEFF REARDON: Yes. And just to be specific
8 that's a document that changed some over time.
9 The -- as I understand it, the last change to that
10 document was a hand marked-up version that was
11 submitted in late January by the Department, is in
12 the record and I believe was attached to several of
13 the -- of CMP'S witnesses' testimony.

14 MR. MAHONEY: And was attached to your
15 testimony as well?

16 JEFF REARDON: It was attached to my --

17 MR. MAHONEY: Sur-rebuttal.

18 JEFF REARDON: -- sur-rebuttal. No,
19 attached to my --

20 MR. MAHONEY: Supplemental.

21 JEFF REARDON: -- supplemental testimony.

22 Mr. MAHONEY: Okay. So I would just like to
23 ask you with respect to that table on Page 5 of
24 Mr. Goodwin's testimony, do you have that in front of
25 you?

1 JEFF REARDON: Sorry.

2 MR. MAHONEY: Is it possible to pull that up
3 on the screen for the staff and what not?

4 JEFF REARDON: I have it. Sorry.

5 MR. MAHONEY: Page 5 of Mr. Goodwin's
6 supplemental testimony.

7 MR. MANAHAN: Ms. Miller, could I just point
8 out that Mr. Mahoney is out of time?

9 MS. MILLER: I'll allow one question. Thank
10 you.

11 JEFF REARDON: I think it's page...

12 MR. MAHONEY: Page 5. Let me ask the
13 question and it will become clear. There are -- for
14 each segment Areas 1 through 9 the chart or the table
15 identifies areas where there are, according to
16 Mr. Goodwin, there are cases where there is not known
17 brook trout habitat. And I guess I'd just like to
18 ask you having reviewed that and having reviewed
19 Exhibit 77 from IF&W, would -- would you agree or
20 disagree with the conclusions he reaches for Area 1?

21 JEFF REARDON: I disagree. Area 1 includes
22 Number 1 Brook and multiple tributaries to it. Also
23 attached to my testimony was a review letter between
24 the Department and CMP.

25 MR. MAHONEY: Okay.

1 JEFF REARDON: Hold on a second. I just
2 want to, quote -- this is a quote from an email from
3 Bob Stratton cc'd to Jim Connolley to Jim Beyer at
4 DEP, quote, although brooks in Beattie, Appleton,
5 Johnson Mountain and Bradstreet Townships are full of
6 brook trout, et cetera, et cetera, et cetera,
7 including, and I'll just list a number of them --
8 well, including Number 1 Brook, which is across, I
9 believe, in TNC's Area Number 1.

10 MR. MAHONEY: Okay. And as my time is
11 limited let me just ask, which are the areas that
12 Mr. Goodwin identified as having no brook trout
13 habitat, do you disagree with Areas 2 through 9?

14 JEFF REARDON: In Area 2 there is brook
15 trout habitat in multiple streams in Skinner
16 Township. In Area 3, Bog Brook, which IF&W also
17 mentions. In Area 5, I'm not sure whether Barrett
18 Brook was identified as brook trout habitat, but
19 multiple tributaries to it were. In Area 6, Piel
20 Brook was specifically identified in the email I just
21 cited. And in Area 8 -- no, sorry. In Area 8, we
22 agree there is brook trout habitat there. Thank you.

23 MS. MILLER: Can we wrap this --

24 MR. MAHONEY: Done.

25 MS. MILLER: Okay. You're done. Okay.

1 Thank you. Group 8.

2 MS. HOWE: Emily Howe, Group 8, NextEra. My
3 questions go to the DEP and LUPC alternatives
4 analysis. Mr. Robinson, is it fair to say that a
5 reliable financial analysis would be based on actual
6 data?

7 GARNETT ROBINSON: Yes.

8 MS. HOWE: What kind of data would you look
9 for?

10 GARNETT ROBINSON: I'd want their contracts.
11 I mean, they've won a bid. There are contracts that
12 will be for power purchase with Quebec-Hydro. There
13 is also the distribution contracts. Those contracts
14 are -- are looking at how much revenue will be coming
15 in.

16 MS. HOWE: And did CMP present any of that
17 data in their alternatives?

18 GARNETT ROBINSON: No.

19 MS. HOWE: And without that data you would
20 not be able to get a reliable financial analysis?

21 GARNETT ROBINSON: No.

22 MS. EMILY: Thank you. No further
23 questions.

24 MS. MILLER: Thank you. Okay. It looks
25 like we've covered cross-examination. Now, we're

1 going to turn to any agency questions and I'm going
2 to turn this over to Mr. Worcester to see what
3 the Commission -- if the Commission has any
4 questions. Do any Commission staff have any
5 questions? Okay. We'll then turn over to
6 Commissioner Reid.

7 MR. REID: I cede my time to Mr. Beyer.

8 MR. BEYER: Thank you, Commissioner.

9 Question for Mr. Reardon. The point of my
10 questioning in the previous week of hearings about
11 the cold stream enhancement, and this is just to
12 clarify, was to find out if there are -- were
13 projects that had already been identified through
14 that project to enhance cold water fisheries that had
15 not been completed and it's my understanding that
16 there are no projects left to be completed that were
17 identified; is that correct?

18 JEFF REARDON: Based on --

19 MS. MILLER: Mr. Reardon, the microphone.

20 JEFF REARDON: Sorry. Based on my memory
21 and the records of that that I was able to -- to find
22 that I sent back to you --

23 MR. BEYER: Right.

24 JEFF REARDON: -- I think that's accurate.
25 I've also talked to some of the other parties. We

1 identified two sites, one on Cold Stream, on the East
2 Branch of Enchanted Stream, both of those sites were
3 completed. There were additional sites that were
4 flagged for potential future planning and at that
5 point we decided to focus on conserving intact
6 habitat rather than restoring or enhancing degraded
7 habitat in the cold stream corridor. Those
8 opportunity -- I mean, we're at the point now of
9 revisiting that, but we have not done so yet.

10 MR. BEYER: Okay. Thank you. And I would
11 assume in looking at the aerial photos that you
12 included in your supplemental testimony of the
13 Cold -- the old Cold Stream -- or the old Capital
14 Road that one of the reasons that there is not a lot
15 of vegetation there is there is still gravel in the
16 roadbed.

17 JEFF REARDON: On both roadbeds.

18 MR. BEYER: Yeah.

19 JEFF REARDON: Agreed.

20 MR. BEYER: Would it be beneficial to remove
21 some of that gravel and replant some vegetation or
22 allow vegetation to become re-established, remove the
23 gravel down to some organic layer?

24 JEFF REARDON: I think so. And I -- I think
25 what the benefits there would be, again, I believe

1 that is outside the clearing limits but still inside
2 the CMP right of way, so in part long-term benefits
3 depends on what's going to happen with the other half
4 of that right of way eventually, of course, we don't
5 know. But those benefits would be the old Cold
6 Stream crossing, which is about 45 feet wide, so you
7 would take -- again, right now the way that crossing
8 is set up there is 40 feet at the old crossing that
9 is not vegetated. There is now a patch of woods that
10 is something like 140 feet wide and then there is
11 about 60 feet of the new Capital Road crossing. What
12 we would do is we'd take out the 150 feet in between
13 the two crossings because they're all within the
14 clearing limits and we'd add 40 feet along the
15 northern margin of it if you revegetate that road and
16 that would -- you would add that at the time those
17 trees got recruited in the canopy layer, which were
18 the size of Cold Stream there is quite a long time
19 because I think the stream is 50 or 60 feet wide, so
20 you're talking about -- would it be beneficial? Yes.
21 Would it offset the 150 feet of clearing? No.

22 MR. BEYER: All right.

23 JEFF REARDON: And it would be as beneficial
24 as going to taller poles and avoiding that 150 feet
25 of clearing, which I think it's a feasible option at

1 that location.

2 MR. BEYER: Okay. In your supplemental
3 testimony you express concern about impacts to a
4 perennial tributary at Cold Stream just in the --
5 near the Capital Road?

6 JEFF REARDON: Yes. Can you pull up my
7 figures again because I think it would be helpful to
8 have that in front of us. And I'm just going to ask
9 you to -- the one that I gave you on the thumb drive.
10 Because I think I have the map of that, which will
11 make it easier for me to show you what I was talking
12 about. And this is -- just so folks know, this was
13 one of the attachments to my prior testimony. Keep
14 scrolling down. Keep going. One more, I think.
15 Right there. It does not show up well on the screen,
16 but -- so --

17 MR. BEYER: That's the tributary, right?

18 JEFF REARDON: That's the tributary. And as
19 I believe, I can't remember, but somebody in rebuttal
20 testimony pointed out that that was within the CMP
21 ownership but the clearing limits are actually right
22 at the edge of it, so the clearing limits will be
23 within I think 20 or 30 feet of it, but it won't
24 actually be cleared all the way over it. Is that
25 your question?

1 MR. BEYER: Yes.

2 JEFF REARDON: Yup. There are also, I mean,
3 there are a number of wetlands and other -- other
4 features in there, some of which will be clear, some
5 of which will not. And, again, they don't show well
6 in this figure, but they do on some of CMP's figures.

7 MR. BEYER: Are there brook trout in the
8 South Branch of the Moose River?

9 JEFF REARDON: Yes.

10 MR. BEYER: Are there brook trout in
11 Tomhegan Stream?

12 JEFF REARDON: Absolutely. And in addition
13 I will say we have good data on Tomhegan Stream that
14 brook trout from at least the Kennebec and maybe also
15 the Dead, I can't recall, but at least Kennebec River
16 adult brook trout swam up Cold Stream and continued
17 going into Tomhegan during spawning season in the two
18 years we had information for that study. We didn't
19 have those fish. FPL at the time did or maybe it was
20 NextEra. They were going through changes at the
21 time. It wasn't Brookfield yet.

22 MR. BEYER: What about Moxie Stream?

23 JEFF REARDON: Yes. Yes. One -- I will say
24 Moxie -- Moxie below the falls, actually above the
25 falls as well, also has small mouth bass, which is in

1 terms of protection would -- would reduce the value
2 of that, but in terms of the crossing we're certain
3 there are brook trout present there. And we did have
4 tagged fish. I don't believe we had tagged fish in
5 the Kennebec spawn in Moxie, but we did have tagged
6 fish from the Kennebec go into Moxie during the year
7 or plus their tags lasted. And when I say fish, I
8 mean brook trout.

9 MR. BEYER: Okay. Thank you. Question for
10 Mr. Robinson. Is it your opinion that the Department
11 should evaluate for every application, not just this
12 one, how much money a developer might make from a
13 project in order to determine whether or not there is
14 a less damaging practicable alternative; in other
15 words, if say Walmart is building a store and they
16 have to cross a wetland, they can build a road around
17 the wetland for five times more money as opposed to
18 building a bridge over the wetland, should we look at
19 then evaluating the assumptions that the amount of
20 money Walmart is going to make off of the life of
21 that store when we evaluate whether or not it's
22 practicable to make them go around?

23 GARNETT ROBINSON: I would guess probably
24 not, I mean, in that specific instance when you're
25 saying -- here we're talking whether it's practicable

1 whether the burying -- and they're trying to make an
2 argument about the cost, so like in their specific
3 instance they're saying the opposite of what you're
4 saying, which is that the cost is too great to
5 consider it practicable, so, you know, I -- in this
6 specific case versus one where let's say you had a
7 septic system and you say you were going to allow a
8 permit based on getting a septic system, but all of a
9 sudden I find out it has to be engineered and I say
10 why should I have to get a new septic system because
11 it's engineered. That's the additional cost for
12 having that. In their case, they're basically saying
13 that if you require us that -- they're trying to make
14 an argument we wouldn't have gotten the permit, we
15 wouldn't have gotten the bid, the purpose of the bid
16 was to have the lowest cost in Massachusetts and that
17 if we had included this that, you know, we wouldn't
18 have got that bid. And in order to evaluate whether
19 that's practicable now having them do that, I
20 don't -- I really don't think that is your purpose.
21 I think you should be saying you should have
22 considered that as part of your process to begin
23 with. This should have -- that should have been -- a
24 part of your permit should include what those costs
25 were so we have those costs. We should also -- and

1 hadn't -- whether they got a bid or not is of no
2 relevance to you. If they're talking about whether
3 those costs are prohibitive that they should be
4 considered not practicable because they're
5 prohibitive we should be looking at how much money
6 really is coming in through this project then. If
7 you're going to make billions and billions of dollars
8 on a project is it unfair to have you put that system
9 in any different than having like Walmart put the
10 bridge in, you know.

11 MR. BEYER: Thank you.

12 MR. BERGERON: Dr. Publicover, are there
13 mapped -- I don't know if the marten habitat is
14 mapped, but are there known habitat for marten that
15 would be bisected by the Segment 1 corridor?

16 DAVID PUBLICOVER: Are there specific
17 habitats? I mean, I think marten use the landscape,
18 you know, throughout western Maine. There are
19 certain patches of it that are more valuable to them
20 than others, but I don't think -- they're not limited
21 to specific defined, you know, places. You know,
22 where they use on the landscape is going to depend on
23 the condition of the forest, you know, the harvesting
24 patterns are going to shift their ranges, you know,
25 as patches become more mature they'll receive greater

1 use, as patches are harvested, you know, they won't
2 be used, but, you know, I don't think you can say
3 that marten are, you know, are in, you know, they're
4 not tied to a specific narrow community niche. They
5 use the entire landscape and where they use on that
6 landscape is going to depend on the condition of the
7 forest, which is primarily determined by timber
8 harvesting patterns.

9 MR. BERGERON: Okay. Like pine marten, are
10 there other wildlife species that would be impacted
11 in terms of travel corridors if there were no travel
12 corridors built across 150 foot cleared right of way?

13 DAVID PUBLICOVER: Well, I think the main
14 ones that I'm aware of are, you know, many of the
15 amphibians, which, again, are fairly limited to
16 mature forest habitats. In terms of a mammal
17 species, I'm not sure. I think that might be a good
18 question for Dr. Simons-Legard, who may be more
19 knowledgeable in that, but, again, you know, I think
20 that the amphibians are one of the ones that are of
21 primary concern. There are many species that are
22 more habitat generalists that will utilize early
23 successional habitat and won't be affected by the
24 corridor.

25 MR. BERGERON: Okay. Thank you.

1 MS. BENSINGER: This question is for
2 Mr. Reardon. Can you point to me on the -- I don't
3 know if that map is sufficient, but let's try it.
4 You were talking about the Jackman tie line would
5 reduce impacts to Cold Stream and Tomhegan.

6 JEFF REARDON: It's father south than here.

7 MS. BENSINGER: No, I'm talking about on the
8 big map.

9 JEFF REARDON: Oh, on the big map.

10 MS. BENSINGER: Please.

11 JEFF REARDON: I can -- so my
12 understanding -- and with this scale it won't matter
13 how inaccurate I am. Let's see. So here is Indian
14 Pond. My understanding is the Jackman tie line
15 originates at the Indian Pond Dam. It then heads
16 west, crosses Cold Stream I believe somewhere between
17 half a mile and a mile downstream of the Capital
18 Road, which I think would be in this vicinity. The
19 exact route between here and there I don't know and,
20 again, we're not going to see it with this red dot in
21 any case. It then heads out somewhere around here to
22 Route 201 and my understanding from Mr. Freye's
23 testimony is that it then heads up Route 201 to the
24 intersection of 201 and Route 15 and 16, which I
25 think is right about there. Maybe it's right about

1 there. And then I don't know how it then connects
2 into downtown Jackman, but it's got to be right about
3 there. So if you were to follow that route there
4 would be no greenfield from the Kennebec crossing,
5 which I think would be in a different place, to
6 Jackman and what I would then suggest and I think
7 some of the other Intervenors have as well, is that
8 from there you could have a relatively short stretch
9 from Jackman I think it's about 15 miles to the
10 Canadian border on an already disturbed corridor
11 rather than doing that through this section, which
12 has all of the impacts we've all been concerned about
13 in these hearings.

14 MS. BENSINGER: And can you show me where
15 roughly the Cold Stream and Tomhegan Stream are
16 there? You can use your finger if that helps.

17 JEFF REARDON: No, I'm just trying to get
18 close enough to see. So this is -- so Cold Stream --
19 the confluence with Cold Stream and the Kennebec is
20 right there in West Forks Township on one side of the
21 Kennebec and Moxie Gore on the other. Just
22 downstream of where the NECEC proposes to cross I
23 think it's 500, 600 yards downstream of the
24 crossings, the confluence with Cold Stream, but I'm
25 guessing it's on the outer banks, it's less than a

1 mile. And then you follow Cold Stream up to right
2 here and Tomhegan Stream is this tributary to the
3 east and Cold Stream keeps going to the west and then
4 ultimately has its headwaters up here. And the other
5 major tributary to Cold Stream is Mountain Brook,
6 which comes essentially off of Coburn Mountain and
7 down into Cold Stream about here.

8 MS. BENSINGER: Okay. Thank you.

9 MS. MILLER: Mr. Reardon, I have one
10 question for you. You can sit down.

11 JEFF REARDON: Can I sit?

12 MS. MILLER: Yes. You may have addressed
13 this already, but you mentioned earlier that you
14 generally didn't think tapering would be sufficient
15 or would be a minimal benefit, but I'm wondering what
16 about that combined with like an active woody debris
17 addition program?

18 JEFF REARDON: This one is permanently on,
19 correct? I mean, again, I suppose you can -- you can
20 layer multiple things that are compensating for the
21 losses that you will have and so tapering adds a
22 couple of trees to the corridor. I suppose you could
23 do woody debris additions and those would affect the
24 imposition of woody debris one time, but you're not
25 going to recruit them naturally in the future, so

1 you'd have to repeat them. Wood rots once it's in
2 the water and it moves on flood events, so that would
3 have some short-term benefits, but you would not be
4 getting back to a system that's natural and
5 self-maintaining during the recruitment of wood and
6 you wouldn't get shade and you wouldn't get all of
7 that leaf cover that's providing leaf inputs and
8 dropping insects into the stream, which is also
9 important. You wouldn't get overhead cover from
10 branches, so would you replace some of the functions
11 of the buffer that way? Yes. But most of them? No.
12 And I don't know what the cost comparison would be of
13 looking at, you know, overheading of multiple stream
14 crossings versus doing that in perpetuity with
15 multiple stream crosses periodically. You know,
16 That's a cost question, but from a benefits question
17 overheading or avoiding the crossing all together is
18 far preferable.

19 MS. MILLER: Thank you. Any other agency
20 questions? Okay. We'll move on then to redirect.
21 We have, I think, Group 1, 2, 10 had a question.

22 MS. BOEPPLE: I actually -- I don't have any
23 other redirect for Mr. Robinson.

24 MS. MILLER: Okay. Group 4.

25 MS. ELY: I don't have any redirect.

1 MS. MILLER: Okay. Then I'm going to go
2 ahead and break a -- we have a break scheduled for
3 10:10, I'm going to break now and --

4 MR. MANAHAN: Would it be possible -- this
5 is Matt Manahan. Is there any chance that I could
6 just ask two quick follow-up questions to Mr. Beyer's
7 questions to Mr. Reardon? Clarifying questions?

8 MS. MILLER: Is there any objection from any
9 of the Intervenor groups.

10 MS. ELY: Group 4 would like to reserve the
11 opportunity to redirect, if necessary.

12 MS. MILLER: Yes.

13 MR. MANAHAN: Thank you. Just very quickly.
14 Mr. Reardon, you testified in response to a question
15 from Mr. Beyer that the photosimulations of the
16 crossing at Cold Stream do not show revegetation of
17 the old Capital Road. Are you aware that that
18 photosimulation that you showed was taken during
19 leaf-off conditions?

20 JEFF REARDON: I am. And by way, it's not a
21 photosimulation. These are actual photos that I
22 pulled from Google. Can you scroll back to that? I
23 think it's the second slide in this.

24 MS. BENSINGER: Microphone.

25 JEFF REARDON: Sorry. So actually -- so

1 there is original conditions. What's the date on
2 this photo? 10/30/2007, so that's leaf-off and you
3 can see the condition there. Next slide.
4 11/25/2001, also leaf-off. I'm going to say I can
5 see pretty clearly in this photo where there are
6 trees and where there are not largely because most of
7 those trees are evergreens. And then go forward to
8 the most recent photo. And this is a darker photo,
9 the contrast isn't quite so high, but, again, it's
10 fairly easy to see where -- where there is vegetation
11 and where there is not and there isn't any on the old
12 road corridor.

13 MR. MANAHAN: So even though this was taken
14 on April 23 where that's still before -- still spring
15 basically in this location, so there is no leaf-on
16 condition, you're still saying that supports your
17 testimony that it shows revegetation?

18 JEFF REARDON: I can tell you that last
19 summer I drove my truck right to the stream bank on
20 the old road to put in a temperature date.

21 MR. MANAHAN: Okay. But this -- this
22 picture doesn't support your testimony. You're just
23 saying that your visit there in the summer --

24 JEFF REARDON: I'm saying that, number one,
25 this picture does support my testimony. You can see

1 pretty clear the contrast between those areas that
2 are vegetated and are not even in this photo. And I
3 will say, number two, in addition I have visited the
4 site multiple times and I can drive and park on the
5 stream bank at that site.

6 MR. MANAHAN: So my second question is that
7 you testified in response to Mr. Beyer Cold Stream is
8 about you said 50 to 60 feet wide in crossing at
9 Capital Road, so vegetation on the old Capital Road
10 would have limited impact. Are you aware that Google
11 Earth shows the width in that location as 30 feet
12 wide, not 50 to 60 feet wide?

13 JEFF REARDON: No. Again, I was -- I was
14 guessing. I believe elsewhere in my written
15 testimony I had a -- and I may be misremembering,
16 there has been a lot of testimony. I think I
17 actually measured that on Google at one point. 50 to
18 60 was an estimate, but if you tell me it's 40
19 instead, I don't know.

20 MR. MANAHAN: Would 30 surprise you?

21 JEFF REARDON: At that location it probably
22 would.

23 MR. MANAHAN: At Capital Road crossing.

24 JEFF REARDON: Again, are we talking about
25 wetted width or bankfull width? Because they're very

1 different.

2 MR. MANAHAN: Yeah, we're talking about
3 bankfull.

4 JEFF REARDON: Okay. I would be surprised
5 if the bankfull width there would be 30 feet, but you
6 may be right.

7 MR. MANAHAN: But you don't know?

8 JEFF REARDON: No. We can go out and
9 measure it.

10 MR. MANAHAN: All right. Thanks. No
11 further questions.

12 MS. MILLER: Thank you. Did Group 4 want
13 to...

14 MS. ELY: Just very quickly, Mr. Reardon.
15 How much experience do you have looking at aerial
16 photographs?

17 JEFF REARDON: I do it as a daily part of my
18 job.

19 MS. ELY: And what -- why?

20 JEFF REARDON: Well, among other things,
21 I've done a lot of those things since we started
22 evaluating this project, but also planning
23 restoration, planning my personal fishing trips,
24 figuring out where roads go and don't go, figuring
25 out how road crossings have changed on a parcel where

1 we're thinking about restoration work or other
2 conservation work. I think like anybody else who
3 does anything in natural resources it's an essential
4 tool and has become a whole lot more available than
5 when I started 20 years ago.

6 MS. ELY: So in your professional experience
7 you are able to review aerial photographs and see are
8 they deciduous, are they coniferous and extrapolate
9 the vegetation approximately?

10 JEFF REARDON: I believe so.

11 MS. ELY: Okay. And are you able to also
12 combine your ability to look at aerial photographs
13 with a site visit and form an opinion about the
14 vegetative cover in those areas?

15 JEFF REARDON: I am.

16 MS. ELY: Okay. That's all. Thank you.

17 JEFF REARDON: May I add one thing?

18 MS. ELY: Sure.

19 JEFF REARDON: Just -- just visually, I can
20 tell you because this I do remember, and this was
21 part of my testimony earlier, that road is 40 feet
22 wide and that road is 60 feet wide at the crossings
23 of Cold Stream and you can see the width of Cold
24 Stream here, which by the way varies. It's a little
25 bit wider here, a little bit narrower there, a little

1 bit wider there, but it's I would say in the vicinity
2 of -- somewhere in the vicinity between the width of
3 this road and that road, which would put it in the 40
4 to 60 foot range.

5 MS. ELY: Thank you.

6 MS. MILLER: Thank you. All right. So
7 we're going to go ahead and take a break and we'll
8 reconvene at 10:25. And just a reminder -- oh, I was
9 going to say to step away from the microphones, but
10 they're all going to be turned off.

11 (Break.)

12 MS. MILLER: Okay. We're going to go ahead
13 and get started. It's 10:25. The next panel we have
14 is Group 6, so that's Mr. Wood and Dr. Erin Simons-
15 --

16 ERIN SIMONS-LEGARD: Simons.

17 MS. MILLER: -- Simons-Legard. And so we've
18 got 10 minutes for this panel to summarize, so we'll
19 go ahead and get started.

20 ROB WOOD: Thank you. Rob Wood, Energy
21 Policy and Project Advisor for The Nature Conservancy
22 in Maine. Is this on?

23 Hi. Rob Wood, Energy Policy and Project
24 Advisor for The Nature Conservancy in Maine. First,
25 I'll summarize my supplemental testimony. So The

1 Nature Conservancy's mitigation priorities starting
2 with the most preferable option for mitigating
3 habitat fragmentation are as follows: One,
4 co-location with Route 201, including burial which
5 would fully mitigate our concerns and the concerns
6 raised in this hearing; two, co-location with the
7 Spencer Road including burial which would also
8 largely mitigate our concerns; three, using taller
9 pole structures to retain mature forest canopy; and
10 four, tapering in conjunction with significant land
11 conservation to offset the visual impacts.

12 We strongly support mitigation for the whole
13 53.5 miles of Segment 1. We prefer taller overhead
14 poles to tapering as tapering would not result in
15 adequate habitat for pine marten and would only
16 reduce and not avoid habitat fragmentation impacts
17 whereas taller overhead poles could largely avoid
18 habitat fragmentation. However, with respect to
19 taller overhead poles the location and impact to
20 access roads should be considered as should visual
21 impacts. We also note that trenching within the
22 proposed right of way would not be an environmentally
23 preferable alternative.

24 Shifting to rebuttal testimony, in their
25 supplemental testimony Mr. Mirabile and Mr. Goodwin

1 speak to the cost constraints of using taller pole
2 structures and tapering, however, we know based on
3 their supplemental testimony and previously filed
4 testimony exactly how much these measures would cost
5 so we can calculate an estimate for those -- those
6 measures. The tapering proposed near Coburn Mountain
7 would cost roughly 22,000 per year for three miles
8 according to their testimony, which suggests that
9 tapering for all of Segment 1 would cost
10 approximately \$400,000 per year. Mr. Goodwin states
11 that replacing a typical pole structure with a taller
12 structure adds an incremental cost of \$115,000 to
13 \$243,000 which means that elevating all pole
14 structures -- all 313 pole structures in Segment 1
15 would coast between 36 million and 76 million. The
16 Nature Conservancy cannot determine what is
17 practicable, but it is important to note what these
18 measures would cost.

19 Second, Mr. Achorn and Mr. Paquette both
20 suggest that concrete caisson foundations needed for
21 taller poles could increase environmental impacts
22 primarily due to the need to transport cement to the
23 worksite, however, CMP has already proposed taller
24 poles in two sections, Segment 1 over Mountain Brook
25 and Gold Brood and as far as we can tell based on our

1 review of application material CMP has not amended
2 its application to reflect additional environmental
3 impact from construction of these taller poles, so
4 therefore either the application is incomplete in
5 this regard or CMP does not feel that the additional
6 impact associated with concrete foundations is
7 significant enough to be included in the application.

8 Lastly, with respect to Mr. DeWan's
9 testimony he states that tapering would be preferable
10 to taller transmission poles in all locations
11 identified by the Intervenors because of the
12 potential for greater visual impacts associated with
13 taller structures when viewed from lakes and ponds,
14 roads or elevated viewpoints. However, a subsequent
15 visual impact assessment of taller poles in several
16 of TNC's priority connectivity areas does not provide
17 any visual impact analysis from elevated viewpoints.
18 Similarly, Mr. DeWan expresses concern about
19 potential visual impacts of taller poles from Coburn
20 Mountain and Parlin Pond but he has not provided
21 visual simulation of taller structures from these
22 vantage points. We would like to see visual impacts
23 from taller poles from the top of Coburn Mountain and
24 from the top of Number 5 Mountain and from Parlin
25 Pond, but none of these were included in this

1 testimony despite these assertions and the inclusion
2 of several other photosimulations. This is important
3 because if it is accepted if we grant that the most
4 visually striking element from these vantage points
5 is the cleared right of way a itself then full height
6 vegetation could potentially reduce visual impacts by
7 eliminating the cleared right of way.

8 Furthermore, Mr. DeWan's visual impact
9 simulations already show the taller poles could
10 reduce visual impacts along streams and rivers as,
11 for example, from the South Branch of the Moose
12 River. This speaks to the more general need for
13 additional information and analysis to examine -- to
14 examine these potential mitigation options. Thank
15 you.

16 MS. MILLER: Dr. Simons-Legard, I just need
17 to swear you in.

18 ERIN SIMONS-LEGARD: Okay.

19 MS. MILLER: So I think if you could just
20 stand and raise your right hand, do you swear or
21 affirm that the testimony you are about to give is
22 the whole truth and nothing but the truth?

23 (Erin Simons-Legard affirmed.)

24 MS. MILLER: Thank you.

25 ERIN SIMONS-LEGARD: So Erin Simons-Legard,

1 I'm a Research Assistant Professor of Forest
2 Landscape Modeling at the School of Forest Resources
3 at the University of Maine. As part of my PhD and
4 since then I've studied habitat ecology of the
5 American marten, which has been a primary topic of
6 mine, so I'm primarily going to focus on rebuttal
7 testimony.

8 So although I agree with Mr. Guimarro,
9 hopefully I'm saying that correctly, that little old
10 growth forest remains in northern Maine. That's
11 irrelevant actually to the question of marten because
12 marten in the northeast are not an old growth
13 species. Forest age in particular is actually not a
14 great predictor for marten habitat rather it's the
15 height, the basal area, canopy closure and the size
16 of a forest -- a patch of forest would actually
17 determine marten habitat use. Mr. Guimarro's
18 assertion that the forest along Segment 1 right of
19 way is predominantly immature either in a state of
20 seedling or sapling is due to past timber harvest is
21 inaccurate.

22 In my research, I used LANDSAT satellite
23 imagery, so not aerial photography but satellite
24 imagery to first map timber harvests and then model
25 changes in wildlife habitat. Segment 1, actually

1 maybe it's a happy coincidence, cuts through the
2 LANDSAT theme that's been the focus of my research
3 for the last 15 years, so I have information going
4 back to 1970 because that's how far the LANDSAT
5 archive goes back. So from 1970 to 2010, I have
6 roughly biennial maps of all of the timber harvesting
7 translated into certain marten habitat currencies and
8 from those maps it's clear if you look out from the
9 perspective of a female marten, so not 900 yards --
10 or sorry, 900 feet from the right of way, but 3,000
11 feet, which is a scale really that you need to look
12 at to understand the impacts to American marten the
13 majority of marten has been partial and not clearcut.

14 So marten use partial harvest as long as
15 they have adequate structure and they also use older
16 regenerating clearcuts once they reach 20 to 30 feet,
17 so there is opportunity to think about marten habitat
18 impacts within landscape surrounding the right of
19 way. As to what those impacts would be to the marten
20 living in the right of way, in general, for a female
21 marten, which is what we tend to focus on because
22 they're the drivers of the populations, that 100 foot
23 right of way that bisected her home range would
24 remove about 20 acres, so her home range diameter
25 would be about 600 feet, so 600 feet by 150 feet

1 translates to about 20 acres. The degree to which
2 that loss would actually impact her ability to
3 persist in the landscape would have everything to do
4 with how much habitat she has in her home range to
5 begin with, which is -- because marten respond
6 non-linearly to habitat loss, which is to say you
7 lose marten faster than you lose habitat. So for
8 every 10 percent loss in habitat you actually lose 20
9 to 25 percent of your marten, so it's important to
10 consider how much habitat she starts with and how
11 much she would have after the right of way. Knowing
12 how many marten would be impacted along the right of
13 way and the degree to which each home range could be
14 impacted would be an important step and it would
15 require further analysis.

16 Also as noted by Mr. Giumarro, marten are
17 considered an umbrella species. The presence of
18 which serves as a proxy for other mature forest
19 species that are harder to detect, these include
20 interior forest species identified in Maine State
21 Wildlife Action Plan as species of greatest
22 conservational need such as wood thrush, Canada
23 warbler, veery, as well as other important interior
24 species such as wood frogs, spotted salamander and
25 red-backed salamander. The habitat loss to these

1 species would be very different. Wood thrush would
2 lose half of its five acre territory to the right of
3 way, so scale is important to consider here.

4 With respect specifically to taller poles,
5 as I said, tree height is an important factor for
6 martens, so if using taller poles allowed forest
7 taller than 30 feet to persist that would potentially
8 be a benefit to marten. With respect to corridor
9 width, I do not expect the right of way would act as
10 a total barrier to marten movement, however, the
11 evidence is very clear that martens avoid edges and
12 when the edge to edge distance between open areas
13 drops below about 100 meters, which is about 330
14 feet, marten presence declines sharply. Based on
15 that, I do not agree with Mr. Giumarro that the 200
16 foot corridor being created by the 100 foot buffers
17 around the streams would be sufficient for martens.
18 That would be all edge to a marten.

19 Finally, in trying to do my due diligence
20 and wrap my head around the various issues related to
21 the right of way and looking over CMP's pre-filed
22 rebuttal testimony from the last hearing it struck me
23 how in that document they characterized the forest of
24 western mountains -- of the western mountains on one
25 hand a perpetually and -- perpetually in a state of

1 transitional into one due to simple better
2 harvesting, but also specifically assert that there
3 is no shortage of interior forest habitat in the
4 western Maine mountains to support species that are
5 dependent upon closed canopy mature forest. By
6 definition a fragmented forest does not have a lot of
7 interior forest, so understanding where the mature
8 forest patches are left on the landscape and how they
9 relate to partially harvested forest and regenerating
10 clearcuts and how that all sits in relationship to
11 the right of way is key to understanding the impacts
12 to species like marten. Thank you.

13 MS. MILLER: Thank you. So we're going to
14 go ahead and start with cross-examination. We have
15 the Applicant first, but I am just going to ask the
16 same question if any of the other groups had plans to
17 cede their time to the Applicant? Hearing none then
18 the applicant has nine minutes.

19 MS. GILBREATH: Thank you. My name is Lisa
20 Gilbreath. I represent CMP, the applicant, in this
21 proceeding. Dr. Simons-Legard, I'm going to ask you
22 a few questions. And I just heard you testify that
23 there is little old growth forest remaining in the
24 area around Segment 1; is that correct?

25 ERIN SIMONS-LEGARD: Yes, in northern Maine

1 in general.

2 MS. GILBREATH: Okay. And when you say old
3 growth forest, do you mean the same thing as a mature
4 forest?

5 ERIN SIMONS-LEGARD: I do not.

6 MS. GILBREATH: How -- how do you define
7 those terms?

8 ERIN SIMONS-LEGARD: Mature forest the way
9 we usually define things like that in Maine and
10 elsewhere is that mature forest usually starts at
11 somewhere between 30 to 40 years old and ranges up to
12 100 years old, but once you get above 100 years old
13 usually that's what's referred to in the northeast as
14 old growth. That's not necessarily the same as out
15 west, but that's sort of our conventional definition.

16 MS. GILBREATH: Have you reviewed
17 Mr. Guimarro's Exhibit CMP 14-B?

18 ERIN SIMONS-LEGARD: I couldn't answer that
19 specifically just based off of the exhibit number.

20 MS. GILBREATH: It's the -- the focus
21 species forestry --

22 ERIN SIMONS-LEGARD: Oh, yes. Yup. I'm
23 familiar with that document.

24 MS. GILBREATH: Okay. Now, are you familiar
25 that this document developed -- it describes stand

1 development stages?

2 ERIN SIMONS-LEGARD: Yes.

3 MS. GILBREATH: And it describes early
4 successional forest as typically zero to 30 years
5 old?

6 ERIN SIMONS-LEGARD: Mmm Hmm.

7 MS. GILBREATH: An intermediate age forest
8 typically is 30 to 70 years old?

9 ERIN SIMONS-LEGARD: Mmm Hmm.

10 MS. GILBREATH: Now, you just told me that
11 you would define mature forest as 30 to 40 years old;
12 is that correct, and up to 100?

13 ERIN SIMONS-LEGARD: Right. So that there
14 it's what do you mean by intermediate. You know
15 these are sort of different words being used for
16 similar concepts.

17 MS. GILBREATH: Yes, I'm just trying to make
18 sure we're on the same page.

19 ERIN SIMONS-LEGARD: Sure.

20 MS. GILBREATH: So when you use the term
21 mature forest you're including what the Maine Audubon
22 defines as intermediate?

23 ERIN SIMONS-LEGARD: Yes.

24 MS. GILBREATH: Okay. And you would agree
25 then that intermediate age and mature forest as I

1 believe you just testified earlier is at best
2 marginally present around Segment 1?

3 ERIN SIMONS-LEGARD: Well, based off of -- I
4 have a -- I've got --

5 ROB WOOD: Do you want the exhibit?

6 ERIN SIMONS-LEGARD: Sure. I have a table
7 that I can pass out, so using the LANDSAT satellite
8 imagery that I described, I did an analysis within
9 that 3,000 foot buffer and actually calculated the
10 amount of -- in this case what you'll see is named as
11 the no change forest is a forest that has no history
12 of harvest disturbance going back to 1970, so as of
13 2010 that would at least be 40 years old. And if
14 we -- so fitting into that intermediate or mature
15 class, whichever you'd like to call it. The partial
16 canopy disturbance is called a partially harvested
17 forest. And then there are four classes of clearcuts
18 or what are called standard placing disturbances
19 going back to the 1970s. So if you add those all up
20 together the standard placing you would get the
21 amount of clearcut, which is 26 percent compared 43
22 percent partial harvest and 31 percent forest with no
23 history of harvest disturbance going back to 1970.

24 MS. GILBREATH: I'm sorry, you said --

25 MS. BENSINGER: What was just handed out,

1 was that already in the record or not?

2 ROB WOOD: No, this is a new exhibit that we
3 intended to include in summary testimony, but -- so
4 may we enter an exhibit?

5 MS. GILBREATH: I'm going to object to
6 entry. I believe, the Eleventh Procedural Order
7 allowed rebuttal exhibits that are in rebuttal during
8 the summary testimony not during cross-examination.

9 MS. BENSINGER: Do you want to respond to
10 that?

11 MR. MAHONEY: This is the rebuttal
12 testimony. This is the -- the Eleventh Procedural
13 Order allowed oral response to the testimony. This
14 is demonstrative of the Doctor's response, so I think
15 it's -- and she's laid a foundation for it, so I
16 think it's appropriate to be entered into the record.

17 MS. GILBREATH: I'm cross-examining her on
18 her supplemental testimony not her rebuttal testimony
19 that she just provided.

20 MS. MILLER: I'm going to go ahead and allow
21 it in and we'll -- let me just figure out what we're
22 going to number this one. It will be Group 6
23 Simons-Legard 1. Simons-Legard, sorry.

24 ERIN SIMONS-LEGARD: That's okay.

25 MS. GILBREATH: Okay.

1 MS. MILLER: Go ahead and proceed.

2 MS. GILBREATH: Thank you. So do you
3 disagree then that most of Segment 1's right of way
4 has been cut for timber since 1984?

5 ERIN SIMONS-LEGARD: No, most of it has.
6 The question is whether it's been a clearcut or a
7 partial harvest.

8 MS. GILBREATH: Do you disagree that the
9 commercial forestry land adjoining the right of way
10 has been cut within the last 10 to 15 years?

11 ERIN SIMONS-LEGARD: I'm sorry, that most of
12 it has or that it has been cut?

13 MS. GILBREATH: That it has.

14 ERIN SIMONS-LEGARD: There has -- some of it
15 has been cut in the last 10 to a 15 years for sure.

16 MS. GILBREATH: Are you aware which patches
17 have and which patches have not?

18 ERIN SIMONS-LEGARD: I could, yes, based on
19 maps. I could identify as this table lays out we
20 know the dates at which harvests have happened.

21 MS. GILBREATH: And these are your LANDSAT
22 maps?

23 ERIN SIMONS-LEGARD: Yes.

24 MS. GILBREATH: Which are not in the record,
25 correct?

1 ERIN SIMONS-LEGARD: Right.

2 MS. GILBREATH: Is mature possible within
3 the right of way?

4 ERIN SIMONS-LEGARD: Possible? I don't know
5 what you mean by possible.

6 MS. GILBREATH: Is it possible to achieve a
7 mature forest canopy within the right of way?

8 ERIN SIMONS-LEGARD: Under -- I guess I
9 still don't understand your question. So could the
10 right of way be there and there also be mature
11 habitat?

12 MS. GILBREATH: Correct.

13 ERIN SIMONS-LEGARD: It seems like if taller
14 poles were left there could -- if the trees were tall
15 enough to qualify as habitat for marten then there
16 could be marten habitat.

17 MS. GILBREATH: But it's also your testimony
18 that the condition of the forest adjacent to that
19 transmission corridor is critical to pine marten,
20 correct?

21 ERIN SIMONS-LEGARD: Right.

22 MS. GILBREATH: Because of the need for
23 multiple large patches of mature forest?

24 ERIN SIMONS-LEGARD: Yes. The reality is
25 marten use very large areas for their small body

1 size.

2 MS. GILBREATH: So why would you want a
3 mature forest condition within the right of way if
4 it's not connecting mature forests on either side of
5 the right of way.

6 ERIN SIMONS-LEGARD: That's an important
7 consideration and -- for sure in that you can't
8 necessarily control what happens outside of the right
9 of way, but because we know where the habitat
10 currently is and that can be taken into consideration
11 along with other factors related to the current
12 ownership status, certification status to hopefully
13 identify the patches which are most likely to remain
14 mature habitat on either side of the corridor.

15 MS. GILBREATH: But as you noted we would
16 have no control over that, correct?

17 ERIN SIMONS-LEGARD: Absolutely.

18 MS. GILBREATH: Would tapering be reasonable
19 in alternative areas with early successional forest?

20 ERIN SIMONS-LEGARD: An alternative to what?
21 For something for marten or something for early
22 successional species?

23 MS. GILBREATH: Let's start with marten.

24 ERIN SIMONS-LEGARD: It's hard for me to see
25 a lot of value in tapering for marten. They're going

1 to see the right of way as a break in the forest just
2 like they see a clearcut and it's -- as I said, it's
3 not going to act as a barrier to their movement.
4 Creating a softer edge through tapering from a
5 marten's perspective I don't see a tremendous amount
6 of benefit, but that's not to say that it wouldn't be
7 a greater benefit to those species that have smaller
8 home ranges like forest interior birds.

9 MS. GILBREATH: And now the same question
10 with regard to early successional species.

11 ERIN SIMONS-LEGARD: For early successional
12 species, there isn't from my perspective a lack of
13 early successional habitat in the state, so would it
14 contribute? I guess so, but the issue is not that we
15 don't have enough early successional habitat, it's
16 that we may not have enough mature forest habitat.

17 MS. GILBREATH: Mr. Wood, I'm going to ask
18 you a few questions now. I'm going to get your name
19 right this time.

20 ROB WOOD: Thank you.

21 MS. GILBREATH: You state on the final page
22 of your testimony that a benefit of taller structures
23 allowing for forest canopy is a minimized need for
24 pesticide use; is that correct?

25 ROB WOOD: Yes, and I intended to write

1 herbicide. That was a typo.

2 MS. GILBREATH: Thank you. That was going
3 to be my question. So you are aware that CMP has
4 stated it will not use herbicides on Segment 1?

5 ROB WOOD: Yes, that's my understanding
6 based on the supplemental testimony of Mr. Mirabile.

7 MS. GILBREATH: Now, in your Exhibit 1 you
8 identify that priority applied to the areas have been
9 a great subject of discussion today, is there any
10 overlap of these areas with CMP's proposed
11 compensation and mitigation?

12 ROB WOOD: So I believe that in Area 5, TNC
13 Area 5, that's inclusive of Gold Brook, I believe,
14 where there would be five structures altered to allow
15 mature forest canopy under the wires, so that -- to
16 the extent that that's part of the compensation plan
17 there is overlap there. And then I think to the
18 Coburn Mountain TNC area, so perhaps Number 7. I'd
19 have to go back and double-check, but CMP is
20 proposing tapering there, so there potentially is
21 overlap there as well. Does that --

22 MS. GILBREATH: Area 9?

23 ROB WOOD: -- answer your question?

24 MS. GILBREATH: Yes.

25 ROB WOOD: In the Kennebec, yes, so you're

1 referring to the horizontal directional drilling
2 under the Kennebec River?

3 MS. GILBREATH: And the DWA tapering.

4 ROB WOOD: Yes. So, correct, in Area 9
5 there are some mitigation measures being proposed.
6 And, you know, we'll note that -- so that's 3 out of
7 9 and consistent with the testimony that we provided
8 to date we believe that the entirety of Segment 1 is
9 of significance, so, you know, we have identified
10 priority areas, but we do believe that there are
11 other areas within the Segment 1 right of way
12 especially with additional analysis that could be
13 provided they could also be shown to be significant
14 for interior forest species.

15 MS. GILBREATH: Thank you. No further
16 questions.

17 MS. MILLER: Thank you. Group 4 friendly
18 cross is limited to two minutes.

19 MR. PUBLICOVER: All right. I believe Group
20 8 has indicated their willingness to cede their two
21 minutes. Correct?

22 MS. TOURANGEAU: Yes, sir.

23 MR. PUBLICOVER: All right.

24 MS. MILLER: Thank you very much. So four
25 minutes.

1 MR. PUBLICOVER: All right. Thank you. Dr.
2 Simons-Legard, you actually addressed most of my
3 questions during your summary, so I'm kind of doing
4 this on the fly. You would agree that marten are
5 present in this landscape around the corridor?

6 ERIN SIMONS-LEGARD: I don't see why they
7 wouldn't be.

8 MR. PUBLICOVER: All right. And what you
9 passed out in terms of the percentage of forest, the
10 no change forest is about a third of that area and we
11 can assume that's probably mature enough to be marten
12 habitat. Partial canopy disturbance, some of it may
13 be, some of it may not depending on whether the
14 appropriate covering structures are maintained. 70's
15 stand replacing disturbance may be mature enough, but
16 more recent scan replacing disturbances are probably
17 not. So somewhere maybe a third of the half of this
18 landscape could be utilized by marten now.

19 MR. MANAHAN: I would object to Dr.
20 Publicover testifying. He should just ask a
21 question.

22 MR. PUBLICOVER: Okay. I'm sorry. So would
23 it be fair to say that perhaps half of the
24 landscape may be utilized by marten --

25 ERIN SIMONS-LEGARD: Yes.

1 MR. PUBLICOVER: -- at this time?

2 ERIN SIMONS-LEGARD: Yes, I think so.

3 MR. PUBLICOVER: And that will change over
4 time as harvesting patterns, some areas will come
5 into marten habitat and some will go out, correct.

6 ERIN SIMONS-LEGARD: Yes.

7 MR. PUBLICOVER: All right. So you've
8 reviewed Mr. Guimarro's testimony?

9 ERIN SIMONS-LEGARD: I have.

10 MR. PUBLICOVER: And he says in his
11 testimony, as discussed in response to the prior
12 question and as the chart above demonstrates there
13 are few old growth forest ecosystems along the 150
14 foot segment right of way notwithstanding that fact
15 which renders taller structures and travel corridors
16 largely futile for the travel of pine marten. Do you
17 believe attempts to mitigate the impact of the
18 corridor through taller vegetation are futile?

19 ERIN SIMONS-LEGARD: I do not.

20 MR. PUBLICOVER: All right. Would you say
21 that marten populations in these commercial
22 landscapes are somewhat stressed?

23 ERIN SIMONS-LEGARD: I would.

24 MR. PUBLICOVER: All right. And given that,
25 how important is it to avoid the additional stress

1 that would be created by the corridor?

2 ERIN SIMONS-LEGARD: It could be very
3 important to the marten population. It's a question
4 of additive effects and considering how the right of
5 way would add to the stressors already present on the
6 landscape.

7 MR. PUBLICOVER: And Mr. Guimarro also says
8 in his supplemental testimony that the scrub/shrub
9 habitat of the corridor and the riparian buffers will
10 maintain adequate connectivity for species such as
11 marten, do you agree with that?

12 ERIN SIMONS-LEGARD: No. As I said, they'll
13 cross an open area but to say that those areas will
14 facilitate connectivity is an overstatement.

15 MR. PUBLICOVER: All right. Is it likely
16 they would expend additional energy perhaps trying to
17 find a way around the corridor before they cross it?

18 ERIN SIMONS-LEGARD: Quite possibly, yeah,
19 they do walk along edges and the ability to sort of
20 see adjacent patches seems to influence whether or
21 not -- how well they can see adjacent patches and the
22 conditions of those patches seem to influence their
23 movements.

24 MR. PUBLICOVER: All right. Thank you.
25 That's all.

1 MS. MILLER: Thank you. Group 3.

2 MR. BOROWSKI: No, questions. Thank you.
3 Actually, I'd like to cede my time to Group 7.

4 MS. MILLER: Okay. Groups 2, 1 and 10. Six
5 minutes.

6 MS. BOEPPLE: Thank you. Just a few
7 questions. Mr. Wood, you just testified -- you've
8 been testifying a lot about the tapering and what I'm
9 trying to understand is how tapering as a mitigation
10 measure could work coupled with taller pole heights
11 throughout the Segment 1 53 miles and I'm not quite
12 sure I understand. We've all focused very much on
13 those nine areas that were part of the supplemental
14 and you provide additional testimony today that it's
15 really the entire group, so how would that work
16 practically?

17 ROB WOOD: So is the question with respect
18 to combining mitigation measures?

19 MS. BOEPPLE: Yes.

20 ROB WOOD: So I think one of the issues that
21 we're trying to kind of explore today is what's --
22 what's possible with taller pole structures, where is
23 it a binding line between direct imbed structures and
24 concrete foundation structures, what's the additional
25 impact of concrete structures and then kind of trying

1 to understand what type of vegetation is qualifying
2 as the pole height vegetation that is currently
3 proposed to be left under the Gold Brook -- or over
4 Gold Brook and Mountain Brook. I think the answers
5 to those questions are really important to understand
6 how effective the mitigation measure will be if it's,
7 you know, vegetation 30 feet or higher that obviously
8 will provide some habitat benefit to pine marten, but
9 I think they're -- to the question, you know, it
10 might not have to be kind of all or nothing. There
11 could be -- the topography matters, right, and so
12 there could be opportunities raising poles up to 120
13 feet high to allow vegetation up over 30 feet under
14 the wires and in conjunction with tapering the
15 wildlife traveling corridors you could wind up with,
16 you know, significant mature forests under the wires
17 and so I do think there are potentially creative ways
18 to approach that.

19 MS. BOEPPLE: And so using those mitigation
20 measures to mitigate the impact on the forest
21 fragmentation, how would that work looking forward
22 let's say to the future? Let's say Hydro-Quebec just
23 hypothetically is actively seeking a way to market
24 its hydropower to New England and let's say that CMP
25 says, well, jee, we've got a corridor that already we

1 own that's 300 feet wide, for example, this is a
2 hypothetical, based on what you've just told us about
3 full heights and mitigation measures, how would those
4 play out in the future? Would those still be in
5 effect? Would they still be effective?

6 ROB WOOD: So I think if there were
7 mitigation measures applied now with taller pole
8 structures throughout Segment 1 hypothetically, I
9 think that an important component of that would be
10 hopefully a commitment to use that same precedent for
11 additional -- if there were additional use of the
12 right of way in the future because I think what
13 you're driving at is if there is mature forest left
14 in the 150 foot right of way now and in the future
15 there were 150 feet clear adjacent to it, is that of
16 limited value and I think yes. And so it's important
17 to consider that and setting a good precedent now
18 would hopefully provide the impetus in the future.

19 MS. BOEPPLE: But that's hopefully. That's
20 not a guarantee, right?

21 MR. MAHONEY: I'm going to -- I'm just going
22 to object, A, it is hypothetical and, B, it would be
23 part of a permit condition if this, in fact, were to
24 go forward, so I think there is more to it than just
25 hope.

1 MS. MILLER: Do you have a response to that
2 objection?

3 MS. BOEPPLE: Was that an objection?

4 MR. MAHONEY: I'm just objecting that it's a
5 hypothetical.

6 MS. BOEPPLE: I'm not sure I know how to
7 respond to this.

8 MR. MAHONEY: I mean, it's not part of this
9 project.

10 MS. MILLER: We'll allow it.

11 MS. BOEPPLE: Thank you. So I think I
12 understand what your testimony is. Thank you, I
13 appreciate that. Just to be very clear, we
14 understand what the project is that's before us.
15 What is not before us, what is not in front of the
16 DEP and the LUPC is -- are mitigation measures
17 throughout the Segment 1, correct?

18 ROB WOOD: Correct.

19 MS. BOEPPLE: And that's what you were
20 advocating with the tapering, for example, and taller
21 poles?

22 ROB WOOD: So our testimony is that to avoid
23 and minimize habitat fragmentation the most
24 preferable method would be co-location with roads and
25 undergrounding to the extent possible and that beyond

1 that taller poles would best achieve avoidance and
2 minimization of fragmentation. Again, the access
3 roads matter, the construction of the corridor really
4 matters and so understanding what that looks like is
5 very important and so one, I think, missing element
6 is here, you know, this information is in response to
7 the further questioning and we don't have the full
8 picture yet of what that might look like and so we
9 would certainly support more information in that
10 regard.

11 MS. BOEPPLE: Okay. So incomplete again.
12 We don't have enough information; is that fair?

13 ROB WOOD: I think that's fair. And also I,
14 you know, to the extent there are already some of
15 these mitigation measures proposed on Gold Brook and
16 Mountain -- over Gold Brook -- Gold Brook and
17 Mountain Brook, for example, if there is truly
18 impacts to pouring concrete foundations then we need
19 to fully understand that and that has not been
20 included in the application to date and so I -- I do
21 think that we would like to see mitigation for all of
22 Segment 1 and more information about proposed
23 mitigation measures would be very helpful.

24 MS. BOEPPLE: Thank you. I see my time is
25 up. Thank you.

1 ROB WOOD: Thank you.

2 MS. MILLER: Thank you. So we have Group 7
3 with 18 minutes.

4 MR. SMITH: Good morning. Ben Smith for
5 Group 7. I don't think it will take nearly as long
6 as the time allotted. Just a follow-up with regard
7 to Mr. Wood and some of the areas that have been
8 identified by TNC for mitigation --

9 MS. MILLER: Mr. Smith, I'm sorry, can you
10 just hold the microphone because you're so tall.

11 MR. SMITH: Sure.

12 MS. MILLER: Thank you.

13 MR. SMITH: As I understand it just to
14 follow-up, Mr. Wood, Areas 5, 7 and 9 have been
15 addressed by CMP as mitigation or for -- by
16 mitigation they proposed?

17 ROB WOOD: So I think the question
18 previously was has mitigation been proposed in any of
19 these areas and my response was for a small stretch
20 of between five structures of Area 5, they proposed
21 raising pole heights and so that's -- and I can go
22 back and look at the map, but it's a short stretch of
23 the entirety of the Area 5 that we've identified, you
24 know, same thing with respect to Coburn -- I'd have
25 to look more closely at the Coburn Mountain area and

1 the Kennebec River area, but it is not the case that
2 mitigation has been proposed for the entirety of
3 those areas. It's specific techniques for very
4 isolated impacts.

5 MR. SMITH: But you haven't done and
6 analysis to know exactly the total distance or
7 anything like that, correct?

8 ROB WOOD: So in Area 5 it's five pole
9 structures, so if there is 1,000 feet between each
10 structure and I think it would -- and I think that's
11 roughly the average, so that's about a mile. I know
12 that Coburn Mountain the tapering there was 2.2 miles
13 and there is another area where tapering was proposed
14 around .8 miles, so I think it's 3 miles of tapering,
15 about a mile of raised pole lights and then there is
16 the horizontal directional drilling and the deer
17 wintering areas. So, again, it's 53.3 miles in
18 Segment 1. It's a small portion of Segment 1.

19 MR. SMITH: And it's basically three out of
20 the nine areas?

21 ROB WOOD: There has been -- there have been
22 specific techniques proposed in the area that is --
23 that compromises those areas, but not the full areas.

24 MR. SMITH: Okay. I have no further
25 questions.

1 MS. MILLER: Thank you. So we will now move
2 forward with Department questions as Group 6 is a
3 Department Intervenor. Commissioner.

4 MR. REID: I have one question for each
5 witness. Dr. Simons-Legard, do you have any
6 recommendations for us about how we should assess the
7 optimal locations for travel corridors to benefit
8 marten?

9 ERIN SIMONS-LEGARD: I think considering
10 where the larger remaining patches of mature forest
11 are on other side would be the best place to start.

12 MR. REID: And you mentioned current
13 ownership and certification status as also being
14 relevant?

15 ERIN SIMONS-LEGARD: I would think so.

16 MR. REID: Anything else come to mind?

17 ERIN SIMONS-LEGARD: Not right now.

18 MR. REID: Okay. Mr. Wood, I think in your
19 supplemental testimony you testified that DEP should
20 consider requiring additional land conservation to
21 mitigate the impacts of habitat fragmentation, do you
22 have any recommendations for us about what metrics to
23 use to determine how much and what kind of land
24 conservation should be required?

25 ROB WOOD: Yes. So when we first kind of

1 proposed this idea in our initial pre-filed
2 testimony, you know, we use kind of the direct and
3 indirect impacts of 150 foot right of way and
4 estimated about 5,000 acres of forest would be
5 impacted and then used kind of the rough compensation
6 ratios that DEP and Army Corps of Engineers typically
7 use, so 8 to 1 and 20 to 1 and that helped us to
8 arrive at 40,000 to 100,000 acres if there were no
9 additional mitigation and so I'd like to emphasize
10 that, you know, we prioritize avoidance and
11 minimization first and foremost and so we would like
12 to see those impacts avoided to minimize the maximum
13 extent practicable. If there are residual impacts
14 then, you know, we felt like that calculation was,
15 you know, a rough estimate. And then in terms of
16 looking at how to, you know, conserve land in the
17 region and kind of consulting with colleagues and in
18 this process we've identified or it could be possible
19 to identify where the mature forest currently is in
20 the region and so the highest value conservation
21 would be directed toward where there is currently
22 mature forests that could support marten populations
23 and all of the species that fall under that umbrella.
24 So looking at where is the currently good habitat
25 and, you know, directing conservation towards those

1 areas and then to the extent that, you know, the
2 corridor would bisect to those areas, you know,
3 that's even -- even more important in that case to,
4 you know, raise pole heights and avoid impacts in
5 those areas. But, again, I think we've -- we still,
6 you know, emphasize that there are ways to avoid and
7 minimize impacts in the first place and conservation
8 would be kind of addressing impacts that can't be
9 avoided or minimized.

10 MR. REID: Okay. Thank you.

11 MS. MILLER: Mr. Beyer. Thank you. Dr.
12 Simons-Legard, in your testimony you say mitigation
13 should be aimed at maintaining mature forest within a
14 corridor or should be targeted at locations likely to
15 maintain mature forest, these would include areas
16 where there is adjacent conserved lands. Are you --
17 are there any areas along Segment 1 where the line --
18 where lands on both sides of the corridor is
19 conserved?

20 ERIN SIMONS-LEGARD: There looks like there
21 are some opportunities on the eastern side in
22 particular as you move from west to east. In the
23 Areas 8 and 9 around the priority -- TNC priority
24 Areas 8 and 9 it looks like there is conserved land
25 on both sides.

1 MR. BEYER: Yeah.

2 ROB WOOD: I'll just follow-up. I mean, to
3 the direct question of conserved land on both sides,
4 I fully agree and then also I would point out that,
5 you know, south of the Leuthold Preserve, which is
6 TNC's land, you know, the reason why that kind of
7 corridor was -- tNC area was formed and was
8 identified in the first place is there was a lot of
9 riparian areas and when waterfowl and wading bird
10 habitat, there are a lot of high value ecosystem
11 attributes south of the Leuthold Preserve and so, you
12 know, that is not conserved currently, but there
13 are -- because there are waterbodies and riparian
14 areas throughout that area there are currently, you
15 know, some limitations on how harvesting can occur in
16 that area and so it's not conserved, but there are
17 limitations that would, you know, limit harvesting in
18 the future and also that's -- that region is, you
19 know.

20 MR. BEYER: But isn't the Spencer Road
21 between the corridor and TNC's land?

22 ROB WOOD: Um...

23 MR. BEYER: Isn't that going to fragment --
24 cause a fragmentation?

25 ROB WOOD: Yes, and as we've testified

1 before, I mean, the roads are fragmenting features,
2 but the width of the corridor under 150 feet is --
3 is -- the primary challenge and so they're -- the
4 Spencer Road is 20 to 40 feet wide depending on where
5 you are and so 150 foot wide right of way is a -- is
6 a much larger fragmenting feature.

7 MR. BEYER: I have nothing else.

8 MR. BERGERON: Dr. Simonds-Legard, you had
9 noted that there -- it's currently known where marten
10 habitat is, has that information been submitted as
11 part of this proceeding?

12 ERIN SIMONS-LEGARD: No. No, the
13 information that I've provided gives you sort of a,
14 you know, a characterization at the level of the
15 total sort of forest land area within a female
16 marten's home range, but it's not a map. I haven't
17 seen a map of where the habitat currently is.

18 MR. BERGERON: Could you tell us in general
19 if those areas are located in or near one or more of
20 the nine TNC identified areas?

21 ERIN SIMONS-LEGARD: So I didn't spend a lot
22 of time looking at that specifically. I think there
23 is -- in some cases there is overlap and in many
24 cases there is not. So if there is some optimal way
25 to use sort of those nine priority areas as a focal

1 point for marten it might be possible, but I haven't
2 looked at that specifically.

3 MR. BERGERON: Okay. Thank you.

4 MS. BENSINGER: Are there maps in existence?
5 You seem to be referencing them.

6 ERIN SIMONS-LEGARD: So some of this
7 information has been published, not in the
8 perspective of marten, so I gave you two citations at
9 the bottom of the -- of the -- where the tables and
10 the maps are, so this information has been published
11 in part. It just hasn't been published for marten
12 specifically, so I have these maps that we've
13 generated that are not species specific, but I can
14 use to look specifically at marten habitat and that's
15 what I did to help this process.

16 MS. BENSINGER: And the maps show mature
17 forest areas that would be good marten habitat?

18 ERIN SIMONS-LEGARD: Yes.

19 MS. BENSINGER: Is this a series of maps?
20 Can you submit it?

21 ERIN SIMONS-LEGARD: So the -- I could. The
22 one downside is the analysis that I've done to date
23 stopped at 2010, so it doesn't take into
24 consideration the last nine years of harvest, so to
25 be complete I would need to take that step.

1 MS. BENSINGER: Could you submit the maps
2 that are in existence now?

3 ERIN SIMONS-LEGARD: In some form, yes.

4 MS. BENSINGER: And in what kind of time
5 frame could you submit those maps?

6 ERIN SIMONS-LEGARD: It depends a little bit
7 on what format would be the most helpful because they
8 could, you know, these could be -- if there is
9 something that is to be loaded into a GIS versus
10 something that needs to be sort of a PDF form, it
11 would just depend on what format to be easier and one
12 format would take a little more time than the other.

13 MR. MANAHAN: Ms. Miller, I would object to
14 admission of a ten year old -- frankly decade old
15 maps that could be totally different. There could be
16 different harvesting situations and those -- they
17 could be totally out of date and to submit those now
18 as evidence of what Ms. Simons-Legard is speaking to
19 me seems inappropriate.

20 MS. BENSINGER: Is this something that would
21 be helpful to the Department?

22 MR. BERGERON: Yes.

23 MR. BEYER: Yes.

24 MS. BENSINGER: So we will take that under
25 advisement.

1 MS. MILLER: Yes, we'll take it under
2 advisement and I'll go ahead and allow it.

3 MS. BENSINGER: I have a few questions for
4 Mr. Wood following-up on the Commissioner's questions
5 concerning additional compensation --

6 MR. MANAHAN: Ms. Bensinger, I'm sorry, can
7 I just ask one point of clarification? Is the record
8 going to remain open for just that and will we be
9 able to respond to it or what's the...

10 MS. BENSINGER: We -- it's possible at the
11 end of the day the record might be -- certain
12 specified documents -- the record might remain open
13 for the submittal of certain specified documents, in
14 which case the parties would have an opportunity to
15 submit written responses to those specified
16 documents. That sometimes happens at the end of a
17 hearing.

18 MR. MANAHAN: Yup. Thank you.

19 MS. BENSINGER: Mr. Wood, you were discuss
20 additional compensation and the Commissioner -- in
21 response to the Commissioner's question I believe you
22 said your priority would be mature forest --
23 preservation of mature forest areas, are there other
24 specific parcels or areas of mature forest that you
25 have in mind when you say additional compensation

1 would be desirable?

2 ROB WOOD: So the mature forest we were
3 referring to, I mean, I defer to Dr. Simons-Legard
4 and her analysis and so those, you know, to the
5 extent the University can provide information on
6 precisely where the mature forest exists currently
7 that's -- that's what we -- that would be the
8 priority.

9 MS. BENSINGER: But you have a region that
10 The Nature Conservancy feels that it would be most
11 beneficial to have additional preservation?

12 ROB WOOD: So it's a -- it's a really good
13 question. It's a tough question because, I mean, the
14 entire region is -- is important and that's, you
15 know, why we're advocating for avoidance and
16 minimization along Segment 1, but we don't -- we
17 don't have a specific parcel in mind, but
18 establishing habitat connectivity regional -- at a
19 regional scale is really what's important and
20 maintaining mature forest canopy.

21 MS. BENSINGER: Thank you. Dr.
22 Simons-Legard, you mentioned certain bird species and
23 you were discussing whether tapering would be
24 beneficial to them, could you elaborate on that a
25 little bit in terms of which bird species might

1 benefit from tapering along the proposed corridor
2 line and where -- if there are specific areas along
3 the proposed corridor line where those bird species
4 might be present?

5 ERIN SIMONS-LEGARD: So I'm not a
6 ornithologist, so I'm not an expert in birds. The
7 perspective of these other species that fall under
8 the marten umbrella, the aspect that's important --
9 most important to me is the fact that their home
10 ranges or territories are so much smaller, so the
11 direct impact of the right of way would be very
12 different. For forest interior birds we specifically
13 mentioned wood thrush, for example, which is in
14 global decline are considered an interior species.
15 Their territories are about five acres and ideally
16 they want that entire territory in the interior
17 forest. Tapering would -- so their response to hard
18 edges might actually be stronger than a marten who,
19 again, is going to cross, but if a wood thrush is
20 trying to set up its home range it's going to be more
21 heavily impacted by where that edge is so that
22 tapering would sort of extend that edge out might
23 allow them to set up a territory, but it's important
24 to note that that habitat would still be suboptimal
25 for that species because really they want to be in

1 the interior.

2 MS. BENSINGER: Thank you.

3 MS. MILLER: Redirect.

4 MR. MAHONEY: I don't have any redirect
5 based on the questions already asked by the staff and
6 the Commissioner.

7 MS. MILLER: Okay. We will then -- thank
8 you to my Group 6 witnesses.

9 ROB WOOD: Thank you.

10 MS. MILLER: We will then move on to the
11 Applicant Witness Panel, Amy Bell Segal and Terrance
12 DeWan. Okay. So your time is 10 minutes.

13 TERRY DEWAN: Good morning. My name is
14 Terry DeWan. I am a Landscape Architect from
15 Falmouth. My firm has been responsible for the
16 Visual Impact Assessment for the Clean Energy Connect
17 Project. We are here today to offer testimony in
18 response to Question 16 of the Tenth Procedural
19 Order, which calls for an evaluation of where, quote,
20 locations where tapering vegetation versus taller
21 overhead structures would be preferred within Segment
22 1.

23 As you will hear from Panels 2 and 3 this
24 afternoon there have been numerous factors to
25 consider in such an evaluation. We only looked at it

1 from a visual perspective knowing that there may be
2 positive and negative effects on scenic resources.
3 Based upon the information we had, we evaluated the
4 visual effect of tapering or taller structures on
5 waterbodies, mountains and roads in the nine areas
6 identified by TNC. You will see in our presentation
7 the types of computer model analyses that we used to
8 supplement our Visual Impact Assessment and then
9 evaluate the potential effects. The sum of our
10 testimony is to the effect that additional tapering
11 or taller transmission structures are being evaluated
12 for habitat protection, connectivity or other
13 environmental considerations tapering would be
14 preferable to taller transmission poles because of
15 the potential for greater visual impacts associated
16 with the taller structures when viewed from lakes,
17 ponds, roads and elevated viewpoints. There may be
18 some areas where taller structures may preserve
19 vegetation near streams or roads and may not be
20 highly visible from public roads that are identified
21 resources. I'll turn it over to Amy.

22 AMY SEGAL: Good afternoon -- good morning.
23 My name is Amy Segal. I am a Maine licensed
24 Landscape Architect with Terrance DeWan and
25 Associates. I'm just going to refer you all to the

1 graphics here. We have a presentation. The first
2 graphic here is an overall map of the majority of
3 Segment 1 with the TNC areas highlighted in white and
4 labeled. You have copies in front of you. So I'm
5 going to briefly review each one of these areas
6 specifically looking at whether these taller
7 structures would be more visible from, you know, more
8 visible when compared to the current design from
9 scenic resources and also where tapered vegetation
10 may have a visual benefit by reducing project
11 visibility.

12 Looking at TNC Area 1, which is in proximity
13 to Beattie Pond, which is right here. In this area
14 taller structures would be -- taller structures in
15 particular in here would be more visible from Beattie
16 Pond than the existing redesign. As you recall in
17 April, we went through a process where we explained
18 how we evaluated the structures. This is the
19 photosimulation that we reviewed with you.
20 Through -- with the engineers we've lowered
21 structures in here, so we're quite familiar with this
22 area and know that taller structures would be more
23 visible. Tapering from here would not be visible
24 obviously from the pond. In the areas along
25 Lowelltown Road, which is one of the access roads to

1 Beattie Pond tapering right at that intersection of
2 the crossing may be of benefit -- visual benefit.

3 Looking at TNC Area 2, this is the area
4 along here on either side of the South Branch of the
5 Moose River in through here. This is Gold Brook Road
6 on the east side of the river. So we looked at
7 taller structures in this whole area primarily
8 focusing on the South Branch of the Moose River. The
9 white structures here are the structure on either
10 side of the river. If those were to be taller and
11 you had preserved vegetation at taller heights on
12 either side of the river those structures would not
13 be highly visible from the river itself, so for
14 anglers who are in the -- within the project right of
15 way they wouldn't really see those structures.
16 They're located, you know, somewhere between 300 and
17 400 feet on either side of the stream, so.
18 Interesting to note here though too is that you have
19 some topography, you know, that would dip down to
20 where the river is so that would add some additional
21 benefit as far as walking views of the structures.
22 This is a view from South Branch of the Moose River
23 at the crossing, so you can get a sense of the
24 vegetation that's within that. That's the view from
25 the Gold Brook Road. That's the east crossing just

1 east of the river.

2 Moving on to TNC Area 3, this is an area --
3 it's -- there is Pine Tree Road is there, so there is
4 several dead end haul roads in this general vicinity.
5 There is not a lot of scenic resources to evaluate
6 per se. The taller structures in this area generally
7 wouldn't be visible from, you know, surrounding
8 scenic resources. There may be more visible from
9 this private land to the south, Leroy Mountain,
10 Tumbledown Mountain. Tapering in this area would
11 have minimal benefit specifically as we evaluate from
12 scenic resources.

13 Moving on to TNC Area 4. As has been stated
14 prior, this is a Leuthold Preserve here and Spencer
15 Road just kind of winds its way through here. This
16 is Rock Pond in the corner. The corridor -- the blue
17 area denotes areas -- the area where CMP has already
18 comitted to having taller structures and full height
19 vegetation around Gold Brook. This yellow zone here
20 is where CMP has the tapered vegetation to minimize
21 visual impacts as seen from Rock Pond. So this is
22 the area here that already has some mitigation
23 proposed, but the TNC area boundary is from here to
24 here. So we looked at particularly this area in here
25 north of Rock Pond and wanted to note -- that's this

1 area here directly north, the taller structures in
2 that area would be highly visible. As we've reviewed
3 extensively in April, the views to the north here
4 right now that -- the transmission line is just sort
5 of on the edge of that shoulder, taller structures
6 would pop up higher than that foreground vegetation.
7 It would be more visible. And also conductors, so
8 the conductors now are kind of just below the tree
9 line and the conductors with taller poles would be
10 above the tree line in this area. We did note --
11 sorry, I'll stay here for a second. We did note that
12 tapering of vegetation may be helpful just in the
13 area on either side of the access road down to Rock
14 Pond so that folks that are going down to the boat
15 launch on the north end or those campsites, if you
16 had tapered vegetation on either side of the road
17 crossing, you know, that might be of benefit. But in
18 general the tapered vegetation wouldn't be that
19 noticeable from the pond itself.

20 Moving on to TNC Area 5 here. We looked
21 at -- this is quite a big area. It extends from down
22 here all the way up to this north. So we looked at
23 views from Toby Pond, Whipple Brook, Spencer Rips
24 Road, Whipple Pond and Moore Pond that's surrounded
25 by the BPL land. It has a boat launch -- public boat

1 launch on it. Now, again, we're looking
2 holistically, so we're looking at taller structures
3 through the whole area and tapered vegetation through
4 the whole area. We looked at -- this is a
5 diagrammatic view looking at Toby Pond. Those yellow
6 sort of ribbons represent 60 foot trees, so, you
7 know, the trees would block the structures in that
8 area, but these taller structures in that that area
9 would you pop up above the tree line, you know, the
10 shore line tree line and would be visible. Right
11 now, the project is not visible from there, but if
12 there were taller structures they may be visible from
13 Toby Pond.

14 This is the Whipple Road campsite owned by
15 CMP. We described in April that the views from the
16 stream in front of here you'd have a view of at least
17 one structure. If that structure was taller it might
18 be slightly more noticeable. This is the view from
19 the crossing at Whipple Brook. From this location
20 where we described, you know, the tapering in this
21 area may have additional benefits. And this is
22 Spencer Rip Road directly adjacent. Again, because
23 of the narrowness of the road tapering on either side
24 may provide sort of a continuous vegetative edge in
25 this area. So this is Whipple Pond. This pond is

1 rated for scenic resources. We evaluated this from
2 the beginning and the current project as currently
3 designed is not visible from Whipple Pond. You can
4 see in this overlay down here on the bottom that
5 represents the structure approximately 130 feet as,
6 you know, representing a taller structure. If it was
7 to be taller than that you might see it, but
8 currently a structure around that height would not be
9 visible from Whipple Pond.

10 These two images here represent views from
11 Moore Pond. This is looking basically from the boat
12 launch looking north and in this case -- in both
13 cases, you know, there may be -- this one structure
14 maybe if it was taller might pop up above those tree
15 lines, but in general taller structures, you know,
16 sort of are on the edge but generally not that
17 visible from Moore Pond.

18 And moving on to TNC Area 6. This area
19 straddles either side of Spencer Road. Route 201 is
20 here, Parlin Pond, Spencer Road coming in here. So
21 TNC Area 6 is in that area. This is an interesting
22 sort of evaluation where, you know, we're thinking
23 about folks who are driving east or west on Spencer
24 Road and if you had taller structures they would be
25 potentially more visible especially when you have

1 sort of active sort of forestry operations on either
2 side that may periodically open up more views as
3 you're traveling down. So there is definitely
4 potential for structures particularly closest to this
5 side of the road to be more visible for people who
6 are on that road. Tapering may have a benefit right
7 at the crossing itself, but in general when you're
8 sort of approaching it tapering would have minimal
9 benefit. We also looked at this elevated viewpoint
10 from Coburn Mountain. This is a graphic that we had
11 in April. So Coburn Mountain here in the center.
12 We've noted here the TNC Area 6, which is somewhere
13 approximately 2 to 3, 3 1/2 away. This is a
14 photograph we had from before, we just sort of noted
15 that section there. So in this area taller
16 structures and the conductors may be slightly more
17 visible. The corridor itself is not very visible in
18 here, so tapering would have minimal benefit but, you
19 know, conductors may have more visibility.

20 Moving on to TNC Area 7, this is on the
21 shoulder of Coburn Mountain. This is the summit up
22 here with the view we just looked at and TNC Area 7
23 is in this area. This is Route 201 on this side. So
24 in this location we specifically looked at Parlin
25 Pond also being a pond rated for scenic resources and

1 this is similar to the view on Route 201, the scenic
2 byway, so this is views from approximately 2 to 3
3 miles away. This is the winter view. TNC Area 7
4 sort of overlaps in that area there. So taller
5 structures here, there are four structures visible --
6 slightly visible. Those would be more visible if
7 they were taller. In general, the corridor clearing
8 isn't that visible from these resources so tapering,
9 you know, may benefit -- you see that small little
10 white area there and tapering may benefit that area
11 to some degree, but certainly the structures and the
12 conductors if they were taller would be more visible.

13 Moving on to TNC Area 8, so it extends from
14 up through in here. So just for orientation, that's
15 201 here, Capital Road coming in, this is the Cold
16 Stream Forest Parcel through here, the Kennebec River
17 is over there. So TNC Area 8 extends through here.
18 Tomhegan Stream is right in the center of that.
19 Wilson Hill Road parallels along Cold Stream Forest
20 Parcel right there. So here it felt like that --
21 when we looked -- when we evaluated this we felt in
22 like areas, I know the Tomhegan Stream being a focus
23 area, sort of similar to the South Branch of the
24 Moose River where if you have taller structures and
25 you're preserving vegetation in that area that, you

1 know, when you're on the stream itself you are not
2 really going to see those structures because they're
3 set back so far and if you have, you know, it's a
4 fairly -- fairly narrow stream and you have
5 vegetation all along the banks that you really don't
6 even see those structures. However, folks who are on
7 the ITS trails, snowmobile trails, or driving along
8 the Wilson Hill Road to access Cold Stream would see,
9 you know, will see taller structures kind of in this
10 area and certainly as it parallels -- anywhere it
11 parallels along Wilson Hill Road. In this area
12 within the forest parcel as well as on the north side
13 is active, you know, heavily harvested active
14 harvesting areas in here, so, you know, we look at,
15 you know, taller structures would be more visible,
16 there is a lot of that area that's clearcut right
17 now, so it's, you know, you see the project, you're
18 going to see more of it. Tapering in this area would
19 probably have minimal benefit, at least through this
20 stretch right here because you're kind of in this,
21 you know, different generations of reforestation
22 there.

23 Oh, actually, I just wanted to mention here
24 too, we can talk a little bit about Cold Stream as
25 far as at the crossing, which Mr. Reardon was

1 speaking about. There is a similar situation there
2 where, you know, if you have taller structures on
3 either side and you have cleared vegetation, you
4 know, that those taller structures would be sort of
5 minimally visible from the stream itself, though
6 anybody that's driving on Capital Road to access Cold
7 Stream or driving and parking on the Old Capital Road
8 to access the stream would certainly see taller
9 structures. You know, this is an interesting
10 situation where you have, you know, Cold Stream drops
11 down and you have elevations sort of which aids in
12 preservation of vegetation, so the existing BMPs as
13 they are with the current design do allow for
14 vegetation, you know, taller than 10 feet in that
15 area now, so just to sort of balance the current
16 design with taller poles in that area.

17 Okay. Lastly, looking at TNC Area 9. We
18 have kind of gone over this already, but, you know,
19 we have the HDD technology and the Kennebec River
20 there, the scenic travel corridors in this area here
21 and the preserved riparian vegetation on either side
22 of the Moxie Stream right through there, so this is
23 TNC Area 9. And, you know, we thought there might
24 be, you know, we've already had these riparian
25 vegetations preserved on the other side of Moxie

1 Stream, so tapering may have some benefit, probably
2 minimal additional benefit. Taller structures in
3 here, which we did evaluate previously when we were
4 looking at -- when we were working with IF&W we
5 looked at taller structures here and because of the
6 wetlands that are just directly east here that taller
7 structures in that area would be far more visible
8 than the project would be now, so. And just to note
9 that Moxie Stream is rated a scenic -- as a scenic
10 resource.

11 So to conclude, you know, our evaluation of
12 taller structures is that they would be more visible
13 from most locations with the possible exception of
14 the South Branch of the Moose River and the Tomhegan
15 Stream and on the Cold Stream as we described.
16 Tapering would have visual benefits in very limited
17 areas, you know, such as, you know, along Rock Pond
18 access road or Whipple Brook, Spencer Rips Road.
19 That's it.

20 MS. MILLER: Thank you. So we're going to
21 go ahead and start cross-examination, but we will
22 break in the middle of it because we're just at an
23 awkward time right now. So we'll start our
24 cross-examination with Group 6, nine minutes. And I
25 guess I should check now and see if anyone has any

1 plans on ceding their time to Group 6. Hearing none.

2 MR. WOOD: Thank you. Rob Wood for Group 6.
3 Good to see you and hear your testimony. So just a
4 few questions. So on Page 2 of your supplemental
5 testimony, Mr. DeWan, you mentioned that, quote,
6 tapering would be preferable to taller transmission
7 poles in all locations identified by the Intervenors
8 because of the potential for greater visual impacts;
9 is that correct?

10 TERRY DEWAN: I think as a general rule, you
11 know, we felt that because of the greater
12 visibility -- hypothetical visibility --

13 MR. WOOD: Right.

14 TERRY DEWAN: -- of taller structures they
15 offer the -- the chance of extending the visual
16 impact in a broader area.

17 MR. WOOD: But is it fair to characterize
18 the visual assessment we saw is kind of a mixed
19 result, so there are some cases where based on the
20 visual photosimulations there could actually be
21 reduced visual impact by using taller structures?

22 TERRY DEWAN: Yeah, I think it's important
23 to realize that we did not do a formal visual impact
24 assessment to the same degree we did the initial VIA
25 for the project as a whole.

1 MR. WOOD: Okay. And kind of -- so
2 following-up on that, you did mention that visual
3 impacts from elevated places could be exacerbated
4 with taller poles; is that fair?

5 TERRY DEWAN: I think that's fair, yes.

6 MR. WOOD: And then we did see a photo on --
7 of TNC Area 6 on Page 21 that shows the corridor from
8 the top of Coburn Mountain looking north or
9 northwest. Yeah, we can bring that up. So would it
10 be possible to conduct a photosimulation of taller
11 poles in this area?

12 AMY SEGAL: We could do it, but it's not
13 necessary. We have a good understanding of
14 visibility here. You know, we know that the
15 structures would be slightly more visible, conductors
16 may be slightly more visible, but --

17 MR. WOOD: Okay.

18 AMY SEGAL: -- the corridor in theory would
19 be more visible.

20 TERRY DEWAN: But in doing --

21 AMY SEGAL: We have enough information.

22 TERRY DEWAN: In doing any of this though
23 you need to have the exact height of what the taller
24 structures would be.

25 MR. WOOD: Okay. And I -- I do want to come

1 back to that in just a minute. That's a good set up,
2 but I was not -- one more follow-up question on this.
3 So would you agree, generally speaking, that from the
4 elevated viewpoints the greatest visual impact tends
5 to be the actual 150 foot right of way itself, so
6 from Coburn Mountain the visual impact that you're
7 trying to address with tapering, for example, that's
8 actually the clearing from the 150 foot right of way,
9 is that accurate?

10 AMY SEGAL: Yup.

11 TERRY DEWAN: In most locations. I hate to
12 characterize it as everywhere.

13 MR. WOOD: Okay.

14 AMY SEGAL: In this instance here, for
15 example, you don't see the corridor.

16 MR. WOOD: Okay. Fair enough.

17 AMY SEGAL: So it depends on your angle of
18 view whether it's perpendicular or parallel to your
19 view angle.

20 MR. WOOD: Okay. And then can we go to the
21 Parlin Pond for just a second, Parlin Pond viewpoint.
22 And in this case as well from this particular vantage
23 point it's the 150 foot clearing that is the biggest
24 visual impact, is that fair to say?

25 AMY SEGAL: No, actually, the clearing

1 itself is very minimally visible and in the summer
2 with leaf-on you really can't distinguish that.

3 MR. WOOD: Okay. But there are cases where
4 it's the clearing itself that is really the visual
5 impact that -- that folks are concerned with that you
6 would be trying to address the tapering, for example?

7 AMY SEGAL: Right.

8 MR. WOOD: Okay.

9 AMY SEGAL: Like what CMP is committed to --

10 MR. WOOD: Right.

11 AMY SEGAL: -- looking south from Coburn
12 Mountain towards Johnson Mountain, that section of
13 area is being tapered to reduce the visual impact.

14 TERRY DEWAN: Or from Rock Pond.

15 AMY SEGAL: Yup.

16 MR. WOOD: And so if -- one more follow-up
17 question. If there were taller pole structures from
18 the vantage point, is it reasonable to assume or
19 could one look at the Visual Impact Analysis that if
20 there were are no clearing in the 150 foot right of
21 way it could be the case that the visual impact would
22 be significantly mitigated?

23 AMY SEGAL: It depends on the viewpoint, but
24 in some locations perhaps.

25 MR. WOOD: Okay. Thank you. And then so to

1 go back to the height of the pole structures, so
2 Mr. Paquette provided some information on this, there
3 is a little bit of information, but in your map of
4 TNC Area 4, I think -- I'll let you get back to that.
5 So -- okay. So here in the area above Gold Brook we
6 see structures of 130 feet high, so that's what you
7 would use here and elsewhere for your
8 photosimulations; is that accurate, for -- with
9 regard to taller pole structures you're using 130
10 feet as kind of the base height.

11 TERRY DEWAN: We did not do photosimulations
12 for this evaluation.

13 MR. WOOD: Okay.

14 AMY SEGAL: But we used 130 feet. That's
15 the tallest structure that would be needed here.
16 This is an engineered section so we know for certain
17 that that's a 130 foot tall structure in that area.

18 MR. WOOD: So that -- that is definitive
19 that those structures -- the height for those
20 structures on this map are definitive? We know that
21 for certain in this area?

22 AMY SEGAL: We know that in the blue area,
23 yeah.

24 MR. WOOD: Okay. And elsewhere on this map
25 as well?

1 AMY SEGAL: Yup.

2 MR. WOOD: Okay.

3 AMY SEGAL: Based on the current design,
4 yup.

5 MR. WOOD: So those are a structure 740, 125
6 feet is the estimated height for structure 740 --

7 AMY SEGAL: Okay.

8 MR. WOOD: -- so there is no further detail
9 on what that structure is, but assuming this is a
10 standard pole and not an elevated pole, is it fair
11 based on this map to assume -- may we assume that the
12 dividing line between the non-taller pole structure
13 and a taller pole structure is around 125 to 130 feet
14 based on this because we haven't -- standard pole
15 height of 125 feet on a structure 740 is 130 feet for
16 those poles?

17 AMY SEGAL: Yeah, I think that that question
18 might be directed to the engineers.

19 MR. WOOD: Okay. That's fair enough. And
20 we appreciate -- I think that's -- I think that's all
21 I have for now, so thank you.

22 MS. MILLER: Thank you. Group 8.

23 MS. TOURANGEAU: We are ceding our time to
24 Groups 2 and 10.

25 MS. MILLER: Okay. Group 7 friendly cross

1 you get two minutes.

2 MR. SMITH: No questions from Group 7.

3 MS. MILLER: Okay. We'll have next Group 10
4 and 2 and 1 with its time -- hold on. 27 minutes.
5 Wait at minute, let me just clarify, are you speaking
6 for Group 1?

7 MS. BOEPPLE: Yes.

8 MS. MILLER: Yup. Okay. Thank you.

9 MS. BOEPPLE: Did you have questions?

10 MR. HAYNES: I have a few questions.

11 MS. BOEPPLE: Okay. Not all of their time
12 because -- sorry, not all of their -- not all of
13 Group 1's time. Do you want Group 1 to go first?

14 MS. BENSINGER: Yeah, let's have Group 1 go
15 first.

16 MS. MILLER: Yeah. So nine minutes for
17 Group 1.

18 MR. HAYNES: Thank you. I'll make this as
19 brief as possible. And thank you folks for
20 considering all of the options of heights and vantage
21 points and such. Will you be recommending --

22 MS. MILLER: Mr. Haynes, can you speak more
23 directly into the mic, please? Thank you.

24 MR. HAYNES: Will you be recommending
25 directly to the Applicant particular pole heights and

1 ground covers to minimize visual impacts?

2 MS. MILLER: I'm sorry, can you just speak
3 into it a little... Thank you.

4 MR. HAYNES: Tricks, I guess. It works.
5 Will you be suggesting to the Applicant what pole
6 heights to put in particular positions and ground
7 cover underneath that to minimize visual impacts?

8 TERRY DEWAN: The recommendation for pole
9 height is an engineering consideration. We can be
10 part of the discussion about where they may be
11 effective at least from a visual perspective, but
12 it's not our recommendation for pole heights.

13 MR. HAYNES: Okay.

14 AMY SEGAL: And you'll hear more from Panels
15 2 and 3 about all --

16 MR. HAYNES: Okay.

17 AMY SEGAL: -- of the engineering
18 considerations for that.

19 MR. HAYNES: No, I was very interested in
20 the different types of heights and what was needed
21 for a foundation, so that's a good answer. Is there
22 a minimum distance required like standard of law
23 between the conductor and vegetation that you might
24 have used in your --

25 AMY SEGAL: Right.

1 MR. HAYNES: -- analysis?

2 AMY SEGAL: So our basic understanding is
3 that the maximum conductor sag, you know, say you
4 have flat ground, the maximum conductor sag is 34
5 feet from the ground and those locations you need a
6 24 foot safety zone, which would allow for
7 approximately 10 foot vegetation at the lowest point
8 of the conductor under standard conditions.

9 MR. HAYNES: Yup. Okay.

10 AMY SEGAL: Obviously if you have
11 topography -- there is many different factors that
12 can affect that.

13 TERRY DEWAN: That's a very -- very
14 complicated issue and it's probably best to talk
15 to -- to get an answer from Panels 2 and 3.

16 MR. HAYNES: Yeah, the vegetation can be
17 parallel to the sag, I understand that.

18 AMY SEGAL: Right.

19 MR. HAYNES: In your task of providing this
20 visual assessment, were you directed to provide best
21 case scenarios for particular areas like it seems
22 vantage points are tough to look at from -- whether
23 it's Coburn Mountain or Number 5 Mountain because
24 you're looking down and there is nothing in the way
25 of your view, are those areas best treated with a

1 full vegetation to the maximum heights to minimize a
2 view? What I'm saying is is it best to, what do I
3 say, cover the corridor with equal or similar color
4 to the abutting landscape?

5 TERRY DEWAN: I think you just asked two
6 separate questions, one where we were asked to
7 evaluate specific viewpoints and then secondly has to
8 do with the height of the vegetation.

9 MR. HAYNES: Right. From the -- from the
10 higher viewpoints is best to keep a similar cover
11 from --

12 TERRY DEWAN: Well, let me address the first
13 question. And we were not directed to look at any
14 specific viewpoints, but rather to do an evaluation
15 of the question number 16 in general. And when we do
16 that now we take a look at what scenic resources may
17 be affected and mainly the ponds, the higher
18 elevations, the public roads and so forth and that's
19 what we did. Then we looked at the evaluation -- the
20 effects that tapering or taller structures may have
21 in those specific viewpoints and scenic resources.

22 MR. HAYNES: Mmm Hmm.

23 AMY SEGAL: And to answer your question
24 about elevated viewpoints as we were describing
25 before it completely depends on where the project is

1 in relation to the viewer and in some locations where
2 you can't see the corridor itself there is a
3 difference. I don't know if that's answering your
4 question, but.

5 MR. HAYNES: Yes, you are. You're fine.
6 Along the Spencer Road should harvest happen to the
7 road, was there any suggestion about perhaps working
8 with the landowner to maintain a buffer at a certain
9 basal area so you can't see that corridor beyond it?

10 TERRY DEWAN: That was a question that's
11 best addressed by the Applicant.

12 MR. HAYNES: Okay. And was non-reflective
13 wire considered for the entire length of the corridor
14 or just the small areas around Rock Pond?

15 AMY SEGAL: We proposed to CMP to consider
16 it specifically around the Rock Pond area because of
17 where Rock Pond is proximally to the project, you
18 know, you're looking northward and the sun coming,
19 you know, during the time of day would be hitting
20 that and would be more reflective, so we were -- we
21 looked very specifically from scenic resources and to
22 determine whether or not it would have a benefit.

23 MR. HAYNES: But it was not considered for
24 the entire length of the project?

25 AMY SEGAL: Well, we knew it was a form of

1 mitigation to consider and we found that at Rock Pond
2 it would be worthwhile.

3 MR. HAYNES: But not on the rest of it?

4 AMY SEGAL: Not necessarily, no.

5 MR. HAYNES: Okay. And the non-capable
6 species, could a suppressed stand of spruce be
7 considered in that where growth might be only 20 feet
8 in 30 years?

9 TERRY DEWAN: What do you mean by a
10 suppressed stand of spruce?

11 MR. HAYNES: Trees growing in very stiff
12 competition they'd only reach minimal heights over a
13 long period of time.

14 AMY SEGAL: So wait, what was your question?
15 Sorry, can you repeat it, please?

16 MR. HAYNES: I think spruce is considered a
17 capable species?

18 AMY SEGAL: Yes.

19 TERRY DEWAN: Right. It is capable of
20 growing within the wire zone.

21 AMY SEGAL: Right. Yup.

22 MR. HAYNES: If that was allowed to grow in
23 a tight environment it would not grow anywhere near
24 as far as it would in an open space which would
25 compromise the wire zone?

1 TERRY DEWAN: That's a question that -- I
2 don't want to be evasive. I'm trying to -- that may
3 be a question best answered by Gerry Mirabile from
4 CMP who will talk about how vegetation is managed
5 within the -- the corridor.

6 MR. HAYNES: Very good. That's the end of
7 my questions and I would cede any time to the next
8 examiner. Thank you.

9 MS. MILLER: Where are we at with time?

10 MS. KIRKLAND: 2 minutes 44 seconds.

11 MS. MILLER: Okay. So it's 11:46 according
12 to my time. We had 11:55 as our lunch time, so I'm
13 going to go ahead and call a break for lunch now, but
14 just to answer any questions that may come up, Ms.
15 Boepple, you'll be up next right after lunch and
16 we'll call it 20 minutes because you have 2, 10 --
17 wait, you also have 8 too, right? We'll call it 29
18 minutes because I forgot Group 8, so you have 29
19 minutes and so we'll get started at 1 o'clock.

20 MS. BOEPPLE: Thank you.

21 MS. MILLER: Thank you.

22 (Luncheon break.)

23 MS. MILLER: I have a couple of
24 announcements for clarification. Earlier this
25 morning there were some questions about some maps

1 that currently exist from Dr. Simons-Legard and so
2 what we've decided we're going to do is we will allow
3 the record to stay open for one week solely for those
4 documents to come in and then another week for all of
5 the parties to comment on those maps, so that will be
6 just related to those documents. I also am going to
7 turn this over to Peggy to talk a little about
8 another issue.

9 MS. BENSINGER: The Department and the LUPC
10 are considering a site visit in mid-June when the
11 roads aren't quite so muddy. This will not require a
12 reopening of the record. It would be Department and
13 LUPC decision-makers and staff. The parties would be
14 permitted to -- what we're envisioning, this is all
15 just being discussed at this point, each group would
16 be permitted to send one representative in a separate
17 van and we would give you an itinerary and you could
18 follow us. There would be certain places where we
19 would stop and look and DEP staff and LUPC staff
20 would simply point out what we were looking at. So
21 that's just in the discussion stages. We don't --
22 haven't finalized anything yet. We might need to get
23 permissions to access certain places, but we will
24 keep you posted on that and we will let you know of a
25 date as soon as we have one assuming we go forward

1 with that, but it's looking likely.

2 MR. MANAHAN: Ms. Bensinger, I would just
3 ask do you think you intend to send the sort of
4 itinerary of like the stops along the way?

5 MS. BENSINGER: Yes.

6 MR. MANAHAN: Okay.

7 MS. BENSINGER: Yes, we will.

8 MS. MILLER: Okay. Thank you. So we're
9 going to continue on with cross-examination of the
10 Applicant Witness Panel 1 and we're starting with
11 Group -- the remainder of Group 1, Group 2, Group 10
12 and also using Group 8's time so there is 29 minutes
13 for Ms. Boepple. Thank you.

14 MS. BOEPPLE: Thank you. I probably won't
15 use of all of that time. Well, you never know. So
16 good afternoon.

17 TERRY DEWAN: Good afternoon.

18 MS. BOEPPLE: So I'll just jump right in
19 with questions. We'll try and get through this
20 efficiently. I just want to make sure I am clear on
21 what you said this morning. You stated that you did
22 not conduct a Visual Impact Assessment for these nine
23 areas; is that correct?

24 AMY SEGAL: We completed an assessment of
25 whether taller structures or tapered vegetation would

1 be preferred in the TNC areas, the nine TNC areas in
2 accordance with the Tenth Procedural Order that DEP
3 requested us to do so.

4 MS. BOEPPLE: Okay. But I -- I just --
5 there is a distinction between what you did and
6 conducting a full blown Visual Impact Assessment; is
7 that correct?

8 AMY SEGAL: Well, we completed the request
9 of DEP sufficiently. It's not a -- it's not a Visual
10 Impact Assessment. That was done for the application
11 before the Board and complete.

12 MS. BOEPPLE: Right. And I understand. I'm
13 not -- I'm just trying to make sure I understand the
14 difference between the two. So can you explain what
15 the difference is?

16 AMY SEGAL: The difference between what we
17 did here versus a Visual Impact Assessment?

18 MS. BOEPPLE: Yes.

19 AMY SEGAL: Well, as you know from our
20 Visual Impact Assessment, you know, we went to a
21 variety of locations, took photographs, based on the
22 engineering and the information that we received and
23 the model that was generated we merged those two to
24 create photosimulations from various locations and
25 then assessed the impacts of those locations -- from

1 those locations.

2 MS. BOEPPLE: Okay. And so in reviewing and
3 assessing and trying to respond to the Tenth
4 Procedural Order with respect to these nine areas,
5 you took data you had collected before, correct?

6 AMY SEGAL: Correct?

7 MS. BOEPPLE: And you assessed those using
8 specific criteria, is that a correct statement?

9 AMY SEGAL: Right. I mean, we have a vast
10 amount of photographs and information from all of
11 these scenic resources in Segment 1, so we used that
12 information to assess whether taller structures or
13 tapered vegetation would have visual benefits.

14 MS. BOEPPLE: So that was the charge you
15 had?

16 AMY SEGAL: That's not my usual --

17 TERRY DEWAN: Yes, the charge was based upon
18 question 13, which asked whether or not either of
19 those techniques would be preferred.

20 AMY SEGAL: 16. Question 16.

21 TERRY DEWAN: 16.

22 AMY SEGAL: Yeah.

23 MS. BOEPPLE: And that was with respect to
24 just those nine areas, correct?

25 AMY SEGAL: We were responding to that --

1 those questions, yes, based on the TNC areas that DEP
2 asked us to look at.

3 MS. BOEPPLE: Okay. I'm really not trying
4 to make this --

5 AMY SEGAL: No, I know. I'm just saying we
6 responded to what was requested of us.

7 MS. BOEPPLE: Okay. And the Applicant
8 didn't ask you to conduct any further analysis
9 either, correct, or assess any other areas; is that
10 correct?

11 AMY SEGAL: I mean, we -- we looked at all
12 of the scenic resources, you know, in relationship --
13 I mean, we weren't comprehensively looking at all of
14 these TNC areas from scenic resources, so, I mean,
15 obviously it's a little broader, but we focused on
16 those TNC areas, correct.

17 MS. BOEPPLE: Okay. Just so I'm clear, you
18 did not go beyond that so, for example, this morning
19 you were here, correct?

20 AMY SEGAL: Yes.

21 MS. BOEPPLE: And you heard the testimony of
22 Mr. Wood, correct?

23 AMY SEGAL: Correct.

24 MS. BOEPPLE: And he alluded to the fact
25 that the entire 53 miles really needs mitigation in

1 the form of perhaps pole heights or tapered
2 vegetation, but that wasn't -- you did not conduct
3 that comprehensive of an assessment on this go
4 around, correct?

5 AMY SEGAL: Correct. We used the nine TNC
6 areas that were identified.

7 MS. BOEPPLE: Okay. Thank you. I just
8 wanted to be clear on what the scope of what it was
9 you were doing in this round. I understand what you
10 did before, I'm just trying to make sure we all
11 understand what you did this time around. Okay.
12 So -- so then it would probably be fair to say that
13 if the 150 foot wide corridor is the visual impact,
14 you probably also didn't look at the reduction in a
15 visual impact on a narrower corridor, for example,
16 if -- if it was narrowed by virtue of an
17 underground -- part of this was undergrounded, did
18 you -- did you consider that in this assessment that
19 you just did for the supplemental?

20 AMY SEGAL: No.

21 MS. BOEPPLE: Okay. And did you find that
22 as you were assessing taller pole heights that while
23 those might have a mitigating impact on wildlife
24 habitat it had a concomitant effect in terms of the
25 visual? So in other words, it's sort of like

1 whack-a-mole, we fix one thing here but it creates a
2 different possible over here?

3 AMY SEGAL: We were only -- we only assessed
4 the visual aside of taller structures, so in most
5 locations taller structures are definitely going to
6 be more -- more visible and would have more visual
7 impact.

8 TERRY DEWAN: Yeah, our -- our work is
9 independent of the people who looked at it from a
10 habitat time standpoint.

11 MS. BOEPPLE: Right. But the purpose of
12 looking at these nine areas was to try and mitigate
13 some negative impacts on the environment and the
14 habitat, correct?

15 MR. MANAHAN: I object to the question,
16 which is attempting to characterize the Department's
17 question and -- and mischaracterize the intent of the
18 question, the Department's question.

19 MS. BOEPPLE: I...

20 MS. MILLER: I'm sorry, can you repeat that?
21 I missed part of that.

22 MR. MANAHAN: I object to the -- Ms.
23 Boepple's characterization as attempting to minimize
24 adverse impacts. She's trying to put words in the
25 witnesses mouth. The witness did not testify that

1 there is going to be adverse impacts from CMP's
2 proposal, so I would object to her characterization.

3 MS. BOEPPLE: Could I respond to that? I
4 don't think that's what I was trying to do. My
5 question --

6 MR. MANAHAN: Well, it's just what you said,
7 that's all.

8 MS. BOEPPLE: What I said was that -- if I
9 can remember what I said. That the nine areas
10 were -- you were asked to assess the nine areas based
11 on The Nature Conservancy's concerns about mitigation
12 of harmful environmental impacts, is that a fair
13 characterization of why the DEP was asking for this
14 in the Tenth Procedural Order?

15 MS. MILLER: I think that is fine as you
16 just phrased it.

17 MS. BOEPPLE: Okay. Thank you. So that you
18 were looking at it because there was a specific
19 charge to take a look at that because this had been
20 raised during the hearings and so my question to you
21 is in doing that assessment you had to look at, okay,
22 so maybe if there is taller poles introduced to some
23 of these areas, would that in turn have a negative or
24 potentially negative visual impact, correct?

25 AMY SEGAL: Correct.

1 MS. BOEPPLE: Okay. So when we look at Area
2 1, for example, I believe -- do you have your
3 supplemental testimony in front of you?

4 AMY SEGAL: Written?

5 MS. BOEPPLE: Yes. And if you could look
6 at -- toward the bottom of Page 2 where you discuss
7 TNC Area 1 and do you see where you state that the
8 redesigned structures included in the current
9 application are 38 feet lower than those originally
10 proposed to minimize visibility from Beattie Pond, do
11 you see where --

12 TERRY DEWAN: Yes.

13 MS. BOEPPLE: That's your testimony,
14 correct?

15 TERRY DEWAN: Yes.

16 MS. BOEPPLE: So were those lower pole
17 heights in that area, which you have just testified
18 -- you testified were changed were the original
19 application -- no, they weren't changed?

20 AMY SEGAL: Yes. Yes. Yeah, correct. So
21 the original application that was submitted in
22 September of 2017 had a structure location --
23 structure height -- one structure that was visible
24 above the tree line approximately 110 feet, so in the
25 redesign that was submitted in January working with

1 the engineers we reduced the structure height by 28
2 feet.

3 MS. BOEPPLE: Okay. And do I understand
4 that the reduction in those heights was the result of
5 your recommendations because of the visual impact or
6 trying to avoid a visual impact?

7 AMY SEGAL: Right. Working with the
8 engineers to do so, yup.

9 MS. BOEPPLE: Okay. And so to state the
10 obvious, if you were to raise the pole heights in
11 that area that would have a potentially negative
12 impact on the visual, correct?

13 AMY SEGAL: From Beattie Pond, correct.

14 MS. BOEPPLE: Okay. And so when you used
15 this photo as part of your supplemental testimony, I
16 noticed that it doesn't indicate any kind of a taller
17 pole height so you didn't do a new photosimulation,
18 correct?

19 AMY SEGAL: This is a photosimulation that
20 was submitted prior, yeah. I'm not sure I understand
21 your question. You mean...

22 MS. BOEPPLE: This is --

23 AMY SEGAL: Oh, for this -- for this study,
24 no. No, we didn't -- it wasn't required to submit a
25 new photosimulation. We're very familiar with the

1 area because of the work we did with the
2 re-engineering so we knew where -- we knew that
3 taller structures would be visible -- more visible
4 from the pond.

5 MS. BOEPPLE: Okay. So what I'm trying to
6 understand is so for Beattie Pond, which you've said
7 if pole heights were increased they would be
8 visible --

9 AMY SEGAL: They -- they would be more
10 visible.

11 MS. BOEPPLE: -- correct.

12 AMY SEGAL: Yup.

13 MS. BOEPPLE: Okay. But you have done
14 some -- you have provided us with some photo images
15 that show taller pole heights in some of the other
16 areas why did you not do it for this one?

17 AMY SEGAL: Well, I think this is kind of an
18 obvious location where, you know, we had the original
19 photosimulation that showed structure at 110 feet and
20 we showed the re-engineered, so I think this one --
21 in this area, I think it's very obvious that taller
22 structures will be more visible and you had an
23 example of that in the original application, so I'm
24 not sure.

25 MS. BOEPPLE: So you didn't think it was

1 necessary to illustrate --

2 AMY SEGAL: No. No.

3 MS. BOEPPLE: -- and show what the impacts
4 would be?

5 AMY SEGAL: It's already been done. I mean,
6 we have enough information here that we're very
7 confident that the taller structures would be more
8 visible from the pond.

9 MS. BOEPPLE: Okay. So why don't we just
10 jump to page -- further along in this particular
11 exhibit, if you could scroll up.

12 AMY SEGAL: I have it here.

13 MS. BOEPPLE: Oh, right.

14 AMY SEGAL: What page?

15 MS. BOEPPLE: I want to go to Page 17.
16 Okay. So we have this image. Was this produced
17 for -- as part of this exhibit and as part of the
18 materials you've prepared as part of your
19 supplemental testimony?

20 AMY SEGAL: Correct. This was submitted in
21 response to this -- this response to the Tenth
22 Procedural Order question 16, correct.

23 MS. BOEPPLE: So this shows what the impact
24 would be with taller pole heights; is that correct?

25 AMY SEGAL: This shows -- these are

1 photographs that we took from Moore Pond looking to
2 the north and those were the structure locations. We
3 looked at a conservative estimate of 130 foot
4 structures here and noted that, you know, those would
5 generally be screened by vegetation in both
6 locations. Taller pole heights could extend up to
7 165 feet, so as I stated prior, you know, 130 foot
8 may not be visible, but a more typical taller
9 structure might be 165, which would extend above the
10 tree line and would be visible. So we did this level
11 of analysis to hopefully provide enough information
12 to the Department to clarify where taller structures
13 will be visible.

14 MS. BOEPPLE: But you've also testified that
15 Beattie Pond would have a visual impact with taller
16 structures, but you didn't illustrate that, correct?

17 AMY SEGAL: Again, we have provided those
18 images original in 2017, so we knew what taller
19 structures would look like.

20 MS. BOEPPLE: Right. So I'm curious as to
21 why you didn't --

22 AMY SEGAL: It's part of the record.

23 MS. BOEPPLE: -- include that as part of
24 this exhibit?

25 AMY SEGAL: It's already part of the record.

1 MS. BOEPPLE: Okay. So that was the image
2 you used of Beattie Pond, correct? That was part of
3 the record.

4 AMY SEGAL: Right. The image of -- from
5 Beattie Pond. The original photosimulation and the
6 redesign is part of the record, so that seemed like a
7 pretty obvious location to -- I'm not sure what...

8 MS. BOEPPLE: But you chose not to show us
9 what it would look like, correct?

10 MR. MANAHAN: I would object. She's --

11 AMY SEGAL: It's part of the record.

12 MR. MANAHAN: -- answered this question
13 multiple times. She's badgering --

14 MS. MILLER: Yeah, I was going to say let's
15 move on. It's been asked and answered.

16 MR. MANAHAN: -- the witness.

17 TERRY DEWAN: We've all seen what it would
18 look like.

19 MS. BOEPPLE: Okay. So with respect to TNC
20 Area 2, you stated in your pre-filed testimony and
21 your supplemental testimony that the conductors would
22 be visible at a higher elevation than currently
23 proposed; is that correct?

24 Amy SEGAL: When you -- when an angler would
25 be on the South Branch of the Moose River right now,

1 you know, the structures that are approximately 3,
2 400 feet on either side of the river, so that river
3 is kind of in the low point of the sag, so if you
4 raise the structures 30 feet or 60 feet the
5 conductors obviously would be higher ahead -- higher
6 overhead of someone on the river logically.

7 MS. BOEPPLE: Yes, I understand that, but
8 your testimony states that the taller poles, quote,
9 the conductors would be visible at a higher elevation
10 than currently proposed.

11 AMY SEGAL: Correct. They would be 30 to 60
12 feet higher over the river if you had the taller
13 poles on either -- taller structures on either side.

14 MS. BOEPPLE: So it is possible that those
15 could be visible some other location, not from
16 standing in the river?

17 AMY SEGAL: Yes. Yeah. I mean, but in
18 those areas I testified before there is -- there
19 isn't any scenic resources directly adjacent.

20 MS. BOEPPLE: Right. Which gets to another
21 question that I had which is while it might not be
22 visible from a specific scenic resource that doesn't
23 mean it's not visible to the public from some other
24 location?

25 AMY SEGAL: Right. I mean, this area --

1 these are private logging roads and privately owned
2 land, so folks who are hunting and using these roads
3 to access them might see the taller structures,
4 correct.

5 MS. BOEPPLE: Okay. And when we look at TNC
6 Area 3 you state that taller structures -- in your
7 pre-filed testimony, taller structures may be visible
8 from surrounding mountains, on private lands, for
9 example, Tumbledown Mountain and Leroy Mountain,
10 correct?

11 AMY SEGAL: Correct.

12 MS. BOEPPLE: And, again, as you stated
13 before, those -- you're assessing that simply from
14 the perspective of what you have said is the
15 definition of the scenic resource and public scenic
16 resource, right? It doesn't mean that it's not going
17 to be visible from some other location?

18 AMY SEGAL: No. I mean, obviously we looked
19 at scenic resources, but we also looked at the areas
20 around there and that's why we noted that, you know,
21 while there is no trails, you know, on Tumbledown
22 Mountain, Leroy Mountain, those -- those people who
23 are going up the haul roads and going to the laydown
24 areas, you know, could look down and see these --
25 these structures. They'll see the project, so, you

1 know, while, you know, we said in the beginning
2 taller structures are going to be more visible, you
3 know, overall.

4 MS. BOEPPLE: Okay.

5 AMY SEGAL: And from very focused areas like
6 the stream, they may not be as visible, but from
7 other places taller structures would be more visible.

8 TERRY DEWAN: And -- and along with that of
9 course would be conductors that are attached to the
10 taller structures.

11 MS. BOEPPLE: Right. Which -- let's talk
12 about Area 4, for example. And I believe your
13 testimony is that the conductors for taller
14 structures 725, 726 and 727 would be highly visible
15 from the pond even with the use of non-specular
16 conductors since they would be seen as unbroken lines
17 connected to the structures, correct? Is that on
18 Page 4 of your testimony?

19 AMY SEGAL: Yes.

20 MS. BOEPPLE: So that would be something
21 that be presumably much more visible, correct?

22 AMY SEGAL: Correct.

23 MS. BOEPPLE: So is that an example of where
24 if you raise up the pole height you're creating a
25 visual impact while it may be providing a benefit to

1 mitigate an environmental impact?

2 AMY SEGAL: Yes. As we showed in this
3 image, you know, right now the conductors -- the
4 structures are kind of at this tree elevation here
5 and the conductors are just below that elevation --
6 sorry, through here. So structures that are 130 or
7 165 are going to pop up above this sort of mid-ground
8 ridge here and the structures and the conductors
9 would be more visible from Rock Pond.

10 MS. BOEPPLE: So is there some way to
11 mitigate that visual impact at that height and with
12 those -- with that particular design, is there any
13 way to --

14 AMY SEGAL: Not do taller structures.

15 MS. BOEPPLE: So keep them low?

16 AMY SEGAL: Yeah.

17 MS. BOEPPLE: And down below the tree line?

18 AMY SEGAL: As close to the tree line as
19 possible, yeah.

20 MS. BOEPPLE: Is there any way to mitigate
21 the visual impact with the poles at that height?

22 AMY SEGAL: At what height?

23 MS. BOEPPLE: At the -- at a taller height.

24 AMY SEGAL: Well...

25 MS. BOEPPLE: Is there way to mitigate the

1 visual impact that this particular design would
2 create?

3 TERRY DEWAN: You're not going to make them
4 any less visible.

5 MS. BOEPPLE: Okay. That was my question.

6 AMY SEGAL: I mean, they -- they are going
7 to be self-weathering steel and they're not going to
8 be silhouetted against the sky, but they would be
9 more visible.

10 MS. BOEPPLE: You just --

11 AMY SEGAL: There is no way to --

12 MS. BOEPPLE: -- live with it.

13 TERRY DEWAN: Not yet. I know there is
14 technology that's being worked on, but, no, we don't
15 have that technology available to us now.

16 MS. BOEPPLE: Okay. Thank you. So on --
17 let's look at Area 5. And I believe, again, in your
18 testimony you state that at least two taller
19 structures would be visible from portions of Toby
20 Pond, two and maybe more, I think that's what your
21 testimony was; is that correct?

22 AMY SEGAL: Correct. Based on this
23 elevation.

24 MS. BOEPPLE: So can you explain to me why
25 at least two, maybe more, instead of at least -- I

1 look and I say, well, it looks like there is at least
2 three, but maybe not, so can you explain why?

3 AMY SEGAL: Okay. Let me just go back here.
4 So Toby Pond is down here --

5 MS. BOEPPLE: Mmm Hmm.

6 AMY SEGAL: -- so this image is from here
7 looking north towards these four structures right
8 here. So this is -- this diagram shows that edge --
9 that bottom line is the shore line of Toby Pond.
10 These yellow lines represent 60 foot trees, which we
11 know to be generally the average height of vegetation
12 here. The structure here is below that elevation, so
13 it would not be visible. This one here is below the
14 tree line it would not be visible. These two pop up
15 above that 60 foot tree line, so it's likely that
16 those would be more visible at 130 feet or 160 feet
17 or at a taller height, so those are the two
18 structures that we said would likely be visible.

19 MS. BOEPPLE: So that's at least two and
20 maybe more and what would -- what would create the
21 opportunity for more views?

22 AMY SEGAL: Um...

23 MS. BOEPPLE: What would -- I mean, your
24 testimony was at least two, maybe more.

25 AMY SEGAL: Depending on the height of the

1 structures, the final height of the structures.

2 MS. BOEPPLE: Okay. And the tree line is
3 helping to mask some of those, correct?

4 AMY SEGAL: Correct.

5 MS. BOEPPLE: And to your knowledge, does
6 CMP have control over that tree line that's providing
7 in the masking?

8 AMY SEGAL: No, but vegetation within, you
9 know, within waterbodies is regulated.

10 MS. BOEPPLE: But it's not within CMP's
11 control?

12 AMY SEGAL: Correct. But the landowners
13 have -- are restricted from cutting those areas.

14 MS. BOEPPLE: That's okay. You answered my
15 question. Thank you. So let's look at Area 6. And
16 here you state that there would be a visual impact
17 from Coburn Mountain. I believe that's your
18 testimony. Taller structures would elevate the
19 conductors above the tree line where they would be
20 more noticeable. That's your testimony, correct? Do
21 you see that?

22 TERRY DEWAN: Yes.

23 MS. BOEPPLE: So you agree that's your
24 testimony, correct?

25 AMY SEGAL: Right. So in this photograph

1 here we show where the TNC area is in that area.

2 MS. BOEPPLE: Okay. And all the way over on
3 the right in the top image where it says project not
4 visible, screened by foreground vegetation and
5 topography?

6 AMY SEGAL: Right. Right there. Yup.

7 MS. BOEPPLE: And, again, same question,
8 it's being screened but it's not by any screening
9 that is within CMP's control; is that correct?

10 AMY SEGAL: This portion of the project is
11 screened by the vegetation that's on the summit of
12 Coburn Mountain within the Bureau of Parks and Lands
13 publicly owned land.

14 MS. BOEPPLE: Not within CMP's control?

15 AMY SEGAL: Correct. And topography
16 obviously over the ridge line of Coburn Mountain.

17 MS. BOEPPLE: Sure. Now, if -- so let's
18 look at Area 7. And here you've also stated the
19 taller poles were not evaluated because, quote, this
20 area lacks known brook trout and threatened,
21 endangered species waterbodies; is that correct?

22 AMY SEGAL: Correct.

23 MS. BOEPPLE: But you also stated that
24 tapered vegetation would be preferred over taller
25 structures in this area to minimize potential adverse

1 effects on the view from Parlin Pond and Route 201;
2 is that correct?

3 AMY SEGAL: Right. I mean, we did evaluate
4 whether or not taller structures would be visible,
5 for instance, in this discussion from Parlin Mountain
6 or from Route 201. There are four structures that
7 are visible now and those would be more visible with
8 taller structures.

9 MS. BOEPPLE: Exactly.

10 AMY SEGAL: Right.

11 MS. BOEPPLE: You anticipated my next
12 question. Thank you. So is it fair to say that
13 would have an -- even more of an impact on Parlin
14 Pond if for some reason the structure -- the poles
15 were heightened in that area?

16 AMY SEGAL: Well, it's approximately 3 miles
17 away, 2 to 3 miles away, two being on Route 201 and a
18 similar view to this at 3 miles, so, I mean, you
19 would see the structures, you may see the conductors
20 a little bit more.

21 MS. BOEPPLE: But the taller we go the more
22 likely it is that it's going to have an impact? I
23 mean, we can say --

24 TERRY DEWAN: I think that's a fair
25 assessment, yes.

1 AMY SEGAL: Yes.

2 MS. BOEPPLE: Thank you.

3 AMY SEGAL: More of the structure will be
4 visible.

5 MS. BOEPPLE: Okay. And Area 8, your
6 testimony, again, is tapering would minimize visual
7 effects to recreational users on Wilson Hill Road
8 where the project corridor is near the road; is that
9 correct?

10 AMY SEGAL: Yes. Yup.

11 MS. BOEPPLE: Okay. And then you said the
12 taller structures would be more visible to
13 recreational users of the road due to the presence of
14 commercial forestry operations on the northeast side
15 of the road, correct? Have I read that correctly?

16 AMY SEGAL: Yeah, this area -- there is
17 cutting on both sides of the Wilson Hill Road in this
18 area.

19 MS. BOEPPLE: So regardless of any tapering,
20 CMP doesn't have any control over what's going on in
21 those forestry activities, correct?

22 AMY SEGAL: Correct.

23 MS. BOEPPLE: And then looking at Area 9 you
24 state that the tapered vegetation would be preferred
25 over taller structures; is that correct?

1 AMY SEGAL: Correct.

2 MS. BOEPPLE: And then you state that,
3 quote, taller structures would be more visible from
4 Moxie Stream specifically from a wetland area east of
5 the stream crossing; is that correct?

6 AMY SEGAL: Yeah, that area right in there.

7 MS. BOEPPLE: Mr. DeWan, you look like you
8 want to add something.

9 TERRY DEWAN: No, I don't. No, I was
10 looking at the dot.

11 MS. BOEPPLE: Okay.

12 AMY SEGAL: And this is the area where there
13 is already the deer travel corridor vegetation
14 management that's being proposed.

15 MS. BOEPPLE: And we don't have a
16 photosimulation of this, do we?

17 AMY SEGAL: Photosimulation of what? From
18 where? Because we did provide photosimulations from
19 Moxie Stream in the application.

20 MS. BOEPPLE: Right. Right, I remember
21 that. But we don't have that as part of this
22 exhibit?

23 AMY SEGAL: It's part of the record.

24 MS. BOEPPLE: Okay. So your recommendations
25 when you were reviewing the original project, you

1 would look at everything -- just to state the
2 obvious, you were just looking at it from the
3 perspective from the visual impact?

4 AMY SEGAL: Correct.

5 MS. BOEPPLE: So any recommendations you had
6 made, it was someone else's job to look at whether or
7 not there would be an impact on habitat, wildlife
8 habitat, for example, on forest fragmentation; is
9 that correct?

10 AMY SEGAL: Well, it's a team of, you know,
11 some scientists and the engineers and us sort of
12 collaboratively providing information.

13 MS. BOEPPLE: Right. But your task and your
14 expertise --

15 AMY SEGAL: Yes, we're visual of course.

16 MS. BOEPPLE: Okay. Thank you.

17 AMY SEGAL: Yup.

18 MS. BOEPPLE: So from your perspective
19 there -- and I'm not going to put words in your
20 mouth, so you tell me if this is correct. From your
21 perspective, while the project might be modified by
22 certain changes to the project design as has been
23 proposed by The Nature Conservancy, for example, that
24 might take care of one problem, but it might create a
25 different problem and that different problem might be

1 a visual impact, is that fair to say?

2 TERRY DEWAN: Our charge was to evaluate
3 those nine areas and make a determination whether or
4 not there would be additional visibility both from
5 waterbodies, from roads, from mountain tops and so
6 forth.

7 MS. BOEPPLE: And if other areas were
8 decided by the Commissioner and the LUPC that needed
9 to be mitigated, in terms of raising pole heights,
10 for example, presumably you would need to weigh in on
11 that?

12 TERRY DEWAN: We would assume that we would
13 be part of the discussion, yes.

14 MS. BOEPPLE: Okay. All right. No further
15 questions. Thank you.

16 MS. MILLER: Next we have Group 3. And I've
17 got two minutes here for friendly cross.

18 MR. BOROWSKI: Good afternoon. Benji
19 Borowski representing Industrial Energy Consumer
20 group on behalf of Group 3. A couple of questions
21 for the panel, either of you can address then,
22 whoever addressed the short straw. You assessed the
23 visual impact of taller structures using 130 feet as
24 a proxy height; is that right?

25 AMY SEGAL: Correct. 130 feet as a

1 conservative lowest structure, lowest or tall
2 structure height, yeah.

3 MR. BOROWSKI: When you determined that
4 those 130 foot structures create or increase negative
5 visual impacts, is it fair to say that using even
6 taller structures would exacerbate those impacts?

7 AMY SEGAL: Yes, that's what our findings
8 were for most of -- from most locations.

9 MR. BOROWSKI: Where you determined that
10 those 130 foot structures would create a relative
11 visual impact benefit, is it possible that using even
12 taller structures could either eliminate that benefit
13 or create a negative impact?

14 AMY SEGAL: Yes, I guess so depending on the
15 height.

16 MR. BOROWSKI: Thank you.

17 MS. MILLER: Thank you. And we have Group 4
18 with nine minutes.

19 MS. ELY: I've lost my ability to not look
20 awkward up here. Ms. Segal and Mr. DeWan, Sue Ely
21 representing Group 4, Appalachian Mountain Club, The
22 Nature Conservancy and Trout Unlimited. A lot of --
23 a lot of what I was going to ask you has already been
24 covered so you're lucky. I just want to confirm that
25 you didn't look at the visual impacts of

1 undergrounding, you looked only at the taller
2 structures -- structure heights and tapering; is that
3 correct?

4 TERRY DEWAN: That is correct.

5 MS. ELY: Okay. I wanted to ask you if
6 you've ever seen tapering along a power -- along a
7 transmission line with a second line next to it or
8 like a second clearing, if they're ever doubled-up,
9 if it's possible to do one right of way tapered and
10 then a second right of way taper?

11 TERRY DEWAN: Second tapered at the -- the
12 first tapered and second untapered or two next to
13 each other?

14 MS. ELY: Either -- either way. Have you
15 ever seen a tapered line then expanded into a second
16 line?

17 TERRY DEWAN: I don't believe I have.

18 MS. ELY: In your experience is that
19 possible?

20 AMY SEGAL: I would assume it's part of the
21 vegetation management.

22 MS. ELY: I'm just trying to -- and I'm
23 likely to ask the same question later, but I'm trying
24 to understand whether if we go forward with tapering
25 under this line and then later on the second half of

1 the line is utilized, not what would happen in the
2 second line but what would happen to the tapered
3 vegetation in the first line?

4 MR. MANAHAN: I object to the premise of
5 this question, which is this project is what this
6 project is. There is no proposal before the DEP or
7 the Commission to use the second half of this line
8 and the hypothetical is not based on anything in the
9 application.

10 MS. ELY: I would argue that the -- that it
11 is relevant in that this line is proposed to be there
12 for 40 years and if in year 21 that second right of
13 way that CMP owns is developed, I am just curious
14 what has happened with other tapered lines in that
15 situation when there has then a developed piece right
16 next to it?

17 MR. MANAHAN: And I would object to that
18 because it would be part of that later application.
19 If there were ever an application some day in the
20 future then that question would be posed during that
21 application. There is no such proposal before the
22 DEP or the Commission right now.

23 MS. BENSINGER: There -- there isn't a ban
24 on asking a hypothetical question as long as the
25 witness is aware it's a hypothetical question and the

1 decision-maker can give it whatever weight it
2 deserves.

3 MS. MILLER: So I'll go ahead and allow it.

4 TERRY DEWAN: To the extent this is a
5 hypothetical question, I would think that if it ever
6 were to occur one would have to evaluate the
7 conditions that are out there now and with a would
8 be -- the issues that would have to be addressed.
9 And I am assuming that there could be some way of
10 melding the two, but, yup, this is obviously not
11 something to be considered at this point. We have
12 not been asked to. And I would assume that at that
13 point if this ever occurred that may be an issue and
14 there may be a way to address it.

15 MS. ELY: Okay. In your -- the testimony
16 that we've been looking at here, I just want to go
17 through some of these illustrations that you've given
18 us. I'm going to start with TNC Area 2 and I just
19 want to reaffirm, do you conclude that in TNC Area 2
20 the taller structures for the river crossing of the
21 South Branch Moose River would minimize the use of
22 the structures from the river and would not be
23 visible from any publicly owned resources?

24 AMY SEGAL: That's what -- it's in our
25 testimony, but as I mentioned before this is an

1 interesting location where, you know, the structures
2 are at higher elevations and you go down to like the
3 level of the river, so you've already got topography
4 working for you in that area, so, you know, the
5 structures as they're currently designed will allow
6 for, you know, more vegetation to grow along the
7 stream, the river banks than -- than if it was flat
8 for instance, you know, it's going to be more than 10
9 feet in that area because you've got the topography
10 working for you.

11 MS. ELY: Is it also true if taller
12 structures were incorporated for stream crossings at
13 The Nature Conservancy Area 3 for the Tomhegan Stream
14 crossing at TNC Area 8?

15 AMY SEGAL: So you're asking about?

16 MS. ELY: 3 and 8.

17 TERRY DEWAN: Could you repeat the question
18 and do it one at a time?

19 MS. ELY: Yeah. So if the -- if the taller
20 structures for those stream crossings as well in the
21 Area 3 and Area 8, would that also minimize views
22 from -- of the structures from the river?

23 AMY SEGAL: Well, again, it's similar where
24 you're working with topography, so the current
25 design, the current pole height -- structure height

1 as it's designed will allow for, you know, taller
2 vegetation along the river banks, but when we did our
3 assessment of whether or not taller structures would
4 be visible from those resources we found that if
5 they're taller and there is higher, you know, taller
6 vegetation along the stream banks that those
7 structures would be visible. I mean, they're not
8 visible now with the current design, so they wouldn't
9 be visible if they were taller.

10 MS. ELY: Okay.

11 AMY SEGAL: Page 3, I'm sorry, just to be
12 specific about the stream itself.

13 MS. ELY: In TNC Area 4, I believe that it's
14 Map 10 of 25. I was wondering if you could explain
15 why in your photosimulation the taller structures are
16 red.

17 AMY SEGAL: That was for ease of delineating
18 between the existing -- the current design height and
19 if they were to be, for instance, 130 feet, so we
20 were just showing that for the Department to have a
21 better understanding of the change in height.

22 TERRY DEWAN: Yeah, I wouldn't call it a
23 photosimulation. It's more of a diagram to show the
24 effect of additional height on top of the structures
25 as currently proposed.

1 MS. ELY: So it's just illustrative
2 purposes?

3 AMY SEGAL: Correct.

4 TERRY DEWAN: It's an illustrative, yes.

5 MS. ELY: Thank you. Similarly --

6 TERRY DEWAN: We also did not show where the
7 conductors would be above the tree line too.

8 MS. ELY: Okay. So a similar question for
9 TNC Area 3, Page 12 of 25. The red lanes are -- are
10 fairly wide, is this -- is this true to scale or
11 would these -- the poles be thinner than these lines?

12 AMY SEGAL: I'm sorry, what page?

13 MS. ELY: 12 of 25.

14 AMY SEGAL: That one here. So what was your
15 question? I'm sorry.

16 MS. ELY: So these -- these red bars are
17 fairly wide and these are not to scale, correct?

18 AMY SEGAL: Right. It's a -- it's a
19 diagram, right. So you have topography and you have
20 the trees represent -- the yellow lines representing
21 the trees and those red cylinders represent 130 foot
22 structure conservative height.

23 MS. ELY: Okay. And so this doesn't show
24 what it would actually look like width-wise?

25 AMY SEGAL: No. These -- these red

1 cylinders are wider than the actual structure would
2 be.

3 MS. ELY: Now, in -- at Cold Stream, does
4 the application say that for the Cold Stream crossing
5 taller vegetation will be maintained; do you recall?

6 AMY SEGAL: As we -- well, as we understand
7 the -- the BMP's that are already part of the current
8 application and will allow for taller vegetation
9 along Cold Stream, you know, again, it's where there
10 is topography and there is, you know, say it's a
11 10-12, foot grade change from Capital Road down to
12 Cold Stream, I'm just approximating that, but so you
13 have, you know, you have that 10-12 feet to add to,
14 you know, the minimum amount of vegetation you'd be
15 able to have in that area under the current design.
16 So, again, topography working for you in that
17 location.

18 MS. ELY: Later on you look at the view from
19 Coburn Mountain. Let's turn to 21 of 25. You have
20 another, I guess, diagram not photosimulation of
21 where higher pole heights would be used and where
22 they would be visible. In these diagrams it looks
23 like the clearing is still visible; is that correct?

24 AMY SEGAL: No. I mean, we color coded this
25 diagram here with the blue and yellow and the dashed

1 green for the previous -- the previous hearing
2 because we were trying to explain where the project
3 would and would not be visible from the summit of
4 Coburn Mountain and -- and where it's just in
5 location, so this area here is outside of the 3 miles
6 and the yellow is within, so we were just color
7 coding from an illustrative point of view. The --
8 because of the view angle, you know, if you're on the
9 summit of Coburn Mountain and you're looking at the
10 project it's perpendicular to your viewpoint, the
11 corridor itself, the cleared corridor won't be highly
12 visible because of that angle, that view angle. The
13 structures, you know, are visible from 2 1/2 to 3
14 miles would be, you know, moderately or minimally
15 visible.

16 MS. ELY: In looking at the taller
17 structures which you have testified make them more
18 visible, did you study the viewer or the user impact
19 between where you can see a 150 foot clearing
20 compared to no clearing but the visibility of taller
21 poles, did you evaluate that difference in that
22 viewer experience?

23 AMY SEGAL: Are you speaking on Coburn?

24 MS. ELY: Any place where you would have the
25 ability to see the clearing itself where you would

1 have these higher pole heights.

2 TERRY DEWAN: We did not do a comparative
3 evaluation. As Amy said, we know that this
4 particular view where you're seeing the taller
5 structures if they were to be used that runs
6 perpendicular to the view, they would be seen above
7 the tree line to a greater extent. When you're
8 looking in the other direction looking down the
9 cleared corridor looking parallel to the view then
10 you would -- then you would obviously see the
11 individual structures within that cleared corridor or
12 the tapered corridor.

13 MS. ELY: Right. You know, one of
14 the points of having higher structures is to avoid
15 the clearing, correct?

16 MR. MANAHAN: I'm going to object to the
17 continued questioning after her time is up. This is
18 like her the third question after her time has been
19 up.

20 MS. MILLER: I understand. I'd like to hear
21 the answer to that question. Thank you.

22 AMY SEGAL: Can you repeat the question?

23 MS. ELY: Sure. What I am trying to get at
24 is the point of raising the pole structure is to
25 allow maintenance of an intact forest canopy or at

1 least at a minimum a tapered forest canopy, but in
2 your visual analysis I haven't seen any -- any
3 comparison of the viewer -- the user or the viewer
4 impact of the change from a 150 foot cleared right of
5 way with -- with poles versus a less cleared forested
6 landscape with poles sticking up and I just am
7 curious if you did that.

8 AMY SEGAL: We provided with the
9 photosimulations from the summit of Coburn Mountain
10 we have shown the tapered vegetation that would be
11 visible looking south towards Johnson Mountain.

12 MS. ELY: But for -- but for the other areas
13 that you evaluate, the nine new TNC areas that you
14 evaluated, I haven't seen -- I didn't see that in the
15 analysis.

16 TERRY DEWAN: You've heard before, we have
17 not done photosimulations at those nine areas.

18 AMY SEGAL: But we've assessed, you know,
19 where -- we can determine where the taller structures
20 would be more visible and where the corridor is
21 visible or not. Like, for instance, Parlin Pond, the
22 corridor is not highly visible. With taller
23 structures it would be more visible, but tapering in
24 that area wouldn't have a visual benefit from Parlin
25 Pond itself.

1 MS. ELY: Okay.

2 AMY SEGAL: And we have done that evaluation
3 for all of those nine areas from the
4 scenic resources.

5 MS. ELY: Thank you. That's a helpful
6 answer and perhaps the problem is I didn't ask the
7 question as well as I would have liked.

8 MS. MILLER: Can you --

9 MS. ELY: Yup. It's just -- did you look
10 at -- instead of looking at where pole heights would
11 be more visible, did you look at where the corridor
12 route would be less visible -- the cleared corridor
13 would be less visible?

14 AMY SEGAL: Right. Like we talked about
15 from the different stream crossings where you would
16 have taller poles, but you would have full height
17 vegetation, you know, you wouldn't see those
18 structures, but we did that evaluation in those very
19 specific locations, yes.

20 MS. ELY: Thank you.

21 MS. MILLER: Thank you. Okay. Now, it's
22 time for agency questions, so I'll go ahead and start
23 with the Commission.

24 MR. WORCESTER: Anyone have any questions?
25 I guess we're good. Bill.

1 MR. GILMORE: Thank you. Is this on? I
2 don't know who is the appropriate person to ask this
3 question, but I've been listening to all of these
4 questions about what's visible from Coburn Mountain.
5 I've never been to Coburn Mountain, but is there a
6 road on top of Coburn Mountain?

7 AMY SEGAL: Well, there is a snowmobile
8 trail that goes on -- that goes along an access road
9 to the summit of Coburn Mountain where there is, you
10 know, an observation platform, there is a hut up
11 there and a couple of solar panels that are accessed
12 from that -- that access road.

13 MR. GILMORE: Oh, I'm confused. I thought
14 that was in excess of 2,700 feet, but I guess I'm
15 wrong. So okay. I thought maybe there was a road up
16 there that people could drive for...

17 AMY SEGAL: Well -- well, it's an access
18 road. It's not for everyone's vehicle, but an ATV
19 can get up there and a snowmobile can get up there
20 with the groomed trails.

21 MR. GILMORE: Okay. Thank you.

22 MS. MILLER: Commissioner Reid.

23 MR. REID: I don't have any.

24 MS. MILLER: Mr. Beyer.

25 MR. BEYER: Can you go to the view from

1 Parlin Pond to start with? The next one. That shows
2 the corridor.

3 AMY SEGAL: I'm sorry. This one?

4 MR. BEYER: No, I thought in the -- that
5 one. Yup.

6 AMY SEGAL: We just have the one from Parlin
7 Pond.

8 MR. BEYER: Okay. When I look at that photo
9 what I see especially in the wintertime from that
10 distance is the cleared corridor not taller
11 structures, so wouldn't taller structures reduce the
12 visibility of the corridor? That's kind of what Sue
13 Ely was getting at.

14 AMY SEGAL: Right.

15 MR. BEYER: Especially in that location.

16 AMY SEGAL: Right. So there is this area
17 yeah here --

18 MR. BEYER: Right.

19 AMY SEGAL: -- which is -- a bit of the
20 corridor is visible because of the elevation of the
21 cross slope there, so, I mean, you could do tapered
22 vegetation in there and that would probably reduce
23 its visibility as well.

24 TERRY DEWAN: I don't think that's a real
25 yes or no answer though and you'll hear people in the

1 next two panels talk about what it takes to put in
2 taller structures in terms of access roads and so
3 forth.

4 MR. BEYER: Right. Okay. Now, I'll go to
5 the photo of Rock Pond. There again, when I look at
6 that, what I see is the cleared corridor, so if you
7 had a -- if you had taller poles and no cleared
8 corridor wouldn't taller poles reduce the visibility?

9 AMY SEGAL: Well, in this photosimulation
10 that sort of dark line denotes sort of a change in
11 vegetation not necessarily the cleared corridor.

12 MR. BEYER: Right. But you see, I see the
13 change in vegetation much more than I see the
14 structures.

15 AMY SEGAL: Yeah, I understand that. I
16 mean, I think to keep in mind here, this is a little
17 bit dark in this projection, but the structures and
18 the conductors, I mean, what we've said in our
19 previous application, I think that the conductors
20 would be the most visible element here, not
21 necessarily the change in vegetation and not
22 necessarily the structures themselves because they're
23 self-weathering steel, but the -- the conductors and,
24 you know, in the current design the conductors are
25 kind of at the tree edge. If you have taller poles

1 then the conductors go higher and so this is the area
2 where we were concerned a bit about the reflection
3 from those.

4 MR. BEYER: Right. And the current proposal
5 is to have non-specular conductors from that
6 location?

7 AMY SEGAL: Correct. Correct.

8 MR. BEYER: All right. So let's next go to
9 the map that I have on the board with the two
10 structures. And these are just west of Rock Pond and
11 there is five -- three perennials and two
12 intermittent streams that between those two
13 structures, so my question to you is if the
14 Department required CMP to raise those structures and
15 require full height canopy in that location, would
16 those structures be visible from a scenic resource?

17 AMY SEGAL: Okay. And just for reference,
18 everyone, we're talking about this area over in here.

19 MR. BEYER: Right.

20 AMY SEGAL: So you have Spencer Road going
21 along in this direction here, so from this location
22 we looked at the view from Number 5 Mountain, which
23 is up here in the Leuthold Preserve and then we'd
24 also look at Rock Pond being two of the scenic
25 resources evaluated from -- from Number 5 Mountain,

1 Number 6 Mountain and Greenlaw Mountain screen this
2 area so from number 5 Mountain that area isn't really
3 visible, so from -- taller poles wouldn't be more
4 visible. And from Rock Pond, that topography, again,
5 would block any view because, you know, Three Slide
6 Mountain and Tumbledown Mountain they would block
7 views of those structures from Rock Pond itself. So
8 from those scenic resources taller poles would not be
9 visible.

10 MR. BEYER: Finally, I heard you say that
11 taller poles from an elevated viewpoint would result
12 in higher visibility and I had Dr. Palmer -- I asked
13 Dr. Palmer that question and his opinion was, no,
14 they'd probably have less visibility if you didn't
15 clear the corridor especially from a distance of over
16 3 miles or so that the corridor would stand out -- is
17 the feature -- the line in the landscape that stands
18 out the most is the clearing as opposed to the
19 structures and the conductors. Would you agree with
20 that?

21 AMY SEGAL: Well, right. I mean, I think as
22 we looked at the view from Coburn Mountain, for
23 instance, if the -- if you can't see the corridor
24 then the change in taller poles is -- is what becomes
25 more visible, you know, you can't see the corridor

1 clearing to begin with. I'm not trying to be -- I'm
2 just saying I guess it depends on your viewpoint, but
3 like, for instance, when you're on Coburn Mountain
4 and you're looking south towards Johnson Mountain, if
5 there were -- if it was -- remained vegetated
6 then the -- it would be -- you'd have less of a
7 contrast and that was the whole point in the tapering
8 of the vegetation there to reduce the contrast of the
9 corridor.

10 MR. BEYER: Right. But if I had to compare
11 the view between taller poles and full height canopy
12 vegetation with a view of 150 foot wide corridor,
13 there is much less -- especially in the wintertime
14 there is much less of an impact from the taller poles
15 with the full height canopy, correct?

16 AMY SEGAL: Potentially, yeah. I mean, the
17 other thing just to consider when you're on Coburn
18 Mountain and looking south obviously you have forest
19 operations and you have clearcuts and patch cuts and
20 strip cuts, so, I mean, it's all scenic content and
21 there's haul roads and things like that, so. Seen in
22 context, yeah.

23 TERRY DEWAN: There may be also situations
24 where the taller poles would be seen against the sky
25 line and which is different in the way most of the

1 areas are seen right now.

2 MR. BEYER: Correct. But from an elevated
3 viewpoint the chances of seeing a taller pole
4 silhouetted are fairly small.

5 AMY SEGAL: Potentially.

6 TERRY DEWAN: Potentially.

7 MR. BEYER: Thank you. I don't have
8 anything else.

9 MR. BERGERON: There has been a lot of talk
10 about what the proposed pole heights are in the
11 application and various options and, you know, taller
12 here or maybe much taller there, where can we find in
13 the record a list or delineation of which structure
14 heights are what? Is there a -- in one place either
15 in the VIA or another part of the application where
16 we can go pole one is this, pole two is that, pole
17 three is the other?

18 AMY SEGAL: Well, I think the complete list
19 of the whole project would be with the engineers'
20 submission. And when we were looking doing our
21 Visual Impact Assessment we were provided with that
22 engineering file, so that's what we based our, you
23 know, simulations on and or assessment on. And so,
24 you know, I mean, I know the .kmz file that we've
25 been provided, I think the engineers have that

1 complete list I think you're looking for.

2 MR. BERGERON: Okay. I'll --

3 AMY SEGAL: I'm not -- I don't mean to be
4 evasive, but I think --

5 MR. BERGERON: No. I'll ask them as well --

6 AMY SEGAL: -- that would be the best
7 location.

8 MR. BERGERON: -- but I wanted to check with
9 you. And what's the maximum pole height that you
10 studied for visual impact?

11 AMY SEGAL: Well, when we looked at, for
12 instance, the Gold Brook area we were looking at
13 structures that were in the 130 foot area as we
14 understand that would be kind of the shortest of the
15 taller structure height in that full height
16 vegetation area. It all depends on, you know,
17 topography and where they're sitting, but we also
18 understand that pole -- if we were to have full
19 height vegetation pole structures could be upwards of
20 165 feet or taller, so. It would range on what they
21 would need to be depending on topography and the
22 station.

23 MR. BERGERON: Well, I guess that's my
24 question is what actual structure height -- maximum
25 structure height did you analyze?

1 AMY SEGAL: We looked at 130 feet as a
2 conservative sort of the shortest structure height
3 possible, so if you could see that then we knew you
4 would be able to see a taller structure height.

5 MR. BERGERON: But you didn't analyze 140,
6 150, 160 foot poles?

7 AMY SEGAL: No, we haven't. We just did the
8 130 knowing that if you could see that then you could
9 see a taller structure height.

10 TERRY DEWAN: Yeah, that was -- that would
11 be a hypothetical look. And, you know, we were
12 looking at sort of a baseline above which obviously
13 the -- the effect would be more intense.

14 MR. BERGERON: Okay. Thank you.

15 MS. BENSINGER: Could we go to the Rock Pond
16 photosimulation 3-B.

17 AMY SEGAL: This one here?

18 MS. BENSINGER: No, the -- yeah, I guess --
19 nope.

20 AMY SEGAL: We have these two.

21 MS. BENSINGER: 3-B is area...

22 AMY SEGAL: This is 3-B.

23 MS. BENSINGER: Okay. Yes, that's it.

24 How -- what's the distance between -- from the
25 viewpoint to the corridor in that photograph?

1 AMY SEGAL: I don't have it in front of me.
2 I think it's -- it's less than a mile.

3 MS. BENSINGER: In your calculation from how
4 far away would you be able to see the conductors?

5 TERRY DEWAN: Generally, between a mile to
6 two miles is kind of the limit beyond which they're
7 fairly thin and they tend to blend in with the
8 background. Also, it -- it depends on the time of
9 day, atmospheric conditions --

10 AMY SEGAL: And where the --

11 TERRY DEWAN: -- visual acuity of the person
12 who is observing.

13 AMY SEGAL: And where the viewer is in this,
14 so.

15 MS. BENSINGER: So if this is a mile this is
16 getting towards the outer limit of when you'd be able
17 to see the conductors?

18 AMY SEGAL: It's within a mile, so the
19 conductors would be highly visible.

20 MS. BENSINGER: Highly visible?

21 AMY SEGAL: With -- especially with -- on
22 taller structures. At certain times of the day and
23 all those kind of things.

24 MS. BENSINGER: Could we go to the slide
25 that shows Tumbledown Mountain in TNC Area 3?

1 AMY SEGAL: I'm sorry.

2 MS. BENSINGER: Does that depict where
3 Tumbledown is?

4 AMY SEGAL: Tumbledown is generally down in
5 this area here. This is the harvesting that's
6 occurred on the north face of Tumbledown.

7 MS. BENSINGER: And what would be your
8 assessment of the view from Tumbledown -- the top of
9 Tumbledown if there were taller poles?

10 AMY SEGAL: Well, there isn't really a trail
11 to the top of Tumbledown. There -- you can -- people
12 can drive up the haul roads and go to the laydown
13 areas and take -- and look out.

14 MS. BENSINGER: So you didn't assess that?

15 AMY SEGAL: No, it's privately owned land
16 and there is no trails to there.

17 MS. BENSINGER: Okay.

18 AMY SEGAL: Yeah.

19 MS. BENSINGER: Okay. And just to follow-up
20 on Ms. Ely's question about the corridor visibility,
21 your focus was mostly on whether the taller poles
22 could be seen not on potential improvements to the --
23 or reductions to the visible impact from the
24 elimination of a cleared corridor; is that correct?

25 AMY SEGAL: Well, we looked at where full

1 height vegetation would have benefits like such as on
2 either side of the stream. So, I mean, we -- so they
3 come in -- you know, if you have taller structures,
4 you have taller vegetation, so we did include that in
5 our assessment.

6 MS. BENSINGER: Do you know the average
7 distance between the poles?

8 AMY SEGAL: Approximately 1,000 feet.

9 MS. BENSINGER: 1,000 feet. Did you factor
10 into your assessment the topography -- I mean, I know
11 you factored in the topography, but if the topography
12 was such that there was a valley you talked about the
13 stream depressions that the streams and rivers were
14 in, did you factor in the fact that those -- the
15 vegetation in that area would generally be taller
16 because it wouldn't be entering --

17 AMY SEGAL: Right.

18 MS. BENSINGER: -- the zone where it might
19 be a threat to the conductors?

20 AMY SEGAL: Right. And in the current
21 design and with the current BMP's of vegetation
22 management that's in the application it would -- it
23 allows for that, so if your topography dips down, you
24 know, and your -- you have enough distance between
25 your lowest point of your conductor sag and your

1 safety zone is preserved then there is potential for
2 taller vegetation to be in there, yes.

3 MS. BENSINGER: So that was factored in?

4 AMY SEGAL: Yes.

5 MS. BENSINGER: Okay. Thank you.

6 MS. MILLER: Okay. Mr. Manahan, any
7 redirect?

8 MR. MANAHAN: No redirect.

9 MS. MILLER: Okay. Then I'll say thank you
10 to our witness panel.

11 TERRY DEWAN: Thank you very much.

12 AMY SEGAL: May I ask a question? Will any
13 of these graphics be helpful to keep or should I just
14 take all that down?

15 MS. MILLER: Which ones are yours?

16 AMY SEGAL: This whole presentation. None
17 of this is mine. I just want the -- should the
18 presentation -- I can take it down.

19 MS. MILLER: Yeah, we'll hold on to that if
20 that's okay.

21 AMY SEGAL: Okay. Yup. I'm just going to
22 give her the ability to advance it.

23 MR. MANAHAN: Ms. Miller, could I just ask
24 if Ms. Segal, we -- we noted earlier that she needs
25 to leave at 5 and I -- I don't know if she needs to

1 leave before then, but is the panel excused at this
2 point from further --

3 MS. MILLER: Yes.

4 MR. MANAHAN: Thank you.

5 MS. MILLER: So we'll just go ahead and
6 start the transition process to get the Witness Panel
7 2 up and that is Mark Goodwin, Amy Johnston, Gerry
8 Mirabile and Gino Guimarro.

9 So before we get started here, I just want
10 to make sure all four of you have been sworn in.

11 GINO GUIMARRO: Yes, ma'am.

12 MS. MILLER: Okay. So we have -- for the
13 summary of testimony we have 20 minutes. So go ahead
14 and get started when you're ready.

15 LAUREN JOHNSTON: Good afternoon. My name
16 is Lauren Johnston. My colleague Mark Goodwin and I
17 are employed as Senior Environmental Scientists at
18 Burns and McDonnell Engineering Company in Portland,
19 Maine. Today, I will summarize our testimony in
20 response to Questions 16 and 17 of Appendix A of the
21 Department's Tenth Procedural Order.

22 In regards to Question 16, locations where
23 tapering versus non-tapering overhead pole -- or
24 tapering versus taller overhead poles would be
25 preferred. CMP's consultation with Maine Department

1 of Inland Fisheries and wildlife and the inclusion of
2 IF&W's recommendations into CMP's proposed
3 compensation plan demonstrates that there will be no
4 unreasonable impact or adverse effects to wildlife
5 due to diminished habitat connectivity. Thus,
6 although taller vegetation and associated habitat
7 would benefit some species, CMP has demonstrated that
8 its proposed clearing and vegetation management
9 practices will not cause an unreasonable impact or an
10 adverse effect.

11 To the extent one or the other were required
12 though, tapering would be preferable to taller
13 overhead structures in all locations because of
14 safety, environmental, reliability and cost
15 considerations. Tapering would also present
16 significant challenges, however, these challenges
17 would be less than those associated with managing
18 vegetation at full height by using taller structures.

19 From a vegetation maintenance perspective,
20 allowing full height canopy by using taller
21 structures may present the following: Negative
22 safety, environmental, reliability and cost concerns,
23 which tapering does not present; increased risk to
24 worker safety associated with the removal of taller
25 trees close to the conductor safety zone including

1 heavy equipment operation, climbing trees and working
2 at heights and tree felling; increased environmental
3 impacts associated with the use of heavy equipment
4 not normally required for routine vegetation
5 maintenance; and impacts to the reliability of the
6 transmission line including both limiting access to
7 operations and emergency response personnel; and
8 increasing the risk of line outages associated with
9 trees interfering with electrical conductors; and
10 there would be increased costs for additional
11 structure -- for each additional structure or
12 replacing a typical structure with a taller structure
13 at approximately 115,000 to 243,000 depending on
14 structure type and foundation requirements.

15 Consultation with IF&W, the resource agency
16 experts in Maine on these subjects, resulted in the
17 recommendation for full height vegetation and
18 tapering only in the areas included in CMP's
19 compensation plan and specific to significant
20 wildlife habitat. Therefore, if DEP concludes that
21 it is appropriate to taper vegetation in additional
22 areas these should be limited to those areas having
23 higher wildlife -- higher valued wildlife features
24 known to be used specifically as travel corridors for
25 wildlife such as riparian. As such, we evaluated the

1 areas in TNC Exhibit 7 that could merit tapering if
2 deemed -- determined necessary by DEP and focused our
3 review by assessing the locations of features having
4 higher wildlife value. Our supplemental testimony
5 includes a table summarizing this review and if
6 required by DEP listing areas where CMP would prefer
7 tapering over taller poles and full height
8 vegetation.

9 Because tapering around -- yeah, I'm sorry,
10 I'm going to move on to Question 17 whether tapering
11 within the 100 foot buffers around streams would
12 provide adequate large, woody vegetation for streams
13 in Segment 1, which are typically less than 10 feet
14 wide. Because tapering around cold water fisheries
15 would result in an incremental increase in large,
16 woody debris inputs into smaller stream channels, it
17 follows that the addition of tapered vegetation
18 management practices in the riparian buffers of
19 perennial cold water streams would provide adequate
20 large, woody vegetation for streams less than 10 feet
21 wide. However, consultation between CMP and IF&W did
22 not indicate that such tapering was necessary or that
23 the removal of full height forest canopy in riparian
24 buffers across 150 foot wide right of way would be
25 unreasonable or would create an adverse effect

1 through the loss of woody debris input into stream
2 channels.

3 With respect to shading and insulation for
4 streams that are 10 feet wide or less, which is the
5 majority in Segment 1, there will be significant
6 shading by lower growing over-hanging vegetation
7 through the implementation of CMP's vegetation
8 management practices and riparian buffers. CMP's
9 current proposal is appropriate and adequate in
10 addressing shading and woody debris inputs and will
11 not create unreasonable impacts or adverse effects to
12 those waterbodies.

13 This concludes my summary of our
14 supplemental mental testimony.

15 GINO GUIMARRO: Hi. Good afternoon. My
16 name is Gino Guimarro. I'm a Certified Wildlife
17 Biologist with 25 years of experience in natural
18 resources planning and wildlife ecology. I'm
19 currently the Business Unit Director at Power
20 Engineers. Today, I will be providing a summary of
21 my pre-filed testimony as response to Questions 13,
22 14 and 15 of Appendix A of the Tenth Procedural
23 Order. Generally, the three questions address
24 movement of wildlife in the landscape. To answer
25 these questions, I've evaluated the available habitat

1 through aerial imagery and experience in these
2 forests. I have also reviewed relevant literature
3 which includes Maine Audubon's Focus Species Forestry
4 A Guide to Integrating Timber and Biodiversity
5 Management in Maine.

6 My conclusions are as follows: Pine marten
7 habitat is largely absent adjacent to the right of
8 way in the landscape; second, given the harvest
9 patterns in the region suitable travel corridors must
10 be designed around the permanent landscape features,
11 otherwise, travel corridors run the risk of becoming
12 bridges to nowhere; and lastly, stream and riparian
13 corridors are often left uncut in landscape and these
14 features currently act as travel corridors for
15 wildlife.

16 First, I would like to discuss pine marten
17 habitat in the region. Question 13 and 14 are
18 predicated on using pine marten as a surrogate for
19 other wildlife to generally understand the context of
20 wildlife movement in the region. Use of surrogate
21 species is a common technique to drive large scale
22 management towards a specific goal. However, along
23 the proposed right of way pine marten is limited.
24 The Focus Species Forestry Guide provides a framework
25 for simplifying the task of integrating timber

1 management, conservation and biodiversity by
2 identifying and managing for a few focus species.
3 This publication was developed jointly between Maine
4 Audubon, the Maine Department of Conservation, the
5 Master Logger Certification Program and the Small
6 Woodland Owners Association.

7 This guide specifies that pine marten prefer
8 intermediate to mature spruce fir in northern
9 harbored forests, patches of habitat must be large
10 enough to accommodate the 1 to 2 mile home range of
11 the pine marten and the overall landscape matrix
12 should be 60 to 70 percent intermediate to mature
13 forest cover. The stand development stages in these
14 areas are required to be intermediate to mature as
15 described in the guide and indicate that the
16 characteristics of such focus habitat for marten are
17 associated with trees that are 30 to in some cases
18 more than 100 years old. Accordingly, along each
19 side of the proposed right of way pine marten's focus
20 habitat is marginally present at best.

21 With the understanding that pine marten
22 habitat is limited adjacent to the proposed right of
23 way, I'll summarize my second point. Because there
24 are few, if any, forest stands that remain uncut in
25 this region in perpetuity, travel corridors must be

1 developed around natural features that will not
2 change. Connecting suitable patches with the
3 corridor is a well-established tool in natural
4 resources management.

5 The book *Wildlife Habitat Management of*
6 *Forestlands, Rangelands and Farmlands* provides
7 general guidelines for development and management of
8 corridors in commercial forests and associated with
9 power lines. In the context of timber management the
10 authors subscribe that when designing travel
11 corridors in clearcuts the best travel corridors are
12 often the areas of least topographic resistance such
13 as streams and riparian corridors, saddles or shelter
14 in areas otherwise deficient of cover. Considering
15 the dynamic nature of the landscape, design of
16 corridors must consider the permanent features within
17 this landscape. Foresters and ecologists agree that
18 the use of corridors connect patches of habitat,
19 however, there is no single standard for corridor
20 length or width since a corridor's design is
21 dependent on so many specific factors. Corridors
22 should be sufficiently wide so that the two edges
23 differ and so that the central portion has a distinct
24 internal entity that is similar in structure and
25 ecological community and species richness in the

1 patches that its connecting. Corridors are designed
2 as natural funnels where wildlife should be normally
3 concentrated by small peninsulas of land which
4 channel animals to the corridor. These funnels
5 currently exist in the landscape along stream,
6 wetland and riparian areas with relative permanence.

7 Central Maine Power has agreed to tapering
8 several areas of the right of way along riparian
9 areas and deer wintering areas. CMP is also comitted
10 to maintaining 100 foot riparian buffers along all
11 cold water fishery streams, outstanding river
12 segments, waterbodies containing rare, threatened and
13 endangered species and perennial streams in Segment 1
14 of the project.

15 Considering only height of vegetation in
16 developing a single standard width is not a standard
17 practice in wildlife corridor design especially in an
18 area constantly changing -- in an area of constantly
19 changing stand development stages. Not considering
20 the nature of the forest matrix and surrounding
21 habitats will result in failed corridor location and
22 design. Pine marten and its associated umbrella
23 species habitat preference can be described at the
24 landscape level. At this level marten prefer forest
25 where old growth is -- and intermediate forest is the

1 matrix of the landscape, corridor access routes
2 between patches are preferredly maintained along
3 riparian corridors. As previously discussed, there
4 are few old growth forest ecosystems that are large
5 enough and adjacent to Segment -- the Segment 1 right
6 of way. Where these habitat blocks exist in the
7 landscape riparian corridors are the most important
8 connection to mature forest. Riparian ecosystems are
9 recognized for biological diverse -- biological
10 productivity and diversity and often important
11 habitat links.

12 There is no broadly agreed upon standard for
13 corridor width, however, as part of CMP's mitigation
14 a 100 foot buffer along many streams has been
15 proposed to minimize and mitigate potential impacts.
16 These 200 foot, or more, wide corridors have been
17 agreed to by the IF&W and CMP after careful
18 consideration regarding protecting these resources.
19 When used in an area that would connect existing
20 patches a 200 foot corridor should be suitable to
21 facilitate travel of marten and the associated
22 assemblage of species under the umbrella. Again,
23 some of these stream and riparian crossings may
24 already connect pine marten habitat.

25 Therefore, specific distance from a

1 structure for travel corridors would be an arbitrary
2 measure because it is not part of the equation of
3 good wildlife corridor design. Corridor width should
4 look and feel like those in the landscape that
5 connect other patches of habitat. It's my opinion
6 that riparian treatments and mitigation measures to
7 reduce or avoid impacts to sensitive wildlife
8 habitats are described in CMP's mitigation plan are
9 reasonable widths to facilitate wildlife movement
10 along the length of the right of way. Thank you.

11 GERRY MIRABILE: Good afternoon. My name is
12 Gerry Mirabile and I am Permitting Manager of the
13 NECEC project at Central Maine Power Company. This
14 testimony responds to certain questions in Appendix A
15 of the Tenth Procedural Order of the Department dated
16 April 19 relating to vegetation tapering in certain
17 areas. As discussed in detail in the testimony of
18 others to CMP witnesses responses to that procedural
19 order tapering and taller structures in areas where
20 these measures are not currently proposed may be
21 technically feasible and economically viable
22 alternatives only if limited to certain areas. And
23 even if applied in additional limited areas, the
24 minimization and mitigation benefits of these
25 measures are marginal and therefore extending these

1 measures to new areas is not a preferred alternative.

2 I will now respond to the second part of
3 Appendix A, Question 1, which requests clarification
4 of whether during initial construction the entire 150
5 foot corridor is cleared or only the wire zone is
6 cleared and the remaining width is selectively cut.
7 As background, there are two types of vegetation
8 tapering relevant to this project. Visual tapering
9 allows vegetation to grow taller towards the corridor
10 edges, tapering for wildlife travel corridors allows
11 vegetation to grow taller toward transmission
12 structures. In areas proposed for tapering during
13 construction the entire 150 foot right of way width
14 would not typically be cut. In areas proposed for
15 visual tapering only the wire zone, that is the
16 area -- the width of area between the wires plus 15
17 feet on each side, would be cut and the remainder of
18 the corridor width would be selectively cut to create
19 a taper approximately 15 feet tall near the wire zone
20 and increasing to approximately 35 feet tall near the
21 corridor edges.

22 And to note here, in my supplemental
23 testimony filed May 1, I incorrectly noted the
24 tapering proposed by Gold Brook and Mountain Brook
25 would range from 25 feet tall to 35 feet call and, in

1 fact, it would be 15 feet tall to 35 feet tall. Any
2 trees within tapered areas that exceed these heights
3 or are anticipated to exceed these heights prior to
4 the next scheduled maintenance cycle would be cut at
5 ground level and removed. A typical cross-section
6 detail of this tapering is included in Page 101 of
7 273 of Amy Segal's February 28, 2019, pre-filed
8 direct testimony.

9 In the Upper Kennebec deer wintering area
10 where eight deer winter travel corridors will be
11 created and maintained trees, primarily softwoods,
12 will be allowed to grow heights ranging from 25 to 35
13 feet depending on adjacent structure height,
14 conductor sag and topography. In these travel
15 corridors, trees will generally be shorter near
16 mid-span and taller near structures. Similar to
17 visual tapering, any trees within tapered areas that
18 exceed these heights or are anticipated to exceed
19 these heights before the next scheduled maintenance
20 cycle will be selected to cut at ground level and
21 removed.

22 I will now respond to Appendix A Question
23 21, which asks why tapering vegetation is more
24 accepted than keeping the entire 150 foot right of
25 way to scrub/shrub height. To maintain and control

1 vegetation of scrub/shrub within its transmission
2 corridors CMP practices integrative vegetation
3 management which includes mechanical means and the
4 selective use of herbicides using hand pressurized
5 backpack mounted sprayers. These herbicides are
6 systemic meaning that they are absorbed by plants,
7 trees or roots -- leaves or roots and thus kill
8 individual specimens that could grow into the
9 conductor safety zone. Because this practice kills
10 rather than simply cuts back species and specimens
11 capable of growing into the conductors, over time
12 this method favors non-capable woody species
13 significantly reducing future labor and material
14 costs for maintenance of the right of way.

15 In contrast, tapering would not use
16 herbicides because selectively targeting taller trees
17 with herbicides while avoiding other nearby shorter
18 trees would be very difficult and impractical and
19 because CMP guidelines do not allow application of
20 herbicides to specimens taller than 8 feet tall.
21 Thus, all tree specimens within tapered areas would
22 need to be individually evaluated as to their height
23 requiring visibility of individual tree tops and
24 their heights gauged relative to the conductor safety
25 zone and if removal was necessary manually cut and

1 removed. Tree removal may be challenging due to
2 close spacing of trees and dense growth and because
3 herbicides would not be used in tapered areas stub
4 shrouding or coppicing as it's called of certain
5 species would be widespread further increasing the
6 need for intensive mechanical removal.

7 As a result of the above and because of the
8 risk of vegetation management in the tapered areas
9 will be somewhat less effective and reliable,
10 mechanical management of tapered areas would be done
11 on a two or three year cycle rather than the standard
12 integrative vegetation management cycle of four
13 years. For all of these reasons, inspection, cutting
14 and removal within tapered areas will be
15 significantly more labor intensive and costly than
16 simply using herbicides to control and remove all
17 growth within -- above 10 feet in height.

18 MS. MILLER: Thank you. Have you all had a
19 chance to say --

20 GINO GUIMARRO: Yeah, that's going to be all
21 from our panel. Thank you.

22 MS. MILLER: Okay. Thank you. So we'll go
23 ahead and start with cross-examination. First listed
24 we have Group 4. Was there anyone that wanted to
25 cede their time to Group 4? Any of the other groups?

1 MS. TOURANGEAU: Group 8 is ceding their
2 time to Group 4.

3 MS. MILLER: Okay. Thank you very much. So
4 that gives Group 4 18 minutes.

5 MR. HAYNES: Group 1 is ceding as well.

6 MS. MILLER: Okay. Anyone else? Okay. So
7 that will be 27 minutes then.

8 MR. PUBLICOVER: All right. Thank you.
9 David Publicover for Group 4. I will be crossing
10 Mr. Mirabile and Mr. Giumarro and then Jeffrey
11 Reardon will take over and cross Mr. Goodwin.

12 So, Mr. Mirabile, just a couple of
13 questions. On Page 5 of your supplemental testimony
14 you state that CMP will not apply herbicides in the
15 53 miles of new corridor in Segment 1; is that
16 correct?

17 GERRY MIRABILE: That is correct.

18 MR. PUBLICOVER: Now, Application Exhibit
19 10-2, which is the post-construction vegetation
20 management plan dated January of 2019 states, in the
21 new greenfield corridor no foliar herbicides will be
22 applied within a 100 foot buffer on all perennial
23 streams, implying that herbicides may be used in
24 other parts of the corridor. So your testimony is in
25 contradiction to the application; is that correct?

1 GERRY MIRABILE: The updated proposal is as
2 it read in my pre-filed direct on May 1.

3 MR. PUBLICOVER: Okay. So will you be
4 filing an amendment to the application?

5 GERRY MIRABILE: The proposal before the
6 Department is what it is as of May 1 and at the
7 Department's request we will file an amendment or at
8 least update formally some other format if they
9 requested some.

10 MR. PUBLICOVER: Okay. And you would accept
11 that as a permanent condition?

12 GERRY MIRABILE: We would.

13 MR. PUBLICOVER: Okay. All right. The rest
14 of my questions are for Mr. Guimarro. Did I get that
15 right?

16 GINO GUIMARRO: That's good enough. Thank
17 you.

18 MR. PUBLICOVER: Okay. I have -- I have the
19 same issue. All right. So you've stated in your
20 supplemental testimony that habitat for marten
21 adjacent to the new corridor will be marginally and
22 intermittently present, correct?

23 GINO GUIMARRO: Correct.

24 MR. PUBLICOVER: All right. And you also
25 state on Page 9 that there are few old growth forest

1 ecosystems along the 150 foot wide segment on the
2 right of way and that this fact renders taller
3 structures and travel corridors largely futile for
4 the travel of pine marten; is that also correct?

5 GINO GUIMARRO: I -- I can read that portion
6 out of my -- out of my direct testimony, but I'll
7 assume that's correct.

8 MR. PUBLICOVER: Okay. Is it your
9 contention that marten are limited to old growth?

10 GINO GUIMARRO: Nope.

11 MR. PUBLICOVER: Okay. So the fact that
12 there are a few old growth forest ecosystems isn't an
13 indication of how much marten habitat is present?

14 GINO GUIMARRO: It's one of the -- one of
15 the measures that -- that help determine whether
16 marten are present in the landscape.

17 MR. PUBLICOVER: So how did you identify
18 areas of suitable marten habitat?

19 GINO GUIMARRO: I -- I reviewed -- I relied
20 on my experience being in this landscape and reviewed
21 aerial photography and other available digital data
22 to help inform my opinion on that.

23 MR. PUBLICOVER: Did you actually map or
24 delineate areas of suitable versus unsuitable
25 habitat?

1 GINO GUIMARRO: I -- in effect, I sketched
2 areas that were -- that appeared to not have been
3 cut -- cut over in the -- in the past approximately
4 30 years with the -- with the barometer I set.

5 MR. PUBLICOVER: Okay. And so you looked at
6 habitat that was directly proximal to the corridor is
7 the phrase you used. How -- I mean, a stand that has
8 to be adjacent.

9 GINO GUIMARRO: Adjacency was -- was
10 something that I looked at, yes.

11 MR. PUBLICOVER: Okay. Were you present for
12 Dr. Simons-Legard's time on the witness stand?

13 GINO GUIMARRO: The majority of it.

14 MR. PUBLICOVER: All right. You are aware
15 that when she did her analysis of potential marten
16 habitat she went out 3,000 feet, which was the radius
17 of a female home range, do you -- do you agree with
18 that?

19 GINO GUIMARRO: I did not -- I did not catch
20 that part of her testimony.

21 MR. PUBLICOVER: Okay.

22 GINO GUIMARRO: I have not seen -- nor have
23 I seen the exhibit that she provided at the end of
24 her testimony.

25 MR. PUBLICOVER: All right. Mr. Manahan,

1 can you provide that exhibit to him? All right. And
2 there the explanations in the beginning she's talking
3 about the 3,000 foot buffer based on the diameter of
4 the average home range for adult female marten. So
5 why didn't you look out farther? Why didn't you look
6 at habitat within a potential home range? Why did
7 you look only at stands?

8 MR. MANAHAN: I would just object,
9 Mr. Publicover, you've just -- we've just provided
10 him with a document he has not seen before and you're
11 asking him --

12 MR. PUBLICOVER: Okay.

13 MR. MANAHAN: -- a question while he's
14 trying to read it and if there is some connection
15 between the document and your question, I think you
16 should give him an opportunity to read the document.

17 MR. PUBLICOVER: Okay.

18 MS. MILLER: I would agree. If -- if you
19 are asking him to comment on the document, just give
20 him a few minutes to take a look at it.

21 MR. PUBLICOVER: All right.

22 GINO GUIMARRO: I'm sorry, I'm initially
23 confused because you're talking about the home range
24 of female, but I just see reference to a 3,000 foot
25 buffer.

1 MR. PUBLICOVER: It says buffer distance is
2 based on the diameter of average home range size for
3 habitat of a female marten.

4 GINO GUIMARRO: Okay. So there is a
5 connection between where she makes the 3,000 foot
6 buffer and the buffer distance in the second
7 sentence. I didn't understand those were connected.
8 I thought 3,000 foot buffer was -- was describing --
9 was relative to harvest history or some other factor.
10 If you give me just a second, I'll finish reading it.
11 All right. Thank you.

12 MR. PUBLICOVER: We'll come back to that.
13 All right. On Page 4 of your testimony you state,
14 and I'm quoting, commercial forestry land adjoining
15 the right of way if not clearcut recently within the
16 last 10 years has been cut within the last 15 to 35
17 years and is therefore in the regeneration and
18 seedling stage. Are you saying that any area that
19 shows evidence of harvesting within the past 35 years
20 is a regeneration or a seedling stand?

21 GINO GUIMARRO: That's my understanding from
22 the Maine Focus Species Guide that that's the way
23 they defined it.

24 MR. PUBLICOVER: All right. And so
25 basically any area that was harvested within the past

1 35 years you deemed unsuitable as marten habitat?

2 GINO GUIMARRO: I -- I would -- I would say
3 that my analysis of that was that it's not their
4 preferred habitat.

5 MR. PUBLICOVER: I didn't ask whether it was
6 their preferred habitat. I would say did you
7 eliminate it as habitat?

8 GINO GUIMARRO: I -- I would not -- I would
9 not eliminate the -- the fact that marten persist
10 throughout this entire landscape in some portion --
11 in some portion or another. I believe that testimony
12 provided by you and others today demonstrated that
13 marten move across the landscape between appropriate
14 pieces of cover.

15 MR. PUBLICOVER: Okay. You're aware that
16 most harvesting in Maine is partial harvesting that
17 doesn't create early successional habitat?

18 GINO GUIMARRO: I am aware of that.

19 MR. PUBLICOVER: All right. And would agree
20 from your examination of the aerial photos that most
21 harvesting adjacent to the new corridor is by partial
22 harvesting?

23 GINO GUIMARRO: I'd say there is a mixture
24 of various treatment applications along the edge of
25 the right of way.

1 MR. PUBLICOVER: Okay. But would you agree
2 that the majority of it is partial harvesting?

3 GINO GUIMARRO: I -- I would need to
4 provide -- I would need to do more careful
5 delineation of that.

6 MR. PUBLICOVER: Are you aware of testimony
7 that was presented during the April hearing and
8 confirmed by Mr. Goodwin that somewhere in the range
9 of 6 to 7 percent of the area harvested in Maine is
10 by clearcutting?

11 GINO GUIMARRO: I'm not aware of that.

12 MR. PUBLICOVER: All right. Is it possible
13 for partial harvesting to maintain the minimal
14 habitat conditions for marten?

15 GINO GUIMARRO: In -- in some cases marginal
16 habitat can be created in partial cutting areas.

17 MR. PUBLICOVER: All right. So marten will
18 use partially harvested stands if the certain minimum
19 conditions are used or met in terms of cover and
20 structure?

21 GINO GUIMARRO: In -- I'd say the most
22 important -- the most important piece of that being
23 the proper horizontal and vertical structure of that
24 forested community and so the detail specifically of
25 these -- I don't -- I don't know that we can make

1 generalizations about -- about these things. I think
2 we need to be more specific.

3 MR. PUBLICOVER: But -- but would you agree
4 that marten will use partially harvested stands if
5 certain minimum conditions are met?

6 GINO GUIMARRO: Under certain conditions,
7 yes.

8 MR. PUBLICOVER: All right. I'm going to
9 introduce an exhibit here. I didn't know if I was
10 going to be using it, but I will. If you can, Jeff,
11 can you pass these out?

12 JEFF REARDON: Oh, sorry.

13 MR. PUBLICOVER: All right. This is --
14 these are selected pages from a paper in the Journal
15 of Wildlife Management in 2005 by Angela Fuller and
16 Daniel Harrison and the University of Maine,
17 Influence of Timber Harvesting on American Marten in
18 North Central Maine. I'm not going to ask you to
19 read the whole paper. I am simply going to ask you
20 on the third page of this to read the bracketed
21 excerpt.

22 MR. MANAHAN: I would object to asking the
23 witness to read something from a paper that has not
24 been substantiated. The witness, as far as we know,
25 has never seen this, doesn't know what it's about and

1 it's unfair to ask the witness just to read something
2 from a paper that he hasn't seen and I would object
3 to that.

4 MS. MILLER: Are you asking for some time
5 for him to review it?

6 MR. MANAHAN: Well...

7 MS. MILLER: Or are you objecting to the
8 document in general?

9 MR. MANAHAN: Well, I'm objecting to the
10 fact that he's asking the witness to read something
11 he's never seen before. Why -- I don't understand --
12 Mr. Publicover should ask a question rather than just
13 asking him to read -- it's one thing to ask him to
14 read his own testimony, but to ask him to read from a
15 paper that we don't know what it is, where it comes
16 from, whether Mr. Guimarro may totally disagree with
17 it. He's never seen it before and so, yes, I mean,
18 first off, I would ask that he be allowed to read
19 this and know what it is. Mr. Publicover should
20 explain to him what it is and -- and he shouldn't be
21 required to read something from paper that he may
22 totally disagree with.

23 MS. MILLER: Okay. So, Mr. Publicover, did
24 you want to respond to that objection?

25 MR. PUBLICOVER: Well, I certainly don't

1 want him to take the time to read four pages because
2 that will use up the rest of my time. If it's
3 necessary, I will withdraw the exhibit and move on if
4 you uphold the objection.

5 MS. BENSINGER: Can you describe -- can you
6 describe a little more what the exhibit is?

7 MR. PUBLICOVER: Again, this is a paper
8 published by researchers at the University of Maine
9 in the Journal of Wildlife Habitat Management on the
10 use of partial harvested areas by marten.

11 GINO GUIMARRO: I don't believe it's from
12 that journal, sir. It's from the Journal of Wildlife
13 Management.

14 MR. PUBLICOVER: What did I say?

15 GINO GUIMARRO: Journal of Wildlife Habitat
16 Management.

17 MR. PUBLICOVER: Oh, Journal of Wildlife
18 Management.

19 MS. BENSINGER: You could --

20 MR. PUBLICOVER: And I'm not asking him to
21 render an opinion on the paper, I'm just asking him
22 to read one of the conclusions.

23 MS. BENSINGER: You could ask him if he's
24 familiar with the paper.

25 MR. PUBLICOVER: All right. Mr. Giumarro,

1 you are being presented as an expert witness on
2 marten habitat use, are you familiar with this paper?

3 GINO GUIMARRO: I have not reviewed this
4 paper recently, no.

5 MR. PUBLICOVER: Are you familiar with the
6 work that's been done at the University of Maine on
7 marten habitat use?

8 GINO GUIMARRO: I am.

9 MR. PUBLICOVER: All right. So I am not
10 going to ask him to read the whole paper. I will
11 withdraw the exhibit.

12 MS. BENSINGER: Okay.

13 MS. ELY: Before they withdraw the
14 exhibit --

15 MR. PUBLICOVER: Okay.

16 MS. ELY: -- Mr. Publicover --

17 THE REPORTER: Your mic is not on, I don't
18 think.

19 MS. ELY: I'll just yell. He said that he
20 was -- he had not reviewed it recently. I -- I don't
21 know that he said he hadn't read it.

22 GINO GUIMARRO: I'm happy to --

23 MR. MANAHAN: I would object to Ms.
24 Ely speaking here. The rules -- the rules of
25 procedure here is that there is one spokesperson per

1 group and Mr. Publicover is the spokesperson for this
2 witness.

3 MS. BENSINGER: Correct. But I will ask,
4 have you read this paper in the past?

5 GINO GUIMARRO: I readily follow this
6 journal, so in -- what year. In 2015, I likely did
7 see this journal or this article at some point, but
8 it's been -- it may have been decades -- a decade
9 since I last reviewed it.

10 MS. BENSINGER: You could pose a question
11 without entering the exhibit.

12 MR. PUBLICOVER: All right. And I would
13 also point out that the this paper was -- is not a
14 new exhibit, it was listed as a reference in my
15 pre-filed testimony.

16 Okay. All right. If I told you that
17 researchers at the University of Maine have
18 determined that marten will use partially harvested
19 stands in certain conditions of canopy height, canopy
20 density and dead wood are met, would you accept that?

21 GINO GUIMARRO: I -- I would ask more
22 questions perhaps. I would ask adjacency of more
23 preferable core habitat for them. I would ask about
24 the connectivity in the landscape. I'd ask what part
25 of Maine we're talking about. I'd have a series of

1 other questions before I could confirm that.

2 MR. PUBLICOVER: Okay. So do you deny that
3 marten will use some partially harvested stands?

4 GINO GUIMARRO: I -- I think marten will
5 spend their time in a variety of regions throughout
6 -- a variety throughout this entire region including
7 these, including areas within crossing roads and
8 other -- other fragmenting features such as clearcuts
9 as well.

10 MR. PUBLICOVER: All right. So in looking
11 at the landscape along the corridor and looking at
12 the partially harvested stands that were present,
13 were you able to make a determination which of those
14 areas might be utilized by marten and which were not?

15 GINO GUIMARRO: I assume that some of these
16 areas were more likely to contain marten than others.

17 MR. PUBLICOVER: All right. All right. So
18 I want to return to this exhibit that Dr. Simons
19 presented. And she looked at changes in the forest
20 over a approximately 40 year period from 1970 to 2010
21 and she determined -- and, again, this is within
22 3,000 feet of the Segment 1 right of way. And under
23 questioning from me, she stated that the 31 percent
24 of forest that had not changed was likely to be
25 marten habitat, did you hear her say that?

1 GINO GUIMARRO: I did hear her say that,
2 yes.

3 MR. PUBLICOVER: And you also heard her say
4 that some portion of the partial canopy disturbance
5 was also likely suitable as marten habitat, did you
6 hear her say that?

7 GINO GUIMARRO: Mmm Hmm. I did.

8 MR. PUBLICOVER: And that potentially the
9 1970's stand replacing disturbance areas have
10 sufficiently regenerated to a point where they were
11 utilized by marten, did you hear her say that?

12 GINO GUIMARRO: I -- I did hear her say
13 that. I'm not -- I'm not clear how it's supported by
14 this exhibit at this time though.

15 MR. PUBLICOVER: All right. Did you hear me
16 hear her -- hear me ask her the question that
17 potentially a third to a half of the area within
18 3,000 feet of the corridor was potentially suitable
19 as marten habitat at least in 2010 and did you hear
20 her agree with that?

21 GINO GUIMARRO: I'm -- I'm a little -- I am
22 trying to -- I'm trying to recall your conversation
23 with her, but absent the transcript and the details
24 I -- I was focused on doing a variety of things --

25 MR. PUBLICOVER: Okay.

1 GINO GUIMARRO: -- so I can't say for sure
2 that I heard you say that.

3 MR. PUBLICOVER: Okay. Would it be fair to
4 say that if Dr. Simons agreed that a third to a half
5 of the habitat within 3,000 feet of the corridor is
6 potentially suitable for marten use is somewhat
7 different than your conclusion that marten habitat is
8 marginally present?

9 GINO GUIMARRO: I -- I would -- I would
10 agree that -- that she did make those statements.
11 I'm -- I'm still having trouble understanding the
12 linkage of what these -- what these -- what this
13 exhibit represents in relation to those statements.
14 Absent there being any -- any north -- north arrow or
15 other guiding things in the landscape, I'm unsure
16 exactly what it is we're looking at in these
17 photographs other than they're being a -- the
18 percentages that were calculated, I'm unclear that
19 this is an analysis of the entire -- of the entire
20 Segment 1 right of way, so I -- I don't -- I don't
21 know that this -- in my opinion, I don't know that
22 this exhibit substantiates that. So I -- I take her
23 claim that she did that research and I -- absent any
24 other information, I -- I have no reason to dispute
25 her.

1 MR. PUBLICOVER: All right. Well, I'm going
2 to move on then. Most of the land adjacent to the
3 corridor is owned by Weyerhaeuser, are you aware of
4 that?

5 GINO GUIMARRO: I've heard that.

6 MR. PUBLICOVER: All right. Okay. Are you
7 aware that Weyerhaeuser is certified under the
8 Sustainable Forestry Initiative?

9 GINO GUIMARRO: I was aware of that.

10 MR. PUBLICOVER: All right. Are you aware
11 that Performance Measure 4.4 of the SFI Forest
12 Management Standard says that program participants
13 shall apply knowledge gained through research,
14 science, technology and field experience to manage
15 wildlife habitat and contribute to the conservation
16 of biological diversity?

17 GINO GUIMARRO: I was not aware of that.

18 MR. PUBLICOVER: Thank you. In preparing
19 your testimony, did you have any discussions with
20 biologists or foresters from Weyerhaeuser?

21 GINO GUIMARRO: I did not.

22 MR. PUBLICOVER: All right. So you have no
23 way of knowing how Weyerhaeuser may have responded to
24 the extensive research by the University of Maine in
25 response to this performance measure of the SFI

1 Standard?

2 GINO GUIMARRO: No, my evaluation of
3 landscape was looking at sequential aerial
4 photographs over the course of the last 35 to 40
5 years.

6 MR. PUBLICOVER: All right. And -- but not
7 having talked to them, you have no idea whether they
8 may have adjusted their recent and future management
9 in response to the research at the University of
10 Maine in terms of how they account for marten
11 habitat?

12 GINO GUIMARRO: Sir, we had no conversation,
13 no.

14 MR. PUBLICOVER: All right. All right. So
15 I'm hoping I can get through this before my computer
16 dies. On Page 7 of your supplemental testimony you
17 say, even if pine marten focus habitat were present,
18 travel corridors such as those CMP has proposed to
19 the Upper Kennebec deer wintering area would provide
20 sufficient linkage without the need for taller
21 structures and full height vegetation. How does a
22 corridor in the Upper Kennebec deer wintering area
23 provide habitat connectivity for species in the Upper
24 Moose River Valley?

25 GINO GUIMARRO: I mean, those are two

1 distinct areas. I was offering that as an example.

2 MR. PUBLICOVER: Okay. How many areas of
3 mature forest vegetation are maintained across the
4 corridor?

5 GINO GUIMARRO: As of today, five years ago,
6 10 years ago, 20 years ago?

7 MR. PUBLICOVER: No, I mean, in terms of the
8 proposed -- the project proposal, in how many places
9 will mature height vegetation be maintained across
10 the corridor?

11 GINO GUIMARRO: I can't answer that. I
12 think that's better addressed to somebody else.

13 MR. PUBLICOVER: All right. If I told you
14 that there were, I believe, two at Gold Brook --

15 MR. MANAHAN: I object. Mr. Guimarro has
16 already said he can't answer the question.

17 MR. PUBLICOVER: All right. Would you
18 believe that two areas of mature height vegetation
19 across the 53 mile long corridor are sufficient to
20 maintain habitat connectivity for mature forest
21 species?

22 GINO GUIMARRO: I -- I don't think that my
23 assertion that there is only those two. I think I --
24 my testimony provided that there is currently a
25 variety of natural landforms which provide adequate

1 linkage across the landscape. I don't think I
2 addressed any two and specifically my testimony
3 focused on the fact that the natural landforms
4 associated with stream and riparian corridors are
5 currently acting as the backbone of the landscape to
6 provide wildlife connectivity and a changing mosaic
7 of -- of land uses throughout the region. So I --
8 I -- no, two would not be enough, but I don't -- I
9 don't think I made the assertion that -- my assertion
10 was that the riparian areas that bisect the right of
11 way provide adequate coverage of connectivity across
12 the many places along the right of way.

13 MR. PUBLICOVER: Okay. So you're saying
14 that the riparian corridors currently provide
15 connectivity through the landscape?

16 GINO GUIMARRO: I believe in some places
17 they do. In other places they don't.

18 MR. PUBLICOVER: You're aware that these
19 riparian buffer areas are going to be converted to
20 shrub/scrub habitat?

21 GINO GUIMARRO: I -- I would not -- in my
22 characterization it would not be scrub/shrub habitat.

23 MR. PUBLICOVER: That's not my
24 characterization, it's the Applicant's
25 characterization. Are you aware that -- have you

1 seen the vegetation management -- post-construction
2 vegetation management plans that show what type of
3 vegetation will be maintained in the riparian
4 buffers?

5 GINO GUIMARRO: I have -- I have read it.
6 I've -- I've let others speak to the specific
7 procedures and so forth that they utilize within
8 those and I -- my -- my -- in looking at these
9 riparian areas that exists through many of the
10 selective cutting areas through the landscape, I see
11 they -- they persist and they will be -- they will be
12 maintained in a state that is similar in nature to --
13 to what is -- what is actively being actively part of
14 timber operations on many of the lands that abut the
15 potential right of way.

16 MR. PUBLICOVER: In most timber harvesting
17 operations aren't forested buffers maintained along
18 streams?

19 GINO GUIMARRO: That's correct.

20 MR. PUBLICOVER: And will forested buffers
21 be maintained along streams in these corridors?

22 GINO GUIMARRO: Vegetative buffers will be
23 maintained along these streams.

24 MR. PUBLICOVER: Will forested buffers be
25 maintained along these streams?

1 GINO GUIMARRO: Yes, I -- there will be --
2 there will tree species that will be within those
3 areas. Those -- those forests will -- the community
4 will be of a lesser -- a lesser height, but they will
5 be maintained with 100 foot buffer on either side.

6 MR. PUBLICOVER: You say a lesser height.
7 What is -- what is your understanding of how tall the
8 vegetation will get in these riparian buffers?

9 GINO GUIMARRO: I -- I think the -- the --
10 I'd like to -- I'd like to have others represent
11 specifically what the heights of vegetation would be
12 in those areas.

13 MR. PUBLICOVER: All right. Thank you.
14 That's -- that's all I have and now I'm going to turn
15 it over to Mr. Reardon.

16 MS. MILLER: Apparently, we have about three
17 minutes left.

18 MR. REARDON: Three.

19 MS. BOEPPLE: Groups 2 and 10 will cede half
20 our time.

21 MR. REARDON: For a total of seven?

22 MS. MILLER: Twelve minutes.

23 MR. REARDON: Oh, that's more than enough.

24 MS. ELY: Half. Just half.

25 MS. MILLER: Well, you have two groups, so

1 half of the time is nine minutes.

2 MS. ELY: Never mind. Sorry.

3 MR. REARDON: Okay. My questions are for
4 Mr. Goodwin, but as was the case back in April I know
5 Mr. Goodwin and Ms. Johnston essentially adopted the
6 same testimony, so I'm assuming that either of you
7 could answer these questions and that's fine by me.

8 Mr. Goodwin, on Page 3 of your supplemental
9 testimony you identified a number of environmental
10 concerns associated with taller pole structures, more
11 heavy equipment, impacts on soil from table -- timber
12 mats necessary for installation, cable skidding
13 necessary for vegetation management, visual impacts
14 of taller and closer spaced structures. Do these
15 concerns also apply to CMP's proposed taller pole
16 structures to avoid impacts on Roaring Brook Mayfly
17 and Northern Spotted Salamander at the Gold Brook and
18 Mountain Brook crossings?

19 MARK GOODWIN: I would say, yes, that's
20 possible there could be increased heavy equipment
21 operation in those areas to remove vegetation that
22 exceeds the conductor safety zone. Of course that
23 would be performed in a selective manner, so
24 depending on, you know, how many trees would need to
25 be removed for a given area might dictate, you know,

1 what kind of equipment is needed to do so.

2 MR. REARDON: Have you done an analysis that
3 suggests that the impacts would be larger for TNC's
4 nine areas than for the two areas you identified for
5 taller pole structures? Or is it essentially the
6 same in the areas where you proposed them and the
7 areas where others have argued might also be
8 appropriate?

9 MARK GOODWIN: I am sorry, I don't
10 understand your question.

11 MR. REARDON: Well, what I'm -- what I'm
12 struggling with is I didn't hear about these impacts
13 when this was something that you proposed. I didn't
14 hear that they were trade-offs. I only heard that
15 they were trade-offs when we suggested and others
16 suggested they be applied in different areas. And
17 what I'm asking is is there anything about the other
18 areas where people have suggested applying taller
19 poles that would make those areas -- you've done
20 analysis that suggests that there would be impacts
21 there that would not exist at say Gold Brook or
22 Mountain Brook or would the impacts at other areas be
23 essentially the same as at Gold Brook and Mountain
24 Brook subject to study?

25 MARK GOODWIN: I think the impacts could be

1 similar.

2 MR. REARDON: Thank you. On Page 6 of your
3 supplemental testimony you state that, quote, because
4 tapering around cold water fisheries would result in
5 an incremental increase in large, woody debris input
6 to the smaller stream channels. It follows that,
7 quote, the riparian -- I skipped some words in
8 there -- the riparian buffers of cold water streams
9 will provide adequate large, woody vegetation for
10 streams less than 10 feet. Is that -- did I quote
11 you accurately?

12 MARK GOODWIN: It sounds correct.

13 MR. REARDON: What would the tallest types
14 of trees in the taper section be?

15 MARK GOODWIN: I believe 35 feet.

16 MR. REARDON: In Maine what diameter would
17 we expect 35 foot tall trees to retain?

18 MARK GOODWIN: I'm not a forester, but I
19 think I've heard others say up to 6 inch DBH.

20 MR. REARDON: Are you aware that the Maine
21 Forest Service's Chapter 25 standards for placing
22 wood into stream channels to enhance cold water
23 fisheries habitat call for a minimum diameter of 10
24 inches? And I have that document to distribute if we
25 need it. I referred to it within my testimony last

1 month as well.

2 MARK GOODWIN: I believe someone testified
3 earlier today to that.

4 MR. REARDON: Okay. Would you like to
5 review the standards?

6 MARK GOODWIN: No, sir.

7 MR. REARDON: I can hand them out if people
8 want. Of the 150 feet of the buffer, how many trees
9 would one expect to be at that 35 foot height on the
10 150 foot corridor along the stream?

11 MARK GOODWIN: I don't think that I could
12 give you that number. It's obviously --

13 MR. REARDON: The majority of the corridor?

14 MARK GOODWIN: It's obviously going to vary,
15 I believe, and maybe Gerry can help me here, but I
16 think it's 20 feet of width.

17 GERRY MIRABILE: Yeah, 16 feet per tier.

18 MARK GOODWIN: 16 feet.

19 MR. REARDON: So 32 feet of the 150 cleared
20 feet would grow trees of 35 feet and a potential
21 diameter of 6 inches?

22 MARK GOODWIN: Yes.

23 MR. REARDON: And you would characterize
24 that as providing adequate large, woody debris for
25 streams less than 10 feet wide?

1 MARK GOODWIN: I think you have to start --
2 the starting point on this I believe needs to be IF&W
3 review of the project, their review of CMP's proposed
4 vegetation management practices, you know, they
5 basically reviewed those practices, which -- which I
6 know others have mentioned and I have mentioned had
7 in my testimony previously that it's integrative
8 vegetation management that's promoted by the EPA and
9 other federal agencies as -- as a method to reduce
10 wildlife habitat, fragmentation impacts and edge
11 effect. And the IF&W specific to the Department's
12 hearing criteria, they made some recommendations for
13 endangered species habitats, which is Gold Brook and
14 Mountain Brook and then all of the Northern Spring
15 Salamander waterbodies, brook trout habitat with 100
16 foot buffers. Habitat fragmentation, their only
17 concern in Segment 1 was the Upper Kennebec DWA and,
18 again, buffer strips at cold water fisheries being
19 100 feet. So, you know, they're the -- they're the
20 agency that DEP consults with on these issues and
21 they did not indicate any concerns regarding woody
22 debris input from clearing using CMP's proposed
23 vegetation management practices.

24 MR. REARDON: Thank you.

25 MARK GOODWIN: So in that respect, any

1 additional woody debris input that would fall would
2 be adequate.

3 LAUREN JOHNSTON: I would just note in
4 addition that the proposal originally included chop
5 and drop and for woody debris input during the
6 initial clearing. During consultation with IF&W that
7 was take -- they, you know, suggested that that
8 wasn't recommended or necessary and we concluded our
9 consultation with IF&W to their satisfaction.

10 MR. REARDON: Thank you. I want to turn and
11 I think you should have a copy because I think it was
12 attached to your -- your testimony, Ms. Johnston,
13 earlier, if not, I have a single copy of Exhibit 7-7,
14 the NECEC waterbody crossing table. It was also
15 attached to my supplemental testimony that was
16 pre-filed, so if you have that you'll have it
17 attached. Do you have a copy of that?

18 LAUREN JOHNSTON: I believe I do I just need
19 a minute.

20 MR. REARDON: Okay. How much time do I have
21 left before I cut into Ms. Boepple's time?

22 MS. KIRKLAND: Five minutes. Five.

23 MR. REARDON: Thank you.

24 LAUREN JOHNSTON: So Exhibit 7-7 you're
25 referring to the waterbody table?

1 MR. REARDON: Yes. It's in the record in
2 multiple places. The copy of it that was attached to
3 my pre-filed testimony was the one that IF&W sent in
4 an email on January 20 or January 22, the email was
5 also attached to my testimony.

6 LAUREN JOHNSTON: Okay. I'm -- we're
7 familiar with that table. I don't believe we have a
8 copy of that in front of us.

9 MR. REARDON: You don't. You must not --

10 MR. MANAHAN: Which testimony -- which
11 testimony is it attached to?

12 MS. MILLER: It should be in the
13 supplemental testimony.

14 MR. REARDON: It was attached to my
15 supplemental testimony, but I think it was also
16 attached as rebuttal testimony to me in either Ms.
17 Johnston's or Mr. Goodwin's witness testimony, but
18 you can have my copy. And that's as it came in the
19 email from IF&W, so. My question regards TNC's --

20 MR. MANAHAN: Mr. Reardon, can I just state,
21 excuse me, I'm sorry, but we don't have it attached
22 to your supplemental testimony. There is no exhibit
23 attached so I'm just trying -- I'm struggling to find
24 it. If we could get a --

25 MR. REARDON: Do you have a copy of my

1 pre-filed supplemental testimony?

2 MS. MILLER: Yes, I have it here. It's an
3 email from Bob Stratton.

4 MR. REARDON: And then about 25 pages of
5 tables attached to that.

6 MS. MILLER: Right. There are tables. It's
7 attached to the --

8 MR. MANAHAN: To which one is it --

9 MR. REARDON: It's from your record that was
10 submitted as well as IF&W had to submit it directly
11 to the Department back in January.

12 MR. MANAHAN: Okay. Thanks.

13 MR. REARDON: There was a major exchange of
14 emails in March to clarify that these were the proper
15 documents, if I recall. And, Ms. Boepple, when I'm
16 cutting into your time, please let me know because I
17 must be getting close.

18 MS. BOEPPLE: You've just got to pronounce
19 my name right.

20 MR. REARDON: My -- my questions refer to
21 the brook trout habitat in TNC's Areas 1, 2, 3, 5 and
22 6. And I'll just ask -- and this table, it is --
23 it's difficult because it's not in alphabetical --
24 it's not in order by town or geographic, so I
25 apologize it does require going back and forth

1 through it. But, Mr. Goodwin, you testified that TNC
2 Area 1 does not contain known brook trout habitat.

3 Isn't the crossing of Number 1 Brook in TNC Area 1?

4 LAUREN JOHNSTON: It is. I believe it is in
5 TNC Number 1 -- Area 1.

6 MR. REARDON: Is Number 1 Brook brook trout
7 habitat? The -- actually, the email is probably
8 quicker to look at than the many pages of the table.

9 LAUREN JOHNSTON: Well, I'd have to refer to
10 this table because I don't believe at the time when
11 we updated our table I believe it was January 30 when
12 we filed that we were provided the attached email, we
13 were provided this spread -- hand marked-up
14 spreadsheet and we updated our information based on
15 the -- based on the mark-up of this spreadsheet.

16 MR. REARDON: So when you subsequently filed
17 all those documents in a March email that -- that
18 summarized all of your consultations with the
19 Department that included this email from Bob Stratton
20 as attached to my testimony from January 22, 2019?
21 Did you incorporate that information in what you
22 filed in March? Or did you disregard it?

23 LAUREN JOHNSTON: I don't believe that the
24 information contained in that email was incorporated
25 into the table that we reviewed at that time.

1 MR. REARDON: So if IF&W provided you with
2 information in January regarding the presence of
3 brook trout in dozens of streams that were not
4 previously identified in brook trout, your testimony
5 today does not reflect that input from the
6 Department? And your pre-filed testimony?

7 LAUREN JOHNSTON: It stands to -- I believe
8 that some of the -- some of the -- some of the areas
9 it says does not contain brook trout, should be
10 considered brook trout habitat based on the new --
11 based on the information that we, you know, we --
12 that was introduced after we updated this table. We
13 used this table to inform our evaluation, however,
14 that doesn't substantially change our evaluation of
15 the -- of these areas.

16 MR. REARDON: So the presence of brook trout
17 in Number 1 Brook wouldn't change your assessment as
18 to whether that was a place that would benefit from
19 better riparian buffers? And you don't think, for
20 example, the Department and the Commission should
21 have at their fingertips information that's a matter
22 of contention between you and me whether better
23 buffers would improve that. We can disagree about
24 that, but we should at least agree about where there
25 are brook trout.

1 MR. MANAHAN: I would object.

2 MR. REARDON: I am reading your testimony --

3 MR. MANAHAN: I object.

4 MR. REARDON: I'm reading your testimony
5 that says there are no brook trout and I just heard
6 you state --

7 MR. MANAHAN: I object to Mr. Reardon --

8 MR. REARDON: -- that, in fact, there are.

9 MS. MILLER: Can I hear the objection,
10 please?

11 MR. MANAHAN: The objection is that
12 Mr. Reardon has asked a question, he did not allow
13 the witness to answer the question and then he
14 started off with another what appears to be a rant,
15 frankly, but I would object to him not allowing the
16 witness to answer the question before he starts off
17 on some other discussion.

18 MS. BENSINGER: I would --

19 MR. REARDON: Can I rephrase my question?

20 MS. MILLER: Go ahead and rephrase the
21 question.

22 MR. REARDON: My question really goes to
23 whether the testimony that you provided at the April
24 hearing and now reflected regarding whether brook
25 trout are present or not in stream crossings

1 identified in Table 7-7, the input from the
2 Department that came in in late January that added a
3 large number of streams to the contains brook trout
4 category, yes or no?

5 MARK GOODWIN: We updated the table in --
6 for exhibits -- for the exhibit with the information
7 that IF&W provided in their spreadsheet that was a
8 mark-up of our exhibit. If there was additional
9 information in another email that was attached to it
10 that we were not provided then that additional
11 information would have been overlooked.

12 MR. REARDON: So --

13 MARK GOODWIN: It wouldn't have been --

14 MR. REARDON: Let me ask the one specific
15 case we've talked about so far because there are
16 several others. In TNC Area 1, it includes the
17 Number 1 Brook; is that correct?

18 MARK GOODWIN: That's my understanding.

19 MR. REARDON: And Number 1 Brook is brook
20 trout habitat for Table 7-7 and the January 20 email
21 from IF&W?

22 MARK GOODWIN: Per the table that we
23 submitted on January 30, 2019, it was not identified
24 as known brook trout habitat. That doesn't mean that
25 is isn't brook trout habitat, it was just not known

1 whether -- whether it was or not.

2 MR. REARDON: I'm really sorry, but the --
3 excuse me. I want to make sure I didn't -- I just
4 want to find this email.

5 MS. MILLER: Just so you know, Mr. Reardon,
6 your time is kind of at an end, so.

7 MR. REARDON: Okay. This will be -- this
8 will be the end, but I just want to note this is a
9 significant issue and I had questions about many of
10 TNC's nine areas and we're only talking about the
11 first one so far. It's taken us a long time to get
12 there. So let me just say, again, this is a document
13 that you submitted and that IF&W also submitted an
14 email from Bob Stratton to Jim Beyer, Jim, Region E
15 fisheries indicates I am quite certain that all of
16 the perennial streams in Region E contain wild brook
17 trout. All those brooks in Beattie, Appleton,
18 Johnson Mountain and Bradstreet Townships are full of
19 brook trout. Anything connected to the Moose River,
20 Gold Brook, Barrett Brook, Cold Stream, Baker Brook,
21 Tomhegan Stream, Bog Brook, Smart Brook, Number 1
22 Brook, Mill Brook and Piel Brook would have
23 potential. I really think we are on safe ground by
24 assuming all of the Region E streams, all headwaters,
25 have brook trout. South of The Forks may be a

1 different story. And then attached to that was this
2 revised table with dozens of streams to which brook
3 trout presence was added and you're saying your
4 testimony doesn't reflect that input from late
5 January?

6 MARK GOODWIN: We were forwarded the table
7 that you're referring to, but if that's the email on
8 the screen behind you, we're not party to that
9 correspondence.

10 MR. REARDON: I believe you submitted this
11 as part of your -- your consultation record.

12 LAUREN JOHNSTON: No, that is your -- that's
13 your exhibit. We do not -- we did not submit that.

14 MR. REARDON: It's certainly in the record
15 of the proceedings because the Department submitted
16 it to -- I'm sorry, the Department of Inland
17 Fisheries and Wildlife submitted it to DEP and
18 LUPC --

19 LAUREN JOHNSTON: Correct. But our --

20 MR. REARDON: -- on February 1.

21 LAUREN JOHNSTON: Our direct correspondence
22 was the table without the email.

23 MR. REARDON: So when I wrote comments in my
24 testimony saying that it was unclear to me whether
25 the Department's updated Table 7-7 was the version

1 that you're -- you folks used in preparing your
2 assessment of whether there were or weren't brook
3 trout and your rebuttal testimony said that I was
4 confused about that. Are you suggesting that perhaps
5 I was right that there was some confusion about
6 whether that information had been incorporated into
7 your analysis?

8 LAUREN JOHNSTON: We weren't provided the
9 same -- we weren't referring to the same information.
10 We -- we were not referring to this attached email
11 that wasn't directly provided to us.

12 MR. REARDON: Thank you. And I appreciate
13 people's forbearance.

14 MS. MILLER: Thank you. We're going to go
15 ahead and take a break for 15 minutes. We'll start
16 back up with cross-examination of this witness panel
17 after. Thank you.

18 (Break.)

19 MS. MILLER: I think mostly everybody is
20 back. We still have a few stragglers, but I'd like
21 to keep things moving. It looks like we're pretty
22 far ahead of schedule and what I'd like to do, you
23 know, time permitting, you know, as long as we're
24 able to still stick to the schedule is if we can wrap
25 up a little early, I think mostly everyone in here

1 would appreciate that. So with that, we'll start
2 with our next group for cross-examination which is
3 Group 6 with nine minutes.

4 MR. WOOD: Thank you. Rob Wood with The
5 Nature Conservancy. I have a few questions for the
6 panel for Mr. Mirabile, Mr. Goodwin or Ms. Johnston,
7 whoever is best to answer these questions. I just
8 wanted to get -- start out -- just to seek a little
9 more information about some of the potential
10 mitigation methods that have been discussed. So the
11 first one, tapering. So, Mr. Mirabile, you just
12 described tapering as -- I just wanted to confirm, so
13 you would have 16 feet coming off of the edge of the
14 uncleared portion of land adjacent to the right of
15 way and then another 16 feet tapering down and then
16 you would have a portion in the middle with
17 vegetation up to 15 feet high; is that correct?

18 GERRY MIRABILE: Not quite.

19 MR. WOOD: Okay.

20 GERRY MIRABILE: So what defines this is how
21 much of the land area is outside of the wire zone.
22 The wire zone is defined as a -- if you follow the
23 conductors to the ground and you add 15 feet on each
24 side, so in this case it would be 24 feet plus 30, so
25 54 feet, so it gives you 96 feet remaining that's

1 outside of the wire zone. 48 feet on each side, so
2 you divide that by 3 and you get 6 to 8 feet for each
3 of the tiers at the heights 35 and 25 and 15.

4 MR. WOOD: Okay.

5 GERRY MIRABILE: And then it transitions to
6 the 10 footers --

7 MR. WOOD: The other wires.

8 GERRY MIRABILE: -- and the wires.

9 MR. WOOD: Okay. Thank you. That's
10 helpful. There has also been suggestion today about
11 raising the pole rights, so specifically thinking
12 about the portions where this has already been
13 proposed, so over Mountain Brook and Gold Brook, can
14 you please describe what the right of way would look
15 like under the taller pole structures as currently
16 proposed for Mountain Brook and Gold Brook?

17 GERRY MIRABILE: I'll start out by saying
18 that in general you'll have structures tall enough in
19 those areas to allow full height vegetation and the
20 full height was assumed to be something close to 75
21 feet. If there were some particularly tall trees
22 like pine trees that were growing much faster than
23 spruce or firs were much taller, those might need to
24 come out selectively so that they didn't intrude into
25 the conductor safety zone. And there may or may not

1 depending upon how that area is accessed between
2 individual structures there may or may not be a
3 construction access road or path between those
4 structures so that will be a cleared area of
5 approximately 20 feet.

6 MR. WOOD: Okay. And so full height is
7 defined as up to 75 feet just to confirm?

8 GERRY MIRABILE: I think it's an average of
9 75 feet based upon the species that are prominent
10 there.

11 MR. WOOD: Okay.

12 GERRY MIRABILE: Most prominent there.

13 MR. WOOD: And so I don't know if we need to
14 bring this up -- back up on the screen or not, but
15 going back to the maps that were provided by
16 Mr. DeWan and Ms. Segal, those -- it showed for Gold
17 Brook pole structures that were up to 130 feet high
18 and actually some that were shorter than that and so
19 it's possible with poles 130 feet tall to have
20 vegetation up to 75 feet high in that area?

21 GERRY MIRABILE: Likely not. So I think the
22 way Ms. Segal described it was that 130 feet was used
23 as an average so that the baseline was the worst case
24 knowing that most structures are deeply taller than
25 that. And in that particular area, I believe the

1 range of structure height is between 125 and 195 feet
2 over Gold Brook and Mountain Brook.

3 MR. WOOD: Gold -- Gold Brook specifically.

4 GERRY MIRABILE: In order to -- in order to
5 allow the vegetation to grow to pole height.

6 MR. WOOD: Okay. Up to 195 feet?

7 MR. REARDON: Give or take.

8 MR. WOOD: That was not represented in Mr.
9 DeWan or Ms. Segal's map.

10 GERRY MIRABILE: (Witness shrugging.)

11 MR. WOOD: So if we're looking at 130 foot
12 pole structures what would the average vegetation
13 height look like under two structures 130 feet high
14 on average?

15 GERRY MIRABILE: Well, that would depend on
16 the distance between the structures, the topography,
17 the -- and the species and age/class of the trees, so
18 I can't answer that question generically.

19 MR. WOOD: Okay. And then thinking about
20 the construction of these areas where full height
21 canopy would be allowed, so how would wire be strung
22 between two poles if there is full height vegetation
23 left in the right of way?

24 MARK GOODWIN: I guess I would -- I would
25 relate to the contractor's means and methods, which

1 I'm not an expert on and I don't think anybody on the
2 panel is an expert on, but one of the things that
3 does jump out is based on my construction experience
4 is the use of helicopters to pull the lead line and
5 conductors through the blocks.

6 MR. WOOD: Okay. And one more question,
7 maybe even more appropriate for the panel later, but
8 there was discussion earlier about poles of 130 feet
9 high, 165 feet high, is there a distinction -- are
10 there -- can a pole be any height for or are there
11 specific segments that require increments like 130,
12 165, 195 or can a pole be tailored?

13 GERRY MIRABILE: I don't believe we're
14 qualified to answer that in this panel.

15 MR. WOOD: Okay. So, Mr. Goodwin, on Page 4
16 of your supplemental testimony you say that the
17 incremental cost for each additional structure or
18 replacing a typical structure with a taller structure
19 is 115,000 243,000 depending on the structure type
20 and foundation requirements, is that correct in your
21 testimony?

22 MARK GOODWIN: Yes, that's the information I
23 received from the engineers.

24 MR. WOOD: Okay. And can you describe what
25 goes into determining that? What -- where is that

1 extra cost borne?

2 MARK GOODWIN: I assume material cost and
3 the foundation installation, but that's probably
4 better a question suited for the engineering folks in
5 the later panel.

6 MR. WOOD: And just to conclude that line of
7 questioning, there are 313 poles proposed for Segment
8 1 and so am I getting it correct that if all 313 of
9 those poles were theoretically higher we'd be looking
10 at something in the range of 36 million to 76 million
11 for all of poles; is that correct?

12 MARK GOODWIN: I haven't done the math on
13 that, but if you say so I believe so.

14 MR. WOOD: Okay. So just a couple more
15 questions. So, Mr. Goodwin, in your testimony you
16 describe the potential environmental impact, visual
17 impact, safety impact of managing the right of way if
18 there is full height vegetation, can you just
19 describe what is -- what is different in terms of
20 environmental degradation or safe for harvesting
21 trees in a right of way versus typical commercial
22 harvesting? I'm trying to understand the difference.
23 Why would harvesting in the right of way be any
24 more -- why would that lead to any more environmental
25 degradation or safety concern than typical commercial

1 forestry?

2 MARK GOODWIN: I don't think my testimony
3 was referencing typical forestry operations. It was
4 comparing vegetation maintenance using primarily, you
5 know, mechanical work by hand as opposed to having to
6 use heavy equipment to fell larger specimens.

7 MR. WOOD: But in commercial forestry heavy
8 equipment is used to fell larger specimens?

9 MARK GOODWIN: Sure.

10 MR. WOOD: So would you -- is it fair to
11 assume that the environmental degradation that comes
12 along with felling larger specimens through
13 commercial forestry is similar to felling larger
14 specimens in a right of way?

15 MARK GOODWIN: Similar, although I think,
16 you know, what my experience has shown that there is
17 a lot more oversight on an electric transmission line
18 construction project with a lot more eyes on it and
19 there is certainly lot more minimization measures
20 applied in careful consideration of potential
21 impacts.

22 MR. WOOD: Okay. Thank you. And lastly,
23 for Mr. Mirabile, so CMP has committed to using no
24 herbicide in Segment 1; is that correct?

25 GERRY MIRABILE: That is correct.

1 MR. WOOD: Have you considered applying an
2 herbicide ban on the entire corridor?

3 GERRY MIRABILE: We have not considered
4 that. We have not proposed that.

5 MR. WOOD: Okay. Thank you.

6 MS. MILLER: Thank you. Group 3 friendly
7 cross.

8 MR. BOROWSKI: Group 3 concedes to Group 7.

9 MS. MILLER: Okay. So Group 2, nine
10 minutes.

11 MS. BOEPPLE: Good afternoon. For the
12 record, it's Elizabeth Boepple. Most of my questions
13 are for you, Mr. Mirabile. You have a similar
14 pronunciation issue with your last name.

15 GERRY MIRABILE: Absolutely.

16 MS. BOEPPLE: I forgot one thing. I'll be
17 right back. Thank you. So you have just testified
18 and I believe in your supplemental testimony,
19 Mr. Mirabile, you stated that CMP is willing to
20 forego the use of herbicides in the first segment,
21 correct?

22 GERRY MIRABILE: That is correct.

23 MS. BOEPPLE: Okay. And also in your
24 supplemental testimony you talked about CMP's
25 integrated vegetative management, correct?

1 GERRY MIRABILE: Integrated vegetation
2 management, yes.

3 MS. BOEPPLE: Okay. And in that testimony
4 you described using a combination of methods,
5 correct?

6 GERRY MIRABILE: That's correct.

7 MS. BOEPPLE: Those included -- and I
8 believe your testimony also states that that includes
9 the reduced need for pesticides; is that correct?

10 MS. BOEPPLE: Ultimately, yes.

11 MS. BOEPPLE: And so you haven't submitted
12 testimony, have you, that says that you will forego
13 the use of both herbicides and pesticides; is that
14 correct?

15 GERRY MIRABILE: My understanding is that
16 the term pesticides is sort of a blanket terminology
17 for herbicides, rodenticides, insecticides, et
18 cetera. The intent of the proposal not to use
19 herbicides was not to use any herbicides particularly
20 to control vegetation within Segment 1 right of way.

21 MS. BOEPPLE: So I am just trying to
22 understand what the commitment is. Is it to not use
23 any kind of toxic vegetative or other management?

24 GERRY MIRABILE: That would be the only type
25 of pesticide that we would use and so omitting

1 herbicides means that we would not use -- my
2 understanding is we would not use any chemicals for
3 management of the infrastructure within Segment 1.

4 MS. BOEPPLE: Okay. And so did you submit
5 that as part of your application? CMP's application.

6 GERRY MIRABILE: So when you say
7 application, what application? You mean like back in
8 September of 2017?

9 MS. BOEPPLE: Any time along the way.

10 GERRY MIRABILE: Yeah, the proposal is made
11 part of the May 1 pre-filed supplemental testimony.

12 MS. BOEPPLE: And the proposal was the --
13 the extent of that proposal was your pre-filed
14 testimony; is that correct?

15 GERRY MIRABILE: That is correct.

16 MS. BOEPPLE: So there is no actual plan
17 that says we're going to do X instead of Y or we're
18 going to do this type of vegetative management
19 instead of application of an herbicide?

20 GERRY MIRABILE: The extent of our
21 explanation of that proposal is the pre-filed May 1
22 testimony. We could perhaps provide more information
23 to the Department if they request it.

24 MS. BOEPPLE: Okay. So I'm going to show
25 you a press release that was issued by CMP just the

1 other day. I assume you're familiar with it. So are
2 you familiar with this press release?

3 GERRY MIRABILE: Yes, I'm just -- I'm just
4 rereading it.

5 MS. BOEPPLE: Sure. Take your time. So do
6 I understand that the press release is -- was an
7 intent to introduce this topic to the general public
8 as well as to make a firm commitment of CMP not to
9 use any herbicides in the first segment, but not in
10 other areas of the route?

11 GERRY MIRABILE: I believe that's accurate.

12 MS. BOEPPLE: Okay. And does it also say
13 that this would be like a test case; is that correct?

14 GERRY MIRABILE: Well, it doesn't -- it says
15 that it has created an opportunity to begin a
16 multi-year evaluation by Central Maine Power for
17 vegetation control on all its right of way.

18 MS. BOEPPLE: So would it be fair to make an
19 assumption based on that statement that CMP does not
20 currently have an IVM in place and does not have that
21 as part of its IVM plans?

22 GERRY MIRABILE: It being what?

23 MS. BOEPPLE: It being no use of herbicides.

24 GERRY MIRABILE: The integrative vegetation
25 management plan that we implement now includes the

1 use of herbicides, so that current plan that is
2 applied throughout our system, you know, was
3 developed in advance of this proposal.

4 MS. BOEPPLE: So I'm just trying to get
5 clarity on the statement that was made in the press
6 release and what the commitment is that CMP is now
7 making and that is not based on current practices of
8 CMP; is that correct?

9 GERRY MIRABILE: I'm not sure what you're
10 asking.

11 MS. BOEPPLE: So CMP's current practices of
12 maintaining corridors, for example, includes the use
13 of herbicides, correct?

14 GERRY MIRABILE: Yes.

15 MS. BOEPPLE: Okay. So you don't
16 currently -- CMP does not currently have a plan that
17 it utilizes that does not use herbicides.

18 GERRY MIRABILE: We have not implemented
19 this plan elsewhere to date, so you're correct.

20 MS. BOEPPLE: Okay. Thank you. So this
21 would be a new venture --

22 GERRY MIRABILE: Yes.

23 MS. BOEPPLE: -- if you will. Okay. Thank
24 you.

25 MS. MILLER: Can I just clarify for the

1 record, so is this going to be an exhibit?

2 MS. BOEPPLE: Yes.

3 MS. MILLER: Okay. Are there any
4 objections? No. Okay. So just for numbering
5 purposes, it's Group 2 Cross 2.

6 MS. BOEPPLE: Thank you. Mr. Mirabile, you
7 also in your testimony talked about the various -- at
8 the beginning of your testimony, excuse me, in the
9 supplemental testimony you discussed in response to
10 the Tenth Procedural Order you talked about
11 undergrounding, tapering and taller poles and you
12 stated they may be technically feasible and
13 economically viable, but only if limited to certain
14 areas; is that correct?

15 GERRY MIRABILE: That's correct.

16 MS. BOEPPLE: And is it also correct that
17 you said that even in those limited certain areas it
18 would only be marginally valuable; is that --

19 GERRY MIRABILE: That is -- that is our
20 belief.

21 MS. BOEPPLE: Okay. And what does that
22 mean, marginally valuable?

23 GERRY MIRABILE: That there would be
24 questionable or very incremental and minimal
25 benefits.

1 MS. BOEPPLE: And so you were not referring
2 to the cost of them so much as marginal in terms of
3 tangible benefits?

4 GERRY MIRABILE: I'm talking about the
5 benefits of in terms of environmental compared to
6 what we proposed.

7 MS. BOEPPLE: Okay. Thank you.

8 GERRY MIRABILE: Probably beyond what we
9 proposed.

10 MS. BOEPPLE: I was just looking for
11 clarification. The next panel will talk about the
12 money issues, correct?

13 GERRY MIRABILE: Yes.

14 MS. BOEPPLE: Okay. Thank you.

15 MS. MILLER: Thank you. Next we have Group
16 3 -- I mean, sorry, Group 7 who has four minutes.

17 MR. SMITH: Good afternoon. Ben Smith for
18 Group 7. I just want to follow-up with some
19 questions with regard to Mr. Guimarro and some of the
20 questions that he received from Dr. Publicover.
21 First, let me ask you at a high level, it doesn't
22 seem like you disagree that -- about the area
23 adjacent to the corridor not supporting pine marten,
24 correct?

25 GINO GUIMARRO: That's correct.

1 MR. SMITH: It's really a question about the
2 surrounding area, right?

3 GINO GUIMARRO: Correct.

4 MR. SMITH: And in your testimony you
5 basically conclude that it's not a focus area?

6 GINO GUIMARRO: It's not a focus area of
7 management for marten core habitat.

8 MR. SMITH: Okay. And as a follow-up to
9 some of the questions he had about the techniques
10 that you used in evaluating the area and whether or
11 not you looked at the Sustainable Forestry Initiative
12 and all of that. You heard testimony this morning by
13 Dr. -- with Dr. Simons-Legard, was there anything
14 functionally different about the nature of the
15 analysis that each of you conducted, how -- how it
16 was done?

17 GINO GUIMARRO: Primarily from my
18 understanding of my -- of my brief glimpse of the
19 exhibit is that she relied on LANDSAT.

20 MR. SMITH: So actually, I'm asking
21 something different. Her testimony versus your
22 testimony. She was talking about how both you and
23 she were actually looking at aerial photos?

24 GINO GUIMARRO: That's correct.

25 MR. SMITH: Is there anything fundamentally

1 different about that?

2 GINO GUIMARRO: We're both looking for
3 patterns in landscape.

4 MR. SMITH: Okay. And just to follow-up on
5 her testimony this morning, it seems like the --
6 there are two primary areas where I want to
7 follow-up. One it seems like there is a disagreement
8 about the actual width of the travel corridor that
9 would be sufficient. She says 400, you say 200. And
10 then the other issue is the use of the riparian
11 corridors. On that first issue, the 400 feet,
12 although her testimony says that there is apparently
13 some basis of literature, did she actually provide
14 any literature to support that?

15 GINO GUIMARRO: Not that I saw in her
16 testimony, no.

17 MR. SMITH: Okay. And with regard to the
18 second issue, why is it your position that riparian
19 corridors are sufficient?

20 GINO GUIMARRO: It's -- there is a couple
21 things that influence that. One is I relied on -- on
22 the literature I presented in my testimony. All of
23 the sources point to marten being present and
24 preferring riparian and stream corridors. Also based
25 on my experience in these areas in seeing and talking

1 to people that are actively trapping marten in the
2 area. I mean, these are the locations that -- that
3 people lay their traps out for marten are in stream
4 and riparian corridors.

5 MR. SMITH: Okay. You mentioned one of the
6 articles, I think the article on Page 3 of your
7 testimony, is that the Wildlife Habitat Management
8 Habitat for Forestlands; is that right?

9 GINO GUIMARRO: That's right.

10 MR. SMITH: I'd like to present you with
11 what was marked as WMRC Hearing Exhibit Cross 2. And
12 once you've had a chance to review the document, can
13 you let me know?

14 GINO GUIMARRO: Yeah, I've -- I'm familiar
15 with this document. I reviewed it before.

16 MR. SMITH: And what is it?

17 GINO GUIMARRO: This is the -- this is the
18 marten species assessment. It was conducted by
19 ecologists from the Coronado National Forest in
20 Region 2 of the U.S. Forest Service.

21 MR. SMITH: And there are a species
22 assessment done on behalf of the Forest Service?

23 GINO GUIMARRO: I'm sorry?

24 MR. SMITH: Was a species assessment
25 conducted on behalf of the U.S. Forest Service?

1 GINO GUIMARRO: That is correct.

2 MR. SMITH: And would you call that document
3 authoritative?

4 GINO GUIMARRO: I -- I consider it
5 authoritative.

6 MR. SMITH: So just I'll represent to you
7 the report makes a couple of observations. One is
8 that obviously as you pointed out it was conducted in
9 the Coronado National Forest. The other thing is
10 that there are some different trees at issue
11 including a logical pine, to what extent would that
12 influence whether or not this particular document is
13 authoritative with regard to Maine?

14 GINO GUIMARRO: While there are some
15 different forest species that are -- that compose the
16 core habitat for pine marten in this region they do
17 also do look at spruce fir habitat and it's guided on
18 the principle that it is not the species of tree that
19 is most important, it is more the horizontal and the
20 vertical structure of those trees that are important
21 for marten and maintaining their lifestyle.

22 MR. SMITH: Okay. I'd like to direct your
23 attention to Page 5 of the report and I'd like you to
24 read the paragraph to yourself that is under -- it's
25 about two-thirds of the page down, summary of key

1 findings. If you just look at that, read it to
2 yourself and then tell me when you're done.

3 GINO GUIMARRO: Yes, sir.

4 MR. SMITH: So can you explain, I guess,
5 what this -- what this means to --

6 MS. ELY: I'd like to object to this exhibit
7 if possible at this point. This is Colorado and
8 there has been no establishment that this is at all
9 relevant to Maine. It's a completely different
10 forest ecosystem and it's just totally unrelated to
11 what's happening here.

12 MS. MILLER: And response?

13 MR. SMITH: Yeah, I think I already
14 addressed that through the foundational questions I
15 had and I think that Mr. Guimarro already indicated
16 that even though it's in Colorado it still applies to
17 the forests of Maine.

18 MS. MILLER: I'll allow it.

19 GINO GUIMARRO: I'll elaborate on that. In
20 particular because of the ecology of the marten and
21 that it is not the specific species that's important,
22 it's the vertical and horizontal structure of the
23 forest community that is important for them.

24 MR. SMITH: And, again, just looking at the
25 key findings that I directed you to before you talked

1 about the sort of horizontal degree that is
2 essentially encapsulated under the part where it
3 talks about abundant coarse woody debris and snags,
4 would that be under that?

5 GINO GUIMARRO: Yeah, they -- they
6 describe -- they describe in here that -- that that
7 structural component but also that they have --
8 they're strongly associated with stream and riparian
9 corridors that are adjacent to coniferous stands.

10 MR. SMITH: Okay. That was going to be my
11 next question. One final line of questioning, if I
12 may. If I could direct your attention to Page 9.
13 And I'm looking at Table 1 on Page 9 of the habitat
14 parameters along the marten habitat and the question
15 I have is with regard to Number 12 at the bottom of
16 the page. And what -- what does the table provide
17 with regard to the sufficiency of travel corridor
18 width when you're talking about a marginal habitat as
19 I think you've been indicating is the case in this
20 instance?

21 GINO GUIMARRO: So the researchers present
22 that in low quality or marginal habitat the travel
23 corridor width is between 100 and 149 feet within
24 mature stands and from 200 to 299 feet if the
25 corridor is adjacent to opening or areas of no

1 canopy.

2 MR. SMITH: So how -- I guess how would you
3 recommend to the Department that they consider this
4 in light of the fact that there is a difference of
5 opinion between you and Dr. Simons-Legard?

6 GINO GUIMARRO: I would suggest with
7 considering the amount of long-term research that's
8 going on in this area that I would consider this to
9 be a -- yet another piece of evidence that would help
10 the Department in making the decision and that
11 specifically thinking about the equality of habitat
12 and all of the other specific pieces that make a good
13 corridor are important.

14 MR. SMITH: Thank you. WMRC offers WMRC
15 Hearing Exhibit Cross 2 into evidence.

16 MS. MILLER: Yup. And we're going to call
17 it Group 7 Cross 2.

18 MR. SMITH: Thank you. Okay. Now, we're on
19 to agency questions. So I'm going to start with the
20 Commission.

21 MR. WORCESTER: I don't think the Commission
22 has any questions.

23 MS. MILLER: Commissioner Reid.

24 MR. REID: I've got a couple questions for
25 Mr. Goodwin and Ms. Johnston. On Page 2 of your

1 supplemental testimony, I think it's effectively
2 joint testimony, so feel free to answer it either of
3 you. You talk about the benefits of tapered
4 vegetation being maintained on a regular cycle as
5 opposed to taller structures with full height
6 vegetation and so I was wondering what you meant by a
7 regular cycle and why that results in benefits?

8 MARK GOODWIN: By regular cycle I don't
9 think that it's been, and, Gerry, you can correct me
10 if I'm wrong, but I don't think it's been determined
11 whether or not the cycle for vegetation management in
12 tapered areas is going to be shorter than the
13 standard four years.

14 GERRY MIRABILE: I think it's likely to be
15 shorter.

16 MARK GOODWIN: So hopefully that answers
17 your question on regular cycle. The more often --
18 the more that they -- that, you know, the area is
19 visited for maintenance the less likely it is that
20 you would need to bring in larger equipment to manage
21 the vegetation.

22 MR. REID: So how often would you anticipate
23 the need for maintenance of full height vegetation
24 associated with taller poles?

25 GERRY MIRABILE: So in that case, based upon

1 the earlier testimony as you're aware the assumption
2 was made that on average pole full height vegetation
3 would be about 75 feet, that would be very
4 infrequent, so I can't give you a quantitative like
5 period of time. I think each -- during each
6 maintenance cycle, whatever the frequency was, there
7 would be an evaluation of any trees that were either
8 at, you know, currently or are at risk of intruding
9 into the conductor safety zone before the next
10 maintenance cycle and those trees would be
11 selectively removed. And we don't expect that -- we
12 don't expect to be frequent occurrence or very many
13 trees at all.

14 MR. REID: So would that result in cost
15 savings in terms of the maintenance that would be
16 required for a tapered vegetation paradigm as opposed
17 to full height vegetation paradigm?

18 GERRY MIRABILE: There would be greater --
19 greater cost up front of the infrastructure and
20 reduced cost in terms of vegetation maintenance.

21 MR. REID: Okay. That kind of gets to my
22 overall question. It looked to me like the thrust of
23 Mr. Goodwin and Ms. Johnston's testimony was to
24 suggest that there were advantages to tapered
25 vegetation as opposed to the full height vegetation

1 paradigm from a maintenance standpoint, but just
2 intuitively that doesn't seem to make sense to me
3 where the -- the tapered vegetation seems to me to be
4 a paradigm where it requires the very intensive,
5 consistent intervention whereas the full height
6 vegetation would seem to be one where as a general
7 rule letting nature take its course; is that fair?

8 GERRY MIRABILE: I think that's fair.

9 LAUREN JOHNSTON: I think that there also
10 would be a disadvantage for full height vegetation
11 regarding reliability. If the -- the less frequent
12 you're visiting the location the more risk there is
13 that you may miss something that may encroach in the
14 conductor safety zone, so that's an additional risk
15 with managing full height vegetation underneath
16 poles.

17 MARK GOODWIN: Yeah, it's much more
18 difficult to gauge the height of a tree as it goes
19 to -- from a tapered vantage point.

20 MR. REID: And the type of maintenance that
21 you envision for full height vegetation,
22 Mr. Mirabile, did you characterize that as selective
23 cutting?

24 GERRY MIRABILE: Yes. And, again, to
25 Mr. Goodwin and Ms. Johnston, it looked to me like

1 the point of your testimony was to identify some
2 problems or potential impacts that would be
3 associated with full height vegetation as opposed to
4 tapered vegetation, but it didn't look like your
5 testimony tried to undertake any kind of balancing of
6 the environmental benefits that we've heard about
7 that are associated with full height vegetation and
8 taller pole structures; is that right, you were
9 simply pointing out some of the problems that are
10 associated with it?

11 MARK GOODWIN: Yes. I mean, we -- we were
12 answering the question whether it was preferred to
13 have tapered vegetation versus full height.

14 MR. REID: Well, whether it's preferred, it
15 does seem to require some balancing to be undertaken
16 as opposed to just pointing out some of the down
17 sides, I guess that's what I'm asking. I didn't see
18 a conclusion in your testimony as to whether one was
19 preferred or not, it seems to be simply a list of
20 potential down sides.

21 LAUREN JOHNSTON: So the testimony is that
22 the -- CMP'S current proposal won't have an
23 unreasonable impact or adverse effect to wildlife and
24 that tapering or taller poles will have -- may have
25 an incremental benefit and then we were comparing

1 what the preference would be, which is tapering
2 versus taller poles in comparing the management
3 standards and the risks associated with each -- each
4 type of management.

5 MR. REID: And your conclusion is that
6 tapering is preferable?

7 LAUREN JOHNSTON: From an environmental
8 safety and reliability standpoint.

9 MR. REID: Okay. And in reaching that
10 conclusion you took into account the environmental
11 benefits that we heard about that are associated with
12 full height vegetation and the taller poles?

13 LAUREN JOHNSTON: Yes. Our position is that
14 it would have an incremental benefit and -- and we
15 were weighing that against the -- CMP'S current
16 proposal.

17 MR. REID: Okay. Thank you.

18 MR. BEYER: Mr. Goodwin, and I'm referring
19 to your table in your supplemental testimony that
20 identifies the TNC areas, the length in miles, the
21 rationale for evaluating locations appropriate for
22 tapering if required and then comments. In TNC Area
23 Number 2, which includes the South Branch of the
24 Moose River you state that no known brook trout
25 waterbodies. So you're saying the South Branch of

1 the Moose River doesn't have brook trout in it?

2 MARK GOODWIN: That -- that was based on the
3 information we were provided by IF&W that was the
4 basis of our Exhibit 7-7, I believe, the waterbody
5 table for the project.

6 MR. BEYER: Okay. Where did -- you said
7 it's information provided by IF&W. Was that the
8 original GIS layer that you looked at or did you --
9 you did not apparently refer to the marked-up version
10 that Bob Stratton sent around and that I forwarded to
11 the entire service list.

12 MARK GOODWIN: We received -- we received
13 the GIS data originally and then we received
14 additional information from the IF&W that you're
15 referencing.

16 MR. BEYER: When did you receive that? Was
17 that in the end of January?

18 MARK GOODWIN: I believe it was a day or two
19 maybe before we filed our updated waterbody crossing
20 table on January 30. I guess a point of
21 clarification, on the cold fisheries, whether they're
22 currently known as a cold water fishery or known to
23 be in the future, they're -- they -- I guess, let me
24 rephrase that. All of the waterbodies that are
25 currently known to be cold water fisheries will be

1 provided the 100 foot riparian buffer on Segment 1.
2 So if it comes to light that there are other cold
3 water fisheries it would be applied to those as well.

4 MR. BEYER: Okay. Thank you. Mr. Mirabile,
5 and you've testified and stated a couple of times
6 already that you're not proposing to use herbicides
7 in Segment 1. Is that just for maintenance or are
8 you are proposing to not use herbicides for your
9 construction clearing as well?

10 GERRY MIRABILE: There will be no herbicides
11 used on Segment 1 for construction or maintenance.

12 MR. BEYER: Will that require more frequent
13 maintenance cycles?

14 GERRY MIRABILE: Very likely, yes.

15 MR. BEYER: How would the maintenance cycle
16 with no herbicides for a normal 150 foot wide
17 corridor compare to the maintenance cycles for a
18 tapered corridor or a full height corridor?

19 GERRY MIRABILE: How would the frequency
20 differ or --

21 MR. BEYER: How would the frequencies
22 differ, yes.

23 GERRY MIRABILE: Right. I think the
24 frequencies would be very similar and I think the
25 reason for that is in both cases where there is no

1 stump treatment for trees which prevents coppicing
2 because it's the systemic treatment that kills trees
3 after they're cut, we would anticipate that in the
4 case of the scrub/shrub maintenance would need to be
5 more frequent because we would have many more
6 individual stems of growth that grows anywhere from,
7 you know, 2 to 4 feet or more per year and in order
8 to make certain that those didn't grow into the
9 conductor safety zone we would want to get out there
10 on a shorter cycle whether it's every two or three
11 years or at least until we understood what -- how
12 fast it was actually growing.

13 And in the case of the tapering, the
14 frequency would be increased because unlike current
15 practice, the tapering would include vegetation
16 growing closer to the conductors than it currently is
17 allowed in other rights of way and, again, we'd want
18 to stay on top of that to make certain that none of
19 the trees got ahead of us and because the views can
20 be somewhat obstructed with closely spaced stems, you
21 know, there is a possibly that we would, you know,
22 not have a clear view of certain trees and we could
23 be -- or they could be misjudged with respect to
24 their position relative to their height relative to
25 the conductors, so we would not want to go four years

1 between maintenance cycles in that case.

2 MR. BEYER: In areas with either tapering or
3 full height vegetation and assuming compliance with
4 the Maine Slash Law, could you simply cut the trees
5 and leave them? And especially at full height rather
6 than try and get in there with a piece of equipment
7 to remove that tree, just drop it and leave it.

8 GERRY MIRABILE: I think that's possible.
9 We would have to look at, you know, where those trees
10 were felled and make certain that like, for example,
11 if there is an access path between the structures
12 that the tree wasn't felled across that path and if
13 it was then we would likely remove it. We would also
14 want to make certain that, you know, it wasn't felled
15 in an area that was within the low growth area around
16 each structure so that those areas would be
17 accessible for maintenance, you know, of the
18 infrastructure, but short of that, I think that that
19 could be done in compliance with the Slash Law.

20 MR. BEYER: My experience cutting trees in
21 and around the full height stand is they never hit
22 the ground. Ms. Segal testified that the vegetation
23 maintenance plan and the vegetation construction plan
24 contain language that say in areas where topography
25 allows taller -- you would maintain taller

1 vegetation, I can't find that in either one of those
2 plans. Can you point me to that?

3 GERRY MIRABILE: So I can read you the
4 excerpt from the plan --

5 MR. BEYER: Okay.

6 GERRY MIRABILE: -- that I believe she was
7 referring to. And this is the vegetation clearing
8 plan, Exhibit 10-1 -- 10.1 from the January --

9 MR. BEYER: The site application, yup.

10 GERRY MIRABILE: Right. When and if terrain
11 conditions permit, e.g., certain ravines and narrow
12 valleys, capable vegetation will be permitted to grow
13 within and adjacent to protected natural resources or
14 critical habitats where maximum growth -- growing
15 height can be expected to remain well below the
16 conductor safety zone. Narrow valleys are those that
17 are spanned by a single section of transmission line
18 structure to structure.

19 MR. BEYER: Okay. Thank you. That's all I
20 have.

21 MR. BERGERON: Mr. Mirabile, I'm going to
22 keep kicking the horse while it's down. Just
23 clarifying that herbicides or chemicals would not be
24 used in tapered areas as well if those were to be
25 required?

1 GERRY MIRABILE: That is correct.

2 MR. BERGERON: Thank you. You had walked
3 through pretty quickly the -- some of the dimensions
4 for the tapered height sections and I want to make
5 sure I understand those. I'm looking at Ms. Segal's
6 I believe it's her pre-filed testimony that shows a
7 typical cross-section that shows the 35, 20 and 15
8 foot high vegetation on either side of the corridor.
9 What are the widths of each of those steps typically?

10 GERRY MIRABILE: The widths should be
11 approximately 16 feet based upon what's available
12 outside of the wire zone on each side, which is 48
13 feet on each site, three steps 15 -- 16 feet each.

14 MR. BERGERON: Okay. So that was one of my
15 other following questions is the wire zone is a total
16 of 96 feet wide or 48?

17 GERRY MIRABILE: No, so the wire zone if you
18 think about the conductors which are 24 feet or so
19 apart and then 15 feet on either side on the outside
20 of that span of conductor, so it's 24 plus 15 on one
21 side and plus 15 on the other side, so it would be 24
22 plus 30, so it's 54 feet is what defines the wire
23 zone within which the vegetation would be maintained.
24 In scrub/shrub 10 feet or so height and 150 minus the
25 54 is -- go out 96 feet, 48 feet on each side that's

1 available for tapering.

2 MR. BERGERON: 48 on other side from the
3 edge of the right of way and the 75 foot half width
4 of the 150 foot corridor is 20 -- how wide -- so you
5 said 54 feet?

6 GERRY MIRABILE: 54 feet centered on the
7 very center of the 150 feet.

8 MR. BERGERON: So 27 feet on either side.
9 Sorry for my slow math. Okay. A couple questions
10 here and maybe the engineers can also follow-up
11 later, what would be a maximum pole height proposed
12 currently in the application?

13 GERRY MIRABILE: I'll defer to the engineers
14 on that for the specific number. It will be somewhat
15 less than 200 feet from my understanding.

16 MR. BERGERON: Okay. And given that, what
17 would the height range of the wire zone be along the
18 corridor between poles? Obviously it's higher at
19 each pole, it's lower at the sag and then it goes
20 back up at the next pole. What are those typical
21 ranges or say -- maybe we can state it another way,
22 is there a distance from the top of the pole to the
23 bottom of the wire zone, so regardless of how tall
24 the pole is is that number always fixed? Is that
25 distance always fixed?

1 GERRY MIRABILE: Yeah, I'll definitely defer
2 to the engineers on that, but I'll just point out
3 that the terminology wire zone is specific to a
4 cross-sectional view of the right of way so that the
5 question you asked is not referring specifically to
6 the wire zone. It might be called something
7 different than that.

8 MR. BERGERON: All right. I'll check with
9 the engineers then. Shifting gears a little bit, in
10 terms of temporary construction access roads are
11 those going to be left in place and seeded over? Are
12 they fully removed back down to native soils and
13 reseeded?

14 MARK GOODWIN: The construction plan in the
15 restoration for the project is a recontouring to
16 match original grade to the extent practical and
17 revegetated.

18 MR. BERGERON: Okay. I don't think you
19 answered my question though. If gravel goes in for a
20 temporary road or any sort of fill materials, do
21 those get pulled out when construction is done?

22 MARK GOODWIN: That's typical CMP practice.

23 MR. BERGERON: Okay. Thank you. And this
24 may be a better question for the engineers as well,
25 but I'll ask Mr. Mirabile. In materials of repair of

1 broken conductors in Segment 1, say there is another
2 ice storm of 1998 up in Segment 1, does CMP typically
3 stockpile materials and resources near those areas to
4 more quickly restore those if there were faults or
5 can you give us a little background on that or is
6 that more of an engineering question?

7 GERRY MIRABILE: I defer to the engineers.

8 MR. BERGERON: Thanks. Okay. Thank you.

9 MS. BENSINGER: Mr. Mirabile, is there a
10 linear maintenance road that goes the length of the
11 corridor?

12 GERRY MIRABILE: Well, during construction
13 there -- there would be a path to access from
14 structure to structure typically unless the access to
15 individual installation locations for structures came
16 directly from off-corridor to on-corridor, in which
17 case in some spans there may not be any maintenance
18 road in between the structures. But in general -- or
19 construction road I should say between structures,
20 but if there is a construction road then the process
21 that Mark Goodwin just described for restoring them
22 would be the case of -- it wouldn't be maintained as
23 a construction road post-construction.

24 MS. BENSINGER: So how do you access the
25 corridor to do the maintenance?

1 GERRY MIRABILE: We would typically use the
2 same paths that were established during construction.
3 They might need some temporary improvements for
4 maintenance such as crane mats, you know, to cross
5 wetlands and streams, but when the construction
6 access is planned in the planning stage, you know, we
7 look for -- we look at things such as avoidance of
8 resources and topography or grade and so those same
9 areas that were, you know, most preferable for
10 construction access would likely be the same paths
11 during maintenance access but with some temporary
12 improvements.

13 MS. BENSINGER: Do you use drones or
14 inspection or survey your transmission lines?

15 GERRY MIRABILE: I believe we have
16 experimented with that or used them, but I am not
17 sure how widespread it is.

18 MS. BENSINGER: Is there a difference -- I
19 saw some reference in the testimony to a difference
20 in distances between poles if taller poles were used.
21 Would the poles have to -- I believe I read that the
22 poles would be closer together, could you explain to
23 me?

24 GERRY MIRABILE: I will tell you my
25 simplistic understanding of that and then the

1 engineers can fill in the blanks. That if you are
2 required to maintain a certain height of conductor
3 above ground, whatever that is, then the further
4 apart the structures are the taller the structures
5 themselves would have to be to maintain that height
6 because of sag. The closer together they are the
7 shorter the structures could be to maintain that
8 minimum separation.

9 MS. BENSINGER: Right. That's why I was
10 confused when I read that with taller poles the poles
11 would have to be closer together?

12 GERRY MIRABILE: And where did that come
13 from? I apologize.

14 MS. BENSINGER: Did I -- I -- I don't know
15 exactly. So that's not the case?

16 GERRY MIRABILE: I -- well, generally, no,
17 you know, but everything varies based upon
18 topography, but in general -- as a general principle
19 that's not the case.

20 MS. BENSINGER: So perhaps if taller poles
21 were required fewer poles would be needed?

22 GERRY MIRABILE: That's possible.

23 MS. BENSINGER: And just to follow-up, the
24 pole heights for the normal range, what's the normal
25 range of pole heights for this project?

1 GERRY MIRABILE: I don't know the range. I
2 know the average is between 94 and 100 feet. I don't
3 know the range.

4 MS. BENSINGER: And if you want to defer
5 this to the engineering panel that would be fine.
6 What would you envision the range would be if taller
7 poles were required for some of the nine areas of
8 special concern?

9 GERRY MIRABILE: So I can't give a range for
10 them because I don't have an accurate range
11 currently, but what I can say is that if you're
12 transitioning from an average vegetation height of 10
13 feet to an average mature height of 75 feet, the
14 delta is 65 feet, so you can assume that all else
15 being equal the average might increase by something
16 like 65 feet per structure.

17 MS. BENSINGER: Does the topography in
18 general influence the vegetation management in the
19 sense that if there is a depression or a small valley
20 between the poles the trees are allowed to get taller
21 and you don't have to have scrub/shrub vegetation in
22 that area?

23 GERRY MIRABILE: In the wire zone probably
24 not generally unless the crew is specifically
25 instructed -- the vegetation management crew is

1 specifically instructed to do that. For example, on
2 the MPRP right of way and the language I excerpted a
3 few moment ago I think it's directly from that
4 permit, the MPRP permit in 2010, they would be
5 instructed to allow to grow given that it wasn't
6 growing into the conductor safety zone.

7 MS. BENSINGER: But that's not proposed
8 here?

9 GERRY MIRABILE: Not specifically.

10 MS. BENSINGER: Is there any reason that
11 that couldn't happen?

12 GERRY MIRABILE: I don't believe there is a
13 reason.

14 MS. BENSINGER: And how far down the pole is
15 the conductor line? I understand there is -- there
16 are lines on the top that are for protection and then
17 under that are the conductors, do you know the
18 distance from the top of the pole to the conductors?

19 GERRY MIRABILE: That's an engineering
20 question.

21 MS. BENSINGER: And probably my next
22 question is an engineering question. Would it be
23 possible to string a second set of conductors under
24 the proposed set of conductors?

25 GERRY MIRABILE: That's an engineering

1 question. Has CMP ever considered linear tapering?
2 It sounds to me like that's happening to some extent
3 in the deer wintering area connection or corridors.
4 Linear -- by linear tapering, I'm sure there is
5 another word for it, I mean where the vegetation gets
6 taller -- it's allowed to get taller as you approach
7 the pole and then get shorter as you get to the lower
8 point of the sag.

9 GERRY MIRABILE: Yes, that's exactly what we
10 proposed within the Upper Kennebec deer wintering
11 area as you describe it.

12 MS. BENSINGER: Is there any reason that
13 couldn't be used also in other areas of the corridor?

14 GERRY MIRABILE: There are limitations in
15 terms of topography and, you know, the structure
16 heights, but in principle at least generically it
17 certainly could be applied.

18 MS. BENSINGER: The \$115,000 incremental
19 cost for the taller poles, the testimony seems to say
20 that that's the cost to install a taller pole, that's
21 not an increase in cost over the cost of installing a
22 regular sized pole, is it?

23 GERRY MIRABILE: That is an incremental cost
24 as I understand it provided by the engineers, that
25 range of 115 to 243,000.

1 MS. BENSINGER: Meaning it costs that much
2 more?

3 GERRY MIRABILE: Yes.

4 MS. BENSINGER: That doesn't seem to be what
5 the testimony says. On Page 4 of Mr. Goodwin's
6 testimony it says, additional structures may be
7 required to shorten the span and minimize conductor
8 sag. There is where I got the shorter span length to
9 allow taller trees, but we'll put that aside since
10 you said that wouldn't be the case. The incremental
11 cost for each additional structure or replacing a
12 typical structure with a taller structure is 115, so
13 it's really not clear from the testimony. You say
14 replacing a typical structure with a taller structure
15 but than you also say for each additional structure.
16 How much does a regular -- the installation of a
17 regular pole cost?

18 GERRY MIRABILE: I don't have that number,
19 but it does say incremental in Mark Goodwin's
20 testimony.

21 MS. BENSINGER: Okay. In the -- in your
22 testimony, Mr. Goodwin, you were talking about the
23 addition of wood, the chop and drop proposal on Page
24 6 and you say, IF&W rejected this idea because
25 apparently it considered the woody debris inputs

1 would be insignificant. Is that the word IF&W used,
2 insignificant?

3 MR. GOODWIN: I don't -- I don't recall if
4 that's specifically the word that IF&W used, but
5 they -- the correspondence we received from them
6 indicated that it wouldn't provide significant value.

7 MS. BENSINGER: Were there any other reasons
8 why that idea was set aside?

9 MARK GOODWIN: I seem to recall the
10 correspondence indicated that because there were so
11 many brook trout fishery resources in that region it
12 wasn't that big of a concern of the IF&W.

13 MS. BENSINGER: The habitat wasn't that big
14 of a concern?

15 MARK GOODWIN: The woody input issue.

16 MS. BENSINGER: I have no further question.

17 MS. MILLER: Okay. Redirect.

18 MS. GILBREATH: Lisa Gilbreath on behalf of
19 CMP. Mr. Goodwin, Mr. Reardon asked you a number of
20 questions about the email from Bob Stratton of IF&W,
21 correct?

22 MARK GOODWIN: Yes.

23 MS. GILBREATH: What's the date of that
24 email?

25 MARK GOODWIN: I don't remember exactly.

1 Maybe January 22, somewhere around there.

2 MS. GILBREATH: Late January?

3 MARK GOODWIN: I think so.

4 MS. GILBREATH: Was that email sent to the
5 DEP before or after IF&W stated that it is satisfied
6 with CMP's compensation plan including with regard to
7 brook trout fisheries?

8 MARK GOODWIN: I believe it was sent before.

9 MS. GILBREATH: And am I correct in my
10 understanding that the 100 foot buffer around
11 riparian streams that CMP has proposed applies to all
12 brook trout fisheries whether or not those were
13 identified in your chart?

14 MARK GOODWIN: That's correct.

15 MS. GILBREATH: Now, a number of questions
16 have been asked of you, Mr. Mirabile and Mr. Goodwin,
17 regarding tapering. I believe Mr. -- Dr. Publicover
18 asked how many 35 foot trees would exist in tapered
19 areas or around streams such as Cold Stream,
20 Tomhegan, South Branch of the Moose River, and
21 Mr. Wood asked you about tapering in the wire zone
22 and Mr. Bergeron asked you about the width of the
23 tapering. Now, I just have a few clarifying
24 questions. When you described the number of trees in
25 the tapered area and the width of the 35 foot tapered

1 area that's in a hypothetical of a flat landscape; is
2 that correct?

3 GERRY MIRABILE: That is correct.

4 MS. GILBREATH: And is it correct that the
5 vegetation management as currently proposed allows
6 for taller height vegetation where conditions allow?

7 GERRY MIRABILE: Can you ask the question
8 again?

9 MS. GILBREATH: Is it correct that the
10 vegetation management plan that currently exists
11 allows for taller height vegetation where conditions
12 allow?

13 GERRY MIRABILE: Under the conditions and
14 the specifics of the excerpt read earlier from the
15 vegetation clearing plan, yes.

16 MS. GILBREATH: Okay. Now, you described to
17 Mr. Bergeron width of 16 feet for 35 foot trees, that
18 was for visual tapering, correct?

19 GERRY MIRABILE: That is correct.

20 MS. GILBREATH: What would the width be for
21 corridor tapering such as is proposed in the deer
22 wintering area?

23 GERRY MIRABILE: What would the width of
24 what be?

25 MS. GILBREATH: What would the width of the

1 35 foot tree corridor be in the currently proposed
2 travel corridor tapering in the deer wintering area?

3 GERRY MIRABILE: That would be -- that would
4 vary based upon which of the eight to be created deer
5 winter travel corridors you're referring to. It
6 would -- so it could be -- I'm not sure what the
7 widest one of those was. I think they totaled around
8 a mile of the -- from the eight, so it's variable.

9 MS. GILBREATH: Variable in widths greater
10 than 16 feet?

11 GERRY MIRABILE: Oh, absolutely. It's much
12 greater than 16 feet. It would be, you know, on the
13 order of hundreds of feet at least.

14 MS. GILBREATH: All right. Mr. Mirabile,
15 I'll stick with you. Ms. Boepple asked you a number
16 of questions about herbicides, correct?

17 GERRY MIRABILE: Yes.

18 MS. GILBREATH: Now, am I correct in my
19 understanding that mechanical methods of vegetation
20 management are explicitly set forth in CMP's
21 vegetation management plan, which are found at
22 Exhibits 10-1 and 10-2 to the Site Law application?

23 GERRY MIRABILE: Yes.

24 MS. GILBREATH: And the vegetation
25 management plan sets forth standards for both

1 herbicide use and mechanical trimming, correct?

2 GERRY MIRABILE: Yes, it does.

3 MS. GILBREATH: And herbicide application is
4 used in conjunction with mechanical vegetation
5 management, correct?

6 GERRY MIRABILE: That's part of integrated
7 vegetation management, yes.

8 MS. GILBREATH: So your commitment now is
9 that you'll use just the mechanical methods of
10 vegetation management that are explicitly set forth
11 in Exhibits 10-1 and 10-2 in the Site Law
12 application, correct?

13 GERRY MIRABILE: Can you ask that again?

14 MS. GILBREATH: So your commitment now is
15 that you will use just the mechanical methods that
16 are set forth in the vegetation management plan?

17 GERRY MIRABILE: Yes.

18 MS. GILBREATH: Mr. Goodwin, Mr. Bergeron,
19 asked you a question regarding the restoration of
20 temporary access roads. My question to you is does
21 CMP typically use matting?

22 MARK GOODWIN: Yes.

23 MS. GILBREATH: Mr. Mirabile, Ms. Bensinger
24 asked you whether or not CMP uses drones to inspect
25 or survey above-ground transmission lines. Does CMP

1 inspection aerially?

2 GERRY MIRABILE: Yes, it does.

3 MS. GILBREATH: How so?

4 GERRY MIRABILE: You mean how is it done?

5 MS. GILBREATH: Yes. If it's not done with
6 drones, how is it done?

7 GERRY MIRABILE: It's done with helicopters.

8 MS. GILBREATH: Mr. Goodwin, Ms. Bensinger
9 asked you questions about the cost of taller pole
10 structures on Page 4 of your testimony, do you recall
11 that line of questioning?

12 MARK GOODWIN: I do.

13 MS. GILBREATH: And the statement in your
14 testimony is, quote, the incremental cost for each
15 additional structure or replacing a typical structure
16 with a taller is \$115,000 to \$240,000 depending on
17 structure type and foundational requirements,
18 correct?

19 MARK GOODWIN: Yes.

20 MS. GILBREATH: Now, by that statement, do
21 you intend to state that the incremental cost for
22 each additional structure above what it would cost
23 for a not taller structure? Let me rephrase. Do you
24 mean that if you had to have an additional structure
25 it would cost \$115,000 more to make that additional

1 structure taller than what's currently proposed?

2 MARK GOODWIN: I think that's just a range
3 of structure types. So if a structure -- if it takes
4 a different type of structure than what you would
5 normally use for a direct embed then the price could
6 change within that range.

7 MS. GILBREATH: The incremental cost could
8 change within that range?

9 MARK GOODWIN: That's my understanding.

10 MS. GILBREATH: Thank you. I have no
11 further questions.

12 MS. MILLER: Redirect.

13 MS. GILBREATH: That was redirect.

14 MS. MILLER: I mean, recross. Thank you.
15 It looks like Group 4.

16 MR. REARDON: Jeff Reardon for Group 4. I
17 have just one question and I may have a follow-up for
18 Mr. Goodwin and Ms. Johnston. I'm looking again at
19 the January 22, 2019 email from Bob Stratton to Jim
20 Beyer that was subsequently sent out to all of the
21 parties, I believe, on February 1. And the last
22 sentence of that email says, quote, by my review of
23 CMP's table, this adds brook trout information for
24 154 streams, 46 of them are perennial streams within
25 the greenfield section which would not be affected by

1 increased buffer impact calculations. The remaining
2 108 streams would be affected however. And my
3 question is is there a difference between how
4 intermittent streams would be treated in buffers in
5 Segment 1 if they are identified as having brook
6 trout habitat or not having brook trout habitat?

7 LAUREN JOHNSTON: Brook -- brook trout
8 streams would be considered for 100 foot buffer
9 regardless of whether they're identified as
10 intermittent or perennial in -- in the table that
11 we're referring to.

12 MR. REARDON: Would intermittent streams not
13 identified as brook trout habitat get the wider
14 buffers that you propose?

15 LAUREN JOHNSTON: It would not get the wider
16 buffer as we proposed, however --

17 MR. REARDON: So as currently proposed those
18 --

19 MR. MANAHAN: I would object to Mr. Reardon
20 not allowing the witness --

21 MR. REARDON: I'm sorry.

22 MR. MANAHAN: -- to finish her answer to the
23 question.

24 LAUREN JOHNSTON: However, that does not
25 mean that -- that if new information was made

1 available or if information was inadvertently omitted
2 from the existing table that this table could not be
3 updated with the appropriate buffers or the
4 appropriate characteristics as advised by IF&W.

5 MR. REARDON: I am not -- I don't think
6 you're the appropriate person for this question, but
7 I don't know who is. What's the time line for
8 updating that information so the application is
9 correct and incorporates what IF&W thought was going
10 to happen on January 22 before they signed-off on
11 your compensation plan? Can we expect that to
12 happen? Does the application contain that
13 information now?

14 LAUREN JOHNSTON: The record contains the
15 existing table, however, now that -- now that we are
16 aware that it -- that we have inadvertently missed
17 certain stream characteristics this -- this update
18 can be made.

19 MR. REARDON: So since January 22, you and
20 IF&W have been operating with a different
21 understanding of which streams are brook trout
22 streams and would get enhanced buffers?

23 LAUREN JOHNSTON: Correct. However --

24 MR. REARDON: Thank you. I'm done. Thank
25 you.

1 MR. MANAHAN: Well, Mr. Reardon, you need to
2 allow the witness to answer the question.

3 MS. MILLER: I would like to hear the answer
4 to that question. Thank you.

5 LAUREN JOHNSTON: However, IF&W has had its
6 chance to review all of the information that we've
7 submitted and they subsequently have provided
8 correspondence that shows that they are satisfied
9 with -- with -- with our compensation plan and the
10 materials we provided.

11 MR. REARDON: Do you know whether IF&W's
12 assessment includes the assumption that the, quote,
13 the remaining 108 streams would be affected however?

14 LAUREN JOHNSTON: I don't know that.

15 MR. REARDON: Thank you.

16 MS. BENSINGER: I have one follow-up
17 question. I believe, Mr. Mirabile, you testified
18 that the definition of pesticides includes herbicides
19 and then in the supplemental testimony you stated
20 that no herbicides would be utilized and in the press
21 release that was admitted into evidence it says no
22 pesticides or herbicides would be used. So if
23 herbicides is a subset of pesticides are you actually
24 committing here today that no pesticides at all
25 including herbicides would be used?

1 GERRY MIRABILE: Yes, we are.

2 MS. BENSINGER: Thank you.

3 MS. MILLER: Okay. I want to thank this
4 witness panel. Oh.

5 MR. MAHONEY: Sorry. Can we have one?

6 MS. MILLER: Yup. Recross, yup.

7 MS. MILLER: This is Group 6.

8 MR. MAHONEY: Sean Mahoney with Group 6.

9 Mr. Mirabile, I just wanted to clarify something that
10 you and Ms. Johnston were talking about with respect
11 to the deer wintering travel corridor. I understand
12 it's going to be for a length that could be up to a
13 mile in certain sections, but I think what I wasn't
14 clear on was in working from the edge of the
15 transmission corridor to the center and then out
16 again the conversation was how much of that would be
17 at a 35 foot height as opposed to what you were
18 talking about the visual which was 16 feet for 35, 16
19 for 25, 16 for 15 and then 27 for 10 and then working
20 back out again on the same line. So in the deer
21 wintering yards, how much of that width of 75 feet to
22 the center can be or are you -- are you anticipating
23 would be 35 foot height?

24 GERRY MIRABILE: The way that's envisioned
25 is that there would be a consistent height across the

1 right of way -- across the 150 foot right of way
2 as -- and as you move toward the structures the
3 height would increase. It would not increase toward
4 the edges of the right of way for the deer wintering
5 area travel corridor.

6 MR. MAHONEY: So give me an example. What
7 would the heights be?

8 GERRY MIRABILE: So let's say it's 25 --
9 well, it's proposed to be between 25 and 35 feet and
10 the areas identified in the -- at the area as part of
11 Exhibit 10-1 and 10-2. So for each of those areas,
12 and I don't have them in front of me, but they're
13 typically centered on a structure and at the far end
14 furthest from the structure for each of those blue
15 polygons the height of vegetation across the entire
16 width of right of way would be 25 feet and that it
17 would transition to up to 35 feet toward the
18 structure.

19 MR. MAHONEY: Okay. Thank you.

20 MS. MILLER: Thank you. Any other recross
21 that I missed before? Okay. Thank you very much for
22 this witness panel. We're going to transition to the
23 next witness panel, the Engineering Witness Panel,
24 Mr. Dickinson, Mr. Tribbet, Mr. Bardwell, Mr. Freye,
25 Mr. Achorn and Mr. Paquette. And I need to swear in

1 at least Mr. Paquette, but I'm not sure if there is
2 anyone else.

3 Thank you. It's a little cozy over there
4 for all of you. I want to make sure that you're all
5 sworn in, so for anyone who was not sworn in this
6 morning on the panel, please stand and raise your
7 right hand. Okay. Thank you. Do you swear or
8 affirm that the testimony you are about to give is
9 the whole truth and nothing but the truth?

10 (Gil Paquette affirmed.)

11 MS. MILLER: Thank you. So I'm going to go
12 ahead and we have 30 minutes with this group. When
13 this group is done with their summary, we'll just
14 re-evaluate the time where we're at, but we'll go
15 ahead and get started with this group, 30 minutes.
16 It's all yours.

17 KENNETH FREYE: Okay. Good afternoon,
18 Commissioners, Hearing Examiners, Staff, my name is
19 Kenneth Freye. I'm a Maine resident and a partner at
20 Dirigo Partners Limited representing the Applicant.
21 You have had my resume, so I'm going to skip my
22 qualifications other than to say that I had a lot to
23 do with the siting and the acquisition of the NECEC
24 corridor.

25 I address statements made by Group 2 and

1 Group 4 Intervenors in my rebuttal testimony and
2 responded to questions raised by the MDEP Hearing
3 Examiner and LUPC Commissioners as a result of the
4 April hearing. The topics of my rebuttal and
5 responses fall into four groups; one, the alternative
6 NECEC corridor locations along Route 201 and/or
7 Spencer Road; two, the selection of the location of
8 the NECEC border crossing into Quebec; and three, the
9 application -- or the Appalachian Trail crossing of
10 the NECEC corridor; and four, mitigation of stream
11 crossings and mitigation parcels.

12 Here is a brief summary of each group. One,
13 the alternative NECEC corridor locations along Route
14 201 and/or the Spencer Road. Dirigo Partners was
15 tasked with siting and acquiring a corridor for an
16 overhead transmission line. The siting and initial
17 resource surveys of the NECEC corridor, the basic
18 information required to start the permitting process
19 took about three years. A thorough evaluation of any
20 alternative route would take a similar amount of
21 time, however, a quick assessment produces the
22 following: CMP does not own a corridor along Route
23 201. The existing distribution line just like most
24 distribution lines is located within the highway
25 limits of Route 201 for most of its length. The

1 presence of this line rather than indicating a
2 potential pathway actually means much of the
3 available space within the highway limits is
4 currently occupied. Any co-location with Route 201
5 or overhead or underground construction will require
6 the acquisition of additional rights and clearing
7 outside of the highway limits making the acquisition
8 of a corridor impractical and virtually impossible if
9 routed through the villages of The Forks, West Forks
10 or Jackman Moose River. Locating an overhead line
11 along Spencer Road was not desirable by the then
12 landowner due to the potential negative impacts to
13 access and forest management activities. My
14 responses to Question A-26 and B-2 expand on this
15 summary.

16 Two, the selection of the location for the
17 NECEC border crossing into Quebec. Any connection
18 with Hydro-Quebec grid needs to originate at one of
19 two 765 kV substations in southern Quebec. The
20 closest being near Thetford Mines with the other
21 being near Sherbrooke. There are no other substation
22 or grid connection points along the Maine/Quebec
23 border. The border crossing location was selected
24 which CMP by assessing environmental, social and
25 physical constraints in Maine and reviewing

1 infrastructure and land ownership in Quebec.
2 Relocating the border crossing point at this time
3 would require the acquisition and vetting of new
4 corridor by both CMP and Hydro-Quebec. My response
5 to Question A-25 expands on this summary.

6 Three, the Appalachian Trail crossing of
7 NECEC corridor. The intent of the National Park
8 Service to allow additional clearing and transmission
9 lines is clearly and undeniably stated in the
10 easement from CMP to the United States government.
11 Transmission lines are not an incompatible use with
12 the Appalachian Trail. The National Park Service
13 agreed to both existing lines and future lines and
14 clearing. At the Troutdale Road crossing, the
15 crossing that appears to be of most concern, the
16 recreational resource subdistrict, P-RR, appears to
17 end at the edge of the existing transmission
18 clearing. All or at least most of the new clearing
19 is in residential development subdistrict, the DRS,
20 where transmission lines are allowed. Likewise, the
21 majority of the visual impact across Joe's Hole is in
22 the Great Pond subdistrict, the PGP. Additionally,
23 there are no structures in the recreational resource
24 district. The NECEC transmission line is not an
25 incompatible use. The fact that CMP is willing to

1 work with the Maine Appalachian Trail Club, the
2 Appalachian Trail Conservancy and the National Park
3 Service to enhance the experience of users of the
4 trail by buffers for trail relocation should not be
5 taken as a flaw of the NECEC project but rather two
6 entities working together cooperatively.

7 Four, mitigation at stream crossings and
8 mitigation parcels. CMP's plans for the stream
9 crossings in the NECEC project addresses all of
10 concerns raised by IF&W. Taller structures in
11 additional locations have not been determined to be
12 significantly beneficial to brook trout and will
13 increase visual impact. Likewise, CMP's mitigation
14 program is robust and has been determined to be
15 acceptable. A combination of mitigation lands and in
16 lieu fee meets or exceeds the requirements for the
17 NECEC project.

18 Others have addressed mitigation and stream
19 crossings and I can discuss in detail the Tomhegan
20 Stream crossing and the Cold Stream crossings as well
21 as mitigation parcels if time permits. Thank you for
22 the opportunity to speak here.

23 JUSTIN BARDWELL: Good afternoon. My name
24 is Justin Bardwell. I am the Underground
25 Transmission Manager for Black and Veatch. I have

1 been responsible for planning, designing and
2 permitting, contracting and building high voltage
3 transmission lines underground and submarine since
4 2005.

5 Underground construction is not a
6 practicable or reasonable alternative for the
7 existing route and the evaluated alternative routes.
8 Trenching activities for underground construction
9 require continuous disruption, increasing
10 environmental impacts during construction.
11 Underground construction requires substantially more
12 time and has increased impacts to the public during
13 construction due to more heavy equipment, longer
14 construction time and disruption to traffic. This is
15 particularly significant when the construction is in
16 roadways. The image up here shown is a similar duct
17 bank being constructed in a two lane roadway.

18 In general, underground construction costs
19 five to seven times and much as overhead
20 construction. Specific site conditions such as
21 shallow rock and wetlands crossing can increase that
22 price difference significantly. Any damage to a high
23 voltage cable system requires substantial time to
24 locate and repair and because of this underground
25 transmission lines have increased risk for extended

1 outages for extended operation. Underground
2 construction has limited reductions and long-term
3 impacts along the NECEC route due to the requirements
4 for vegetation clearing.

5 Underground installation on Route 201 faces
6 two additional challenges. Route 201 is a state
7 highway and the Maine Department of Transportation
8 Utility Accommodation Policy prohibits the
9 construction of manhole entries within the travel
10 lanes and restricts the construction of longitudinal
11 installation within travel lines. There is
12 insufficient space in the Route 201 right of way for
13 installation of the line outside of the travel lanes.
14 If you go to the next slide there. That image there
15 is a 500 kV jointing bay. The jointing bays for this
16 project would be the same height and width. They'd
17 be about one segment shorter, it's about 7 feet.

18 In addition, construction of a duct bank
19 system within Route 201 would have substantial impact
20 to the public. Construction of a duct bank system in
21 adjacent to travel lanes requires extensive lane
22 closures to provide a safe working space. Extensive
23 traffic control and substantial barriers are required
24 to protect the public from the excavations and the
25 workers from the public. Any time extensive traffic

1 control is implemented, close coordination is
2 required with emergency services to maintaining
3 access along those major arteries.

4 Specific to the Appalachian Trail crossing,
5 underground construction is a not a practicable or
6 reasonable alternative. As discussed earlier,
7 increased -- underground construction would have
8 increased environmental impacts, increased impacts to
9 the public and increased cost to overhead
10 construction. At the Appalachian Trail crossing, I
11 would expect a horizontal directional drill to be
12 required to cross Joe's Hole and the adjacent
13 wetlands. This would require a large hydraulic rig
14 to be set up next to the Appalachian Trail for
15 several months causing significant noise and visual
16 impacts. The next image there is a horizontal
17 directional drill rig with most of the support
18 equipment is actually the frame to the left.
19 Underground construction would have very little
20 benefit of the Appalachian Trail crossing due to the
21 existing overhead transmission lines and the existing
22 structures and in clearing.

23 For the Beattie Pond recreational
24 subdistrict, underground construction is not a
25 practicable or reasonable alternative. As discussed

1 earlier, underground construction would have
2 increased environmental impacts, increased impacts to
3 the public and increased cost compared to overhead
4 construction. Specifically at Beattie Pond
5 underground construction would have increased
6 operational risk due to being 37 miles from paved
7 roads. That distance limits the access for repair
8 and maintenance crews particularly during winter and
9 creates additional difficulties in impending remote
10 monitoring. The next picture shown is a hydraulic
11 reel loading trailer that's used to pull cable and
12 we'd have to maintain access for a similar trailer.
13 Underground construction would have limited benefits
14 at Beattie Pond. The overhead line has already been
15 designed to minimize most of the impacts.

16 Underground construction in other areas
17 would have the same concerns with additional impacts
18 during construction and cost increases. Underground
19 construction is significantly more sensitive to site
20 conditions. Things such as shallow rock, wetlands
21 crossings, access limitations could significantly
22 increase impacts and cost. Thank you.

23 NICK ACHORN: Hello and good evening,
24 everyone. My presentation should only take a few
25 minutes. My name is Nick Achorn. I'm a licensed

1 engineer and Project Manager for Black and Veatch's
2 Energy Division Power Delivery Business Line. I'm
3 currently engaged as the Project Manager assisting
4 CMP and I'm focused on the DC transmission line for
5 the New England Clean Energy Connect project.

6 I am -- I was born and raised in Maine,
7 graduated from the University of Maine at Orono with
8 a Bachelor of Science in Civil Engineering and a
9 minor in Construction Management Technology in 2008.
10 I've been employed as a Project Engineer, an
11 Engineering Manager or Project Manager for Black and
12 Veatch since 2014, the beginning of 2014. More
13 details on my specific experience is included in my
14 CV as Exhibit CMP 13-A.

15 I'm here today as I provided testimony in
16 response to Construction Question Number 2 from
17 Appendix A to the Tenth Procedural Order which was
18 specific to the impact of structures exceeding 100
19 feet in height. My testimony assumes this question
20 is specific to the impact expected to where the
21 structure height increases were required to satisfy
22 full height vegetation areas, which we talked about
23 today. As all of these structures within the full
24 height vegetation area will need to exceed 100 feet
25 in height. As a result of the height increase

1 requires to maintain the clearances to the full
2 height vegetation, this would require an otherwise
3 direct embed structure to now require a caisson
4 foundation, which would increase the permanent
5 footprint of the structure base. Due to the change
6 in the foundation type access roads will need to be
7 improved to accommodate the additional weight of
8 concrete trucks.

9 So to summarize, the access roads and
10 structure foundations will see the largest impacts
11 when structure heights are increased to accommodate
12 these full height vegetation areas. Thank you.

13 JUSTIN TRIBBET: Good afternoon. My name is
14 Justin Tribbet, I'm a licensed Professional Engineer
15 in the State of Maine with over 12 years experience
16 in engineering design and execution of energy
17 projects.

18 Today, I'm going to provide you with an
19 overview of both my pre-filed rebuttal and my
20 pre-filed supplemental testimony. My pre-filed
21 rebuttal testimony is in response to Hearing Issue 3,
22 Alternatives Analysis, and it focuses on the issue of
23 undergrounding as an alternative. It demonstrates
24 that undergrounding is not a reasonable or
25 practicably available alternative for the NECEC

1 project.

2 Now I'll provide an overview of the six key
3 points. One, construction of a transmission line
4 utilizing underground technology is a project
5 specific consideration. Mr. Russo and others note
6 that other project such as Connect New York, Northern
7 Pass TDI Vermont and Vermont Green Line propose
8 underground solutions. Given this fact, they argue
9 that underground should be considered a practicable
10 alternative for the NECEC project. The fact is
11 specific circumstances that apply to a given project
12 may not apply for other projects. For example, if
13 that project is proposing new corridor through a
14 national park or forest. I would also note that not
15 one of the four projects mentioned have demonstrated
16 that it is economically feasible nor have any secured
17 any long-term transmission service agreements. Given
18 this fact, you can't make the argument they went
19 underground so the NECEC should too.

20 Two, the NECEC project has made significant
21 efforts to evaluate and incorporate alternatives into
22 its project design. The most significant example of
23 this is the Upper Kennebec where the project
24 electively decided to implement approximately one
25 mile of underground estimated at approximate

1 incremental cost to the project of 31 million. In
2 addition to this major commitment, the project has
3 also agreed to significant and costly overhead line
4 to design alternatives totaling nearly \$11 million
5 for a total incremental commitment of 42 million.

6 Point three, I will now provide an overview
7 of the unreasonable incremental cost of an
8 underground alternative on the NECEC. Justin
9 Bardwell's pre-filed rebuttal testimony provides a
10 cost of undergrounding for three alternatives; one,
11 undergrounding of the entire line utilizing the
12 currently proposed route; two, undergrounding of the
13 entire line using an alternative route; and three,
14 undergrounding only in the new 53.5 mile corridor
15 improvising the currently proposed route. As shown
16 in Page 5 of my pre-filed rebuttal testimony
17 implementation of these alternatives would result in
18 an incremental project cost of 645 million to 1.8
19 billion to the currently proposed \$650 million NECEC
20 project. This would result in a total project cost
21 of 1.6 to 2.8 million dollars. Clearly, the
22 potential underground alternatives are not
23 practicable or reasonable.

24 Four, the NECEC overhead transmission design
25 is consistent of the transmission facilities in the

1 State of Maine, almost all of the transmission that
2 CMP operates is overhead, a limited amount of
3 underground transmission is primarily located in
4 urban areas of the state.

5 Five, overhead HVDC transmission lines are
6 capable with volted-source converter HVDC technology.
7 Mr. Russo makes several assertions implying that
8 volted-source converter technology is somehow
9 incompatible with overhead HVDC lines. In fact, as
10 part of the request for proposal for the NECEC
11 project multiple HVDC converter vendors confirm the
12 engineering viability of the proposed NECEC overhead
13 HVDC line design. Mr. Russo also provided incorrect
14 and misleading statistics related to the number of
15 VSC HVDC transmission projects. He notes in his
16 testimony that there is only one other project like
17 this in the world. Even though voltage source
18 converter HVDC technology is relatively new there are
19 at least two additional examples that utilize this
20 technology.

21 Six, snowmobiling can and does occur in the
22 vicinity of overhead transmission lines. Throughout
23 the state overhead lines cross and are co-located
24 with snowmobile trails. Based on CMP's records over
25 600 miles of snowmobile trails co-exist within CMP's

1 existing overhead transmission corridors.

2 Approximately 22 percent of the snowmobile trail
3 system in the State of Maine involves some portion of
4 CMP's existing transmission line corridors. In fact,
5 in Ms. Caruso's own Exhibit CRTK-9, there is a
6 segment of co-location with an existing CMP 354.5 kV
7 overhead -- overhead line corridor for approximately
8 one mile demonstrating further that co-location of
9 snowmobile trails and overhead lines already does
10 exist while still maintaining this profitable tourism
11 industry.

12 My pre-filed supplemental testimony is
13 responsive to Appendix A and B of Procedural Order
14 10. I will only discuss verbally Appendix A Question
15 18. Appendix A Question 18 asked for a description
16 of the differences in normal operations and
17 maintenance costs between overhead and underground
18 lines. Based on a publicly available published paper
19 the O&M cost for the three underground -- alternative
20 underground alternatives evaluated by Justin Bardwell
21 would have up to a 33 percent higher incremental
22 operations and maintenance cost than the NECEC
23 overhead transmission line.

24 For the reasons I explained today,
25 undergrounding is not reasonable or practicably

1 available alternative to the NECEC project. It would
2 not allow the NECEC to meet the project purpose to
3 deliver clean energy from Quebec to New England at
4 the lowest cost to ratepayers. Thank you for this
5 opportunity to speak before you today.

6 THORN DICKINSON: Hello. I'm Thorn
7 Dickinson. I'm the Vice President of Business
8 Development at Avangrid Networks and my supplemental
9 testimony was very short. It just provided
10 additional detail as required or requested around how
11 the methodology and the calculations that showed how
12 we turn the incremental capital costs associated with
13 undergrounding the 53.5 miles and how we then
14 converted that into how we would have modified our
15 bid into the Massachusetts RFP and where that bid
16 would have -- how it would have modified its
17 selection criteria and obviously I'm happy to answer
18 any questions related to it.

19 GIL PAQUETTE: Hi. My name is Gil Paquette.
20 I'm a consultant. I work for a company called VHB
21 and I am Managing Director of our Portland, Maine
22 office. I have a Bachelor's Degree in Wildlife
23 Management from the University of Maine and I have a
24 Master's Degree in Zoology from the University of
25 Western Ontario. I have 23 years of experience

1 working on a variety of energy projects,
2 hydroelectric, natural gas pipeline projects,
3 transmission line projects and solar.

4 As a biologist, it's unique for me to be on
5 the engineering team, but it's important to explain
6 why I'm here. I'll be providing a summary of my
7 sur-rebuttal testimony which primarily dealt with
8 underground installation of a HVDC line and then
9 discussing the testimony I've submitted to answering
10 questions from the Commission or the DEP.

11 Two projects that I have worked on, the
12 Northeast Energy Link and the Atlantic Link were HVDC
13 projects for the land-based NEL project that was
14 terrestrial cable. I was manager of the development
15 of that project. Hence, as a biologist I -- it was
16 well fit for me to play that role because I could
17 play devil's advocate especially with the cable
18 manufacturers and the engineers working on that
19 project. So when I say development, that's basically
20 starting from scratch, the concept of an HVDC line,
21 looking at, you know, doing a feasibility study,
22 looking at various routes and then, you know, coming
23 up with the construction cost estimates and so forth.
24 The other project was Atlantic Link, which was a
25 submarine cable project that went from New Brunswick

1 to Massachusetts. That was a 375 mile long project.

2 One thing I'd like to do is just get into
3 some terminology first before we get going -- or I
4 get going. When I refer to cable that's underground
5 and conductor would be overhead. Porpoising is a
6 technique used for going underground and overhead,
7 kind of like what a porpoise does when its swimming.
8 Access road, I would use that to define existing
9 roads that are to the right of way. And then a
10 travel lane would be town the right of way. And when
11 I say down the right of way, I should explain that,
12 that is traveling along the right of way in this case
13 from pole to pole. The other point I'd like to make
14 is the difference between mine technology and PE
15 technology. I assumed in my sur-rebuttal testimony
16 that this was PE technology and that's a new
17 technology that was developed in the late '90s.
18 That's the technology that the cable manufacturers
19 have been promoting for terrestrial.

20 MS. MILLER: Mr. Paquette --

21 GIL PAQUETTE: Yup.

22 MS. MILLER: -- sorry to interrupt you. Can
23 you just pull the mic a little closer to you?

24 GIL PAQUETTE: Oh, yup. I'm sorry.

25 MS. MILLER: Thank you.

1 GIL PAQUETTE: There we go. Yeah, so mine
2 versus PE. And then structure types, that's
3 important too. There is three major structure types.
4 There is tangent structures, those are along a
5 straight line. And there is angle structures when
6 you're making an angle along the route. And then
7 there is dead end structure where basically your
8 conductor terminates and then you do that so you can
9 avoid a cascading event that could pull down, you
10 know, 10, 15, 20 miles of line and you limit that to
11 about 5 miles per stretch of conductor.

12 So first, I'm going to focus on summarizing
13 the underground information that I provided. The
14 first thing I would say is that, you know, it didn't
15 surprise me that this project was an overhead project
16 given the terrain, given the remoteness of the
17 project, given some of things that I learned with the
18 underground project that I was working to develop.
19 And when I first started on that project, you know,
20 as I said earlier, there was a concept for that
21 project and, you know, to use an analogy that concept
22 was like a ball, so I had this ball, I could see this
23 ball and I knew what this ball was. It was
24 installing a cable underground. And then as I
25 started digging deeper and deeper into that project

1 and learning more and more about that project,
2 learning more about costs and different requirements
3 for that type of project, it was like peeling the
4 onion, so you kept getting more and more layers off
5 and dealing with a very complicated type of project,
6 a project that had, you know, very high cost, about
7 \$2 billion and one that had more environmental
8 impacts and that's what I focused on in my
9 sur-rebuttal testimony was those -- the greater
10 environmental impacts between underground and
11 overhead. And one of the reasons why there is more
12 impact is because you're digging through streams,
13 you're digging through wetlands to create a trench to
14 allow the cable to be installed. And that's a very
15 important difference between overhead where the
16 excavating is done at a pole location and as was
17 mentioned earlier about a 900 to 1,000 foot span, so
18 instead of a trench in that thousand feet you have a
19 pole, an overhead conductor and a pole, so I think
20 that's important to note. And the other thing that's
21 important to note is pole location. Most times if it
22 can be done you span wetlands and you span streams.
23 You can't do that underground. You have to go
24 through those -- those natural resources.

25 As I -- as I worked on that project and in

1 working a cable manufacturer and a contractor to
2 prepare cost estimates, the other thing that I
3 learned that was actually a surprise at the end it
4 was kind of like that last layer of the onion was
5 thermal sand. So that was something that, you know,
6 I don't want to say it was withheld, but it was a
7 shock to everybody on the team aside from the cable
8 manufacturer. So instead of using native material
9 you're bringing in imported thermal sand. And so on
10 a project like this importing thermal sand would be
11 very difficult. You're using dump trucks to carry
12 that sand down the right of way, you -- you basically
13 have to build a road down the right of way, which is
14 different than when you do an overhead line. And I
15 know some of you have seen overhead line
16 construction, so you know what that looks like, so
17 compare that to basically building a mat road or a
18 substantial road down the right of way in order to be
19 able to install this thermal sand.

20 The other consideration is vaults. Every --
21 every splice would need a vault for protection for
22 easy access. The vault would be concrete, so that
23 needs to be traveled down the right of way as well.
24 You know, the weakest link in a project like this is
25 the splice. That's where you're going to have a

1 failure likely unless you have a third-party damage
2 where someone came in from outside and accidentally
3 dug into the cable.

4 I know there is going to be time for
5 questions later, but those are the main points that
6 I -- that I wanted to highlight. And I think
7 probably the most important thing that I had included
8 with this is that an underground project has far more
9 natural resource impacts especially to streams and
10 wetlands than would an overhead line. The testimony
11 that I provided was -- I answered some questions, not
12 all questions, but primarily it was related to forest
13 fragmentation, discussing tapering, discussing taller
14 poles, I answered all of those questions and if I
15 have time I -- do I have time? I'll probably go
16 through just a quick summary.

17 MS. KIRKLAND: You have 2 minutes 44
18 seconds.

19 GIL PAQUETTE: Two minutes. Well, let me
20 just summarize real quick. I think the most
21 important thing for the Commission and the DEP to
22 consider is that the project setting is in a
23 fragmented area already. There is active -- there is
24 logging roads, there is cuts in various stages. You
25 know, when I look at Google Earth and I see this area

1 I see a lot of forestry activities and so I'm not
2 convinced that fragmentation is a problem. I know
3 this is a permanent line or would be maintained in a
4 herbaceous scrub/shrub state for the life of the
5 project, but at the same time there is a lot of
6 activity that goes on in that area, so I think it's,
7 you know, it's sort of unfair to say that this
8 project is --

9 MS. TOURANGEAU: Objection. This goes
10 beyond the scope of his direct testimony.

11 MS. MILLER: Response?

12 MR. BOROWSKI: Mr. Paquette briefly touches
13 on fragmentation, but I think that's generally true.

14 MS. MILLER: Okay. I'm going to sustain
15 that.

16 GIL PAQUETTE: I think the other thing
17 that's worth noting with respect to the information
18 that I provided and I just tried to provide a simple
19 anecdote because pine marten seemed to be a focus of
20 contention was that when -- when these data are
21 collected -- when telemetry data is collected for
22 these types of studies the locations of the animal
23 are collected over a period of time and then those
24 get analyzed statistically with a computer model and
25 when the terms preference are used or the terms

1 avoidance are used it's based on a probability and
2 the probability being whether that location would in
3 a certain type of habitat or not --

4 MS. TOURANGEAU: Objection. Again, this
5 goes beyond the of scope of his testimony.

6 MR. BOROWSKI: Well, that, I disagree with.
7 He specifically answers this in his supplemental and
8 uses a squirrel analogy --

9 MS. MILLER: I'm sorry, can you speak up? I
10 can't hear you.

11 MR. BOROWSKI: This is specifically in his
12 supplemental testimony. He uses a squirrel analogy
13 to describe what he's talking about right now.

14 MS. MILLER: Okay. I'll allow that.

15 GIL PAQUETTE: Okay. So I'll go to the
16 squirrel analogy because that's easy -- easier to put
17 your mind around instead of GPS locations or
18 satellite locations.

19 MS. ELY: I can't hear you.

20 GIL PAQUETTE: Basically if you're doing a
21 squirrel study you are going to find that squirrels
22 like forested habitat. I think we all know that and
23 that's why I use that analogy just like pine marten
24 in the forest. That doesn't necessarily mean that a
25 pine marten won't cross the road just like a squirrel

1 crosses the road. If you were going to take random
2 samples of a squirrel location their time in the road
3 would be limited, their points in the road would be
4 limited and therefore you would confer avoidance from
5 that. You would -- the park would be a habitat that
6 they preferred and the same is true for pine marten.
7 It doesn't mean that they won't cross a right of way,
8 it just means that they're not going to spend a lot
9 of time in the right of way and I think that's an
10 important point that -- to consider in your
11 evaluation of the project.

12 MS. MILLER: Thank you. Okay. It's about
13 10 after 5. We're only about 10 minutes ahead of
14 schedule, but what I wanted to do is throw out there
15 for parties an option of how you want to proceed
16 forward. We have at least an hour and 50 minutes
17 left, so if we go according to schedule, we'll have
18 time for dinner and then we would come back and wrap
19 up probably around 8:40, around that time. The other
20 option is to just continue forward and have a really
21 late dinner, but I just want to throw that out there
22 and see what the preference is of the parties. I
23 don't know if you guys have some dinner plans or
24 anything like that you need to change, so I just want
25 to ask what you all prefer, so.

1 MR. MANAHAN: We're good with plowing right
2 through.

3 MS. MILLER: Okay. Yeah, maybe it's -- why
4 don't we go just go through each group. The
5 Applicant says plow through. Group 6.

6 MR. MAHONEY: Group 6 says plow through.

7 MS. MILLER: Group 4.

8 MS. ELY: I think we're inclined to have
9 dinner. We were also wondering if the extra 10
10 minutes could be allocated among the parties for
11 cross-examination.

12 MS. MILLER: Yup, we can do that, but we --
13 I want to ask -- let me follow-up on that after we
14 talk about dinner. So what do we have, Group 3 and
15 Group 7, thoughts ongoing ahead or?

16 MR. SMITH: I would move forward.

17 MS. MILLER: Group 3.

18 MR. BOROWSKI: Move forward with maybe a
19 short coffee break or something.

20 MS. MILLER: Okay. Group 1 and 2.

21 MR. HAYNES: Let's get it done. I agree
22 with the break.

23 MS. MILLER: Group 2.

24 MS. BOEPPLE: We could keep going, but we
25 need a break.

1 MS. MILLER: Yup. Group 8.

2 MS. TOURANGEAU: Same thing. We'd like to
3 plow through, but take at least enough time to get
4 some coffee.

5 MS. MILLER: Okay. So we'll go ahead and
6 take a 15 minute break. That's about what we've been
7 taking so far. I'll take a look at the schedule and
8 figure out where we're at in terms of
9 cross-examination time and we'll start at that point.
10 Thank you. So that puts us at 5:25.

11 (Break.)

12 MS. MILLER: Okay. I want to go ahead and
13 get started since we decided we're going to try to
14 plow through this. First, I want to just address the
15 question of the additional time. We have about 10
16 minutes -- we were about 10 minutes ahead and it was
17 requested that we use that time for the additional
18 cross-examination because we did say that we would
19 allow that. What we did say is that we would divide
20 that equitably among groups, so I guess the first
21 question is who wanted additional time for their
22 cross-examination? So I've got Group 4. Who else?
23 Group 8. Anyone else?

24 MR. SMITH: I might -- Group 7 might want
25 some more time.

1 MS. MILLER: I'm sorry?

2 MR. SMITH: Group 7.

3 MS. MILLER: Group 7. Okay. So if it's
4 just --

5 MS. TOURANGEAU: Are we allocating
6 additional time for friendly cross too?

7 MS. MILLER: Well, we didn't specify that
8 so, yes.

9 MS. TOURANGEAU: Okay. Sorry.

10 MS. MILLER: Yup. That's fine. So just
11 three groups, so we're going to give everybody three
12 minutes, you know, a little leeway. So that will be
13 Group 4 will get an extra three minutes, Group 8 will
14 get an extra three minutes and Group 7 will get an
15 extra three minutes.

16 MR. MAHONEY: Can we take the one?

17 MS. MILLER: I'm sorry?

18 MR. MAHONEY: Can Group 6 take the one?

19 MS. MILLER: Did you want --

20 MR. MAHONEY: We'll just take one -- one
21 minute.

22 MS. MILLER: All right. Then it will be
23 three minutes exactly and one for Group 6. Let me
24 write this down. Okay. So that's what it's going to
25 be, so we'll start with --

1 MR. MANAHAN: Excuse me. Excuse me. If
2 we're doing that then we'd like to take just another
3 minute for Gil -- Mr. Paquette, I'm sorry.

4 MS. MILLER: Okay. So now you're trying to
5 be difficult. So now that we have five groups that
6 want extra time and so we do it equitably so
7 everybody is getting two minutes extra, okay. So
8 that Group -- let's see, Applicant requested two,
9 Group 8, Group 7, Group 6 and Group 4. And that's
10 final. So cross-examination starts now, we will
11 start with Group 7 who will have four-and-a-half
12 minutes.

13 MR. SMITH: Hi. Good evening. Ben Smith,
14 Group 7. Most of my questions are probably going to
15 consume the full amount of time but they are really
16 follow-up for Mr. Freye. Mr. Freye, earlier this
17 morning there were some questions with regard to
18 portions of a potential corridor between Harris
19 Station and Jackman and my questions are actually a
20 follow-up to your supplemental testimony in that I'm
21 asking I guess to what extent would the Jackman tie
22 line be feasible?

23 KENNETH FREYE: The Jackman tie line is a
24 100 foot wide corridor that has a 19-9 distribution
25 line down the middle of it. It's a radial line so

1 the line can't be removed. The Jackman tie line goes
2 through two conservation easements close to Harris
3 Dam and then it goes through the newly acquired cold
4 stream forest parcel, so there is three parcels there
5 that would be very problematic to get additional
6 width and the corridor actually ends at 201 and from
7 there to Jackman it's roadside line within the
8 highway limits.

9 MR. SMITH: So you hit on a couple of
10 different issues. I guess, first of all, the line
11 that's there currently is not a transmission line,
12 correct?

13 KENNETH FREYE: It's a distribution line.

14 MR. SMITH: Okay. And in order to
15 accommodate a line like the NECEC, what sort of
16 corridor width acquisition would be required?

17 KENNETH FREYE: Well, the NECEC line -- the
18 corridor for the NECEC is 150 feet wide, so you might
19 have a little overlap, but I think just from a
20 planning purpose you'd have to look at at least 150
21 feet.

22 MR. SMITH: So you'd be looking at roughly
23 the same amount of cleared vegetation anyway?

24 KENNETH FREYE: Yes.

25 MR. SMITH: And are there any other

1 complexities you would have other than I think you
2 talked about the corridor acquisition and all of that
3 for the portion north of Jackman if you were going to
4 be doing an underground portion there?

5 KENNETH FREYE: I'm sorry, I didn't catch
6 the first part of that.

7 MR. SMITH: I guess what I'm asking is with
8 regard to Jackman north, if that area was going to be
9 explored for potential underground, you would still
10 have the same exact problem that you have --

11 KENNETH FREYE: Oh, yes, the same -- it's
12 the same issue. The -- there is a distribution line
13 that runs for some distance along Route 201 north,
14 I'm not sure how far, but I think I'd have the same
15 constraint issues going north from Jackman that you
16 would between say The Forks and Jackman.

17 MR. SMITH: And you would also have the same
18 issues with regard to the location and the distance
19 from the actual source -- source of the actual
20 energy?

21 KENNETH FREYE: From?

22 MR. SMITH: Once you would get to -- once
23 you would get to the Canadian border from Jackman.

24 KENNETH FREYE: Okay. When you get -- yes,
25 when you get to the Canadian border you still have to

1 get over to the closest substation from say where
2 Route 201 crosses the border would still be the
3 Appalaches substation near Thetford mines and
4 Hydro-Quebec would have to do something to get across
5 there and that area is more developed than from say
6 Thetford mines down to Lac Megantic. Just from
7 looking at the aerials we can see there is -- there
8 is more roads, there is more fields and so on.

9 MR. SMITH: Okay. Thank you. No further
10 questions.

11 MS. MILLER: Thank you. So next we have
12 Group 2 and are you representing Group 1 as well?

13 MS. BOEPPLE: No.

14 MS. MILLER: Okay. So Group 2 and 10.

15 MS. BOEPPLE: Yes. And I'm going to cede
16 half of my time to Group 4.

17 MS. MILLER: Okay.

18 MS. BOEPPLE: And if I have any residual
19 when I finish my questions I'd give them either to 4 or
20 to...

21 MS. TOURANGEAU: 8.

22 MS. BOEPPLE: 8. Thank you.

23 MS. MILLER: So that leaves you with 10
24 minutes.

25 MS. BOEPPLE: Good afternoon or good

1 evening. Again, Elizabeth Boepple representing
2 Groups 2 and 10. Most of my questions are for you,
3 Mr. Dickinson.

4 THORN DICKINSON: Mmm Hmm.

5 MS. BOEPPLE: I'd like to have you walk us
6 through the numbers a little bit on this project,
7 please. So could you begin by telling us what the
8 dollar amount was that you estimated the project
9 would cost to construct when you submitted that and
10 ultimately was accepted under the Massachusetts RFP?

11 THORN DICKINSON: From a capital cost
12 perspective it was 950 million.

13 MS. BOEPPLE: Okay. So when you say from a
14 capital cost, what does that mean?

15 THORN DICKINSON: So what we're actually
16 bid -- if you were to look at the transmission
17 service agreement, which is public, what you'll see
18 in our bid is actually a dollar per KW line. So that
19 starts at \$10.78 -- \$10.78 per KW month. So every --
20 every month the electric distribution companies in
21 Massachusetts will pay the NECEC project for the
22 available power that we have on the system that
23 amount of money. The -- the buildup of that, which
24 you could convert into -- if you take the 10.78 times
25 1,200 or 1,090 you could convert that into a revenue

1 requirement so you can see how much revenue on an
2 annual basis is flowing. What I was saying is my
3 understanding of the way your question was what is
4 the capital cost that is used in order to develop
5 what that overall bid was.

6 MS. BOEPPLE: Right. Because your testimony
7 has been in the supplemental as well as rebuttal, I
8 believe, is that basically you're tapped out. You've
9 spent all you're going to spend, you have no more
10 money to spend, so the mitigation measures are
11 cost-prohibitive. At least that's what I'm getting
12 from your testimony and if that's not right, I'm
13 happy to hear you explain.

14 THORN DICKINSON: Well, I'm happy -- I mean,
15 if you have a specific reference, I'm happy to -- to
16 visit it.

17 MS. BOEPPLE: So your testimony --
18 throughout your testimony you've said that the
19 underground option in the 53 miles is
20 cost-prohibitive, what does that mean?

21 THORN DICKINSON: Well, again, our view and
22 this is in my testimony and I'll reference it in my
23 rebuttal. When we put together the project bid
24 you -- it's not just about cost. I heard that a
25 number of times earlier today. Cost is not the only

1 factor that we have. The evaluation team looking at
2 the project is going to make sure that it's not only
3 cost-effective but that you can build it, that you
4 can get the regulatory approvals associated with it,
5 so we had to develop a project that we not only
6 thought was competitive from a cost perspective, but
7 it was thoughtful in the way it was laid out so that
8 it avoided and mitigated in appropriate ways so that
9 we could be in front of the regulators to ask for
10 approval. So in a sense it's a balance of both cost
11 and environmental impacts and siting --

12 MS. BOEPPLE: Well, I'm going to interrupt
13 you because --

14 MR. MANAHAN: No, I would object to Ms.
15 Boepple interrupting the witness while he's answering
16 her question.

17 MS. BOEPPLE: Well, since it's not really
18 responsive to my question I'm going to interrupt and
19 see if I can redirect the question so I can solicit
20 the answer I'm trying to get.

21 MR. MANAHAN: I object to that. If he's
22 answering her question, for her to -- she may be
23 characterizing it as non-responsive but that's just
24 because she doesn't like the answer.

25 MS. MILLER: I already forgot what the

1 question was, so if you could ask the question again.

2 MS. BOEPPLE: Thank you. That's my point.

3 So my question was you have provided testimony that
4 said that certain project design changes like
5 undergrounding through the 53 miles are
6 cost-prohibitive, so my question was what does that
7 mean, cost-prohibitive? I don't really want to hear
8 what the environmental considerations are. I am
9 really looking at what the dollars are associated
10 with that when you say cost-prohibitive.

11 THORN DICKINSON: So I don't remember using
12 that specific word, so, I mean, if you -- if you want
13 to point it to me, I guess the -- the simple -- but
14 to answer your question directly, our project was
15 \$950 million, the capital costs associated with it.
16 And as both -- both of the Justins have testified
17 going underground for the 53.5 miles adds 650 million
18 capital costs associated with that. We -- we
19 provided a fixed price that we think fairly allows
20 for contingencies associated with the project
21 including all of the changes that we've talked about
22 associated with the project and other ideas that we
23 continue to have including most recently the
24 herbicide change are all still within a fixed price
25 perspective. What I -- what I'm saying is the \$645

1 million and not only because of the environmental
2 impacts associated with it, which are larger, but
3 also from a cost perspective we would not move
4 forward on a project that required us to -- to
5 underground that 53.5 miles.

6 MS. BOEPPLE: So you're not willing to spend
7 another 640 million, is that the answer?

8 THORN DICKINSON: The -- that we would not
9 be able to -- to invest another \$650 million in the
10 current arrangement that exists.

11 MS. BOEPPLE: Okay. Thank you. I cede the
12 rest of my time to Groups 4 and 8.

13 MS. MILLER: Where are we at with time?

14 MS. KIRKLAND: 4:26.

15 MS. MILLER: So they each get another...

16 MS. ELY: We'll give the remainder of Ms.
17 Boepple's time just now can go to NextEra.

18 MS. MILLER: To Group 8?

19 MS. ELY: Yes.

20 MS. MILLER: What was that, 4:20 you said?

21 MS. KIRKLAND: 4:26 seconds, yes, 4:26.

22 MS. MILLER: Yeah, we'll just do four
23 minutes. So we'll move on to Group 1 has 10 minutes.

24 MR. HAYNES: And that was ceded to Group 4.

25 MS. MILLER: All right. Group 3 has

1 two-and-a-half minutes.

2 MR. BOROWSKI: No questions.

3 MS. MILLER: Okay. Group 6 has 12 minutes.

4 MR. MAHONEY: I'll try to save you 11. So I
5 think this line of questions goes to Mr. Achorn.

6 NICK ACHORN: Achorn.

7 MR. MAHONEY: Achorn.

8 NICK ACHORN: Yup.

9 MR. MAHONEY: So the first question for you
10 is we've heard a lot about the height of the poles in
11 reference to the engineers, so that's why I'm asking
12 you. So if the average height of the poles is 94
13 feet which allows for enough of a distance between
14 the ground and the lowest point of the conductors it
15 sags, wouldn't it stand to -- and allows 10 to 11
16 feet of scrub/shrub as I understand it.

17 NICK ACHORN: Mmm Hmm.

18 MR. MAHONEY: Wouldn't it stand to reason
19 that you could get to allow 30 feet of growth
20 underneath there if you added 20 feet to the height
21 of the pole?

22 NICK ACHORN: So currently the way the
23 design is set up right now is that that conductor
24 should not have any less than 34 feet of clearance to
25 grade, so we should always be greater than 34 feet to

1 grade. That's the design that has been applied
2 throughout except for these specific areas that have
3 been mentioned today where we're allowing additional
4 vegetation of height.

5 MR. MAHONEY: And so that 34 feet allows 10
6 feet of scrub/shrub?

7 NICK ACHORN: Exactly.

8 MR. MAHONEY: So if I wanted to increase the
9 amount of growth underneath the line in a way that's
10 consistent with that, I would increase -- I would
11 need to have 54 feet of clearance and so I would just
12 need to increase the pole by 20 feet in height; is
13 that correct?

14 NICK ACHORN: All things being equal, it
15 would be an incremental height increase, but as we
16 know the terrain is going to be different --

17 MR. MAHONEY: Okay. Thank you.

18 NICK ACHORN: -- as you traverse it.

19 MR. MAHONEY: Is there a dividing line for
20 poles where concrete foundations are necessary as
21 opposed to direct embedding? What's the height?

22 NICK ACHORN: It depends on what you're
23 talking about --

24 MR. MAHONEY: Okay.

25 NICK ACHORN: -- because --

1 MR. MAHONEY: Well, I'm talking about this
2 project, so just as a general matter on this project,
3 I'm --

4 NICK ACHORN: Understood.

5 MR. MAHONEY: -- talking about --

6 NICK ACHORN: Yup.

7 MR. MAHONEY: -- if I say I want a pole
8 that's 120 feet, as a general matter --

9 NICK ACHORN: Yup.

10 MR. MAHONEY: -- in good practice am I going
11 to need a concrete base or I do direct embed?

12 NICK ACHORN: Is that 120 feet above grade
13 or is that 120 feet total length? Is part of that
14 being directly embedded?

15 MR. MAHONEY: It's not -- no. So when
16 you're talking about a pole that's 120 feet that
17 includes what's -- that doesn't include what's in the
18 ground, I'm talking from ground up --

19 NICK ACHORN: Okay.

20 MR. MAHONEY: -- correct?

21 NICK ACHORN: All right.

22 MR. MAHONEY: Okay.

23 NICK ACHORN: So we're on the same page.

24 MR. MAHONEY: So if I'm at 120 feet and I
25 need to direct embed, I understand that's probably

1 about 11-12 feet of direct embed; is that correct?

2 NICK ACHORN: So on average this project we
3 have about a thousand foot spans --

4 MR. MAHONEY: Yup.

5 NICK ACHORN: -- and we have dual conductor,
6 Falcon ACSR conductor, that's up there on the line,
7 so once you get about 120 feet above grade you are
8 crossing that threshold, but it's dependent on the
9 soil properties that you have at that given location.
10 It also depends going back to Gil's testimony earlier
11 today, are we talking about a tangent suspension
12 structure, which is going to be on the straight
13 alignment --

14 MR. MAHONEY: Yup.

15 NICK ACHORN: -- is it a running angle --

16 MR. MAHONEY: Yup.

17 NICK ACHORN: -- if it's in full height
18 vegetation, are we allowed to guide.

19 MR. MAHONEY: Okay.

20 NICK ACHORN: -- and --

21 MR. MANAHAN: I object to Mr. Mahoney
22 continually interrupting the witness while he's
23 providing his testimony to answer the question.
24 Mr. Mahoney keeps injecting -- and this is like the
25 fifth time he's done it so far, so I object and I

1 would ask that he let the witness answer the question
2 fully.

3 MS. MILLER: And if we could just try to
4 allow the witness --

5 MR. MAHONEY: Sure. Sure. To make is
6 easier, let me just ask yes or no questions.

7 MR. MANAHAN: I would object to that to the
8 extent that he's requiring the witness to answer yes
9 or no questions. The witness is entitled to answer
10 the question fully.

11 MS. MILLER: Yeah, I'm going to say then
12 if -- if -- to please let's have the witness answer
13 concisely and that way there will be no need for
14 interruption. Thank you.

15 MR. MAHONEY: Thank you.

16 NICK ACHORN: So if we could rephrase the
17 question to a tangent suspension structure, which is
18 the most predominant structure type on this project
19 then I would say that if the above ground height of
20 that tangent suspension structure exceeds roughly 120
21 feet, it could be up to 130 feet, at that point we
22 could be looking at having to not just direct embed
23 the structure, concrete might be involved at that
24 point.

25 MR. MAHONEY: Thank you.

1 NICK ACHORN: Yup.

2 MR. MAHONEY: Mr. Goodwin testified earlier
3 that the incremental cost for either additional
4 structures or replacing a typical structure with a
5 taller structure would be between 115,000 and
6 243,000, are those numbers that you provided?

7 NICK ACHORN: Those are numbers that we
8 worked with overhead t-line construction contractors
9 to get accurate pricing back from as well as pricing
10 back from steel pole vendors as well, so those prices
11 based on real market values.

12 MR. MAHONEY: And do those -- what do those
13 costs include beyond --

14 NICK ACHORN: Sure.

15 MR. MAHONEY: -- the -- well, what do those
16 costs include?

17 NICK ACHORN: So for a direct embed tangent
18 suspension type structure --

19 MR. MAHONEY: Yes.

20 NICK ACHORN: -- that cost will include the
21 cost to excavate for the direct embed structure, the
22 erection of that structure, the backfill, the steel
23 pole costs, the framing hardware, the framing costs,
24 that's the baseline. That's the minimum price that
25 we were, you know, your typical tangent suspension.

1 The delta that you heard earlier today, the 200 plus
2 thousand, what we're talking about then is making
3 that jump from a typical tangent suspension to a full
4 height vegetation area where we're assuming that's
5 going to get up to around 150 feet, if not taller, so
6 that additional cost is now accounting for the
7 concrete caisson foundation. You're going away from
8 a standard steel pole type structure, now you're
9 talking about a custom steel pole. You have the
10 additional cost of an anchor bolt cage, so all of
11 that gets lumped in into that cost.

12 MR. MAHONEY: Okay. And it would include --
13 would it also include the concrete --

14 NICK ACHORN: Correct.

15 MR. MAHONEY: -- for the -- for the pour
16 and --

17 NICK ACHORN: Correct.

18 MR. MAHONEY: Okay. So if -- and you stayed
19 with -- if you replaced a 94 foot tangent pole --

20 NICK ACHORN: Mmm Hmm.

21 MR. MAHONEY: -- that was going to be direct
22 embed with a 120 foot tangent -- same tangent pole?

23 NICK ACHORN: Tangent suspension, yeah.

24 MR. MAHONEY: -- tangent suspension pole
25 that's going to be direct embedded, what's the cost

1 differential there?

2 NICK ACHORN: So the cost differential, I
3 don't have the number in front of me, but it would be
4 very minor in comparison to the need to switch to a
5 concrete caisson foundation because the delta that
6 you're talking at that point is the incremental cost
7 for the steel pole structure assuming it doesn't
8 become a custom type steel pole and it's a standard
9 readily available steel pole the additional cost for
10 the excavation to go deeper.

11 MR. MAHONEY: Okay. So -- and so would that
12 cost be less than 115,000?

13 NICK ACHORN: To go from a 94 to 120?

14 MR. MAHONEY: Correct.

15 NICK ACHORN: Assuming there is no concrete
16 caisson foundation correct.

17 MR. MAHONEY: Okay.

18 NICK ACHORN: Yup.

19 MR. MAHONEY: So that 115,000 was
20 essentially for an additional 94 foot pole that would
21 be direct embed, that's kind of the lowest range that
22 you were talking about there and -- and --

23 NICK ACHORN: So to clarify, that range,
24 that 115 up to 240 --

25 MR. MAHONEY: Yeah.

1 NICK ACHORN: -- the maximum of that delta
2 assumes that you're going from 100 foot direct embed
3 tangent suspension up to 150 foot on a
4 self-supporting caisson foundation. That smaller end
5 range is if you stay with the same height but instead
6 of direct embed now you're a caisson foundation. Why
7 would we do that? We would do that if the spans had
8 to get longer and we were crossing a ravine and you
9 don't necessarily need additional height because the
10 topography is working for you. So that's -- that's
11 the delta.

12 MR. MAHONEY: Okay. But just to confirm, if
13 I'm replacing a 90 foot pole tangent with 120 foot
14 pole that both are going to be direct embedded, the
15 differential is going to be less than 115 and it's
16 really the -- the differential stems from just the
17 additional height of the pole?

18 NICK ACHORN: Assuming -- correct. Assuming
19 we're staying with the same structure type, yes.

20 MR. MAHONEY: Good. Thank you.

21 NICK ACHORN: You're welcome.

22 MR. MAHONEY: I'm not sure who -- I think
23 this might still be you, Mr. Achorn, the impacts
24 associated with a caisson foundation such as is going
25 to be used where there is already agreement to put in

1 taller structures across certain brook trout streams,
2 are those impacts set forth in the -- anywhere in the
3 application that you're aware of?

4 NICK ACHORN: Honestly, I'd have to defer
5 that question back to the permitting team that just
6 went as far as whether or not caisson foundations
7 were specifically called out.

8 MR. MAHONEY: Okay. There are a couple of
9 questions that were deferred to the engineering
10 panel, so I'll follow-up on those.

11 NICK ACHORN: Sure.

12 MR. MAHONEY: In full height vegetation
13 areas, are the -- are the full height trees retained
14 during the actual construction of the -- of the line?

15 NICK ACHORN: I think this question should
16 be directed to, I guess, the maintenance -- the
17 maintenance that would be associated with the full
18 height vegetation area.

19 MR. MAHONEY: I'm actually talking about the
20 construction itself, so the setting of the poles and
21 the threading of the wire, would there be a need to
22 cut the full height canopy that exists, is it
23 necessary to do that?

24 NICK ACHORN: Well, my -- I guess my
25 understanding, and feel free to jump in, Ken, but

1 there is going to need to be a 20 foot swath cut
2 within the corridor such that we could access those
3 structure locations.

4 MR. MAHONEY: Okay.

5 NICK ACHORN: So that certainly would need
6 to get removed --

7 MR. MAHONEY: Yeah.

8 NICK ACHORN: -- and then we also have work
9 pad areas around those structure locations --

10 MR. MAHONEY: Okay.

11 NICK ACHORN: -- so -- so that's the work
12 that would need to be done that would impact those --
13 those trees.

14 MR. MAHONEY: Okay. Thank you.

15 NICK ACHORN: You're welcome.

16 MR. MAHONEY: How am I doing on time?

17 MS. KIRKLAND: 1 minute 26 seconds.

18 MR. MAHONEY: Mr. Freye, good evening. What
19 is the general market price for land in fee in this
20 area per -- per acre?

21 KENNETH FREYE: That's going to vary
22 somewhat on several factors; how big is the tract
23 that you're buying; what's the quality of the timber
24 on it because it's primarily timberland and where is
25 it located. We know that there have been some recent

1 acquisitions, the Cold Stream Forest was 8,000 acres
2 and it was about \$1,000 an acre. I think that's a
3 fairly good baseline. Smaller parcels might go for
4 more per acre. If you were buying, you know, a large
5 tract in a township that was heavily cut over, I
6 would expect it would be somewhat lower than that,
7 but I think for planning purposes that's not a bad --
8 bad number.

9 MR. MAHONEY: Okay. And I understand you
10 had -- you or somebody in your group had
11 conversations with Plumb Creek, have you or anybody
12 on the team had conversations with Weyerhaeuser, the
13 current owner of much of the land in the area?

14 KENNETH FREYE: We continue to talk to the
15 folks at Weyerhaeuser about various land issues and
16 we expect that we're going to continue to -- to have
17 a relationship with them because we're using roads
18 that -- we have easement rights on the roads, but
19 we're very consonant of their needs and want to make
20 sure that our construction doesn't conflict with
21 their business.

22 MR. MAHONEY: Thank you. My time is up.

23 MS. MILLER: Thank you. So next we have
24 Group 8 with 16 minutes.

25 MS. TOURANGEAU: Good evening. I'm Joanna

1 Tournageau for Group 8 also known as NextEra. I'm
2 going to wrestle with the microphone and hopefully
3 not break it. Mr. Paquette, starting off with you,
4 on Page 3 of your testimony, the last full sentence
5 at the bottom of the page you state that it is only
6 through thorough research and understanding of the
7 site-specific implications of installing HVDC cable
8 underground on the entire route that the logistical
9 complications and the environmental impacts can be
10 fully understood; is that correct?

11 GIL PAQUETTE: Yes.

12 MS. TOURANGEAU: So to paraphrase, is that
13 saying that it would -- to be reasonable or accurate
14 cost estimates for undergrounding should include
15 site-specific information?

16 GIL PAQUETTE: Yes.

17 MS. TOURANGEAU: Would that be information
18 such as what type of soil is present?

19 GIL PAQUETTE: That's correct.

20 MS. TOURANGEAU: The competency and depth to
21 bedrock?

22 GIL PAQUETTE: Yes.

23 MS. TOURANGEAU: Perhaps weight restrictions
24 on the local roads?

25 GIL PAQUETTE: Yes.

1 MS. TOURANGEAU: Whether or not thermal sand
2 is required?

3 GIL PAQUETTE: Yes.

4 MS. TOURANGEAU: Was it also your testimony
5 that trenched undergrounding is associated with
6 significant environmental impacts to wetlands and
7 streams and other --

8 GIL PAQUETTE: Yes.

9 MS. TOURANGEAU: -- environmental resources?
10 Do other methods of undergrounding require those same
11 impacts? Methods such as directional drilling and
12 microtunneling.

13 GIL PAQUETTE: Well, a directional drill
14 wouldn't have the same type of impacts because
15 instead of digging a trench you would be going under
16 that particular resource.

17 MS. TOURANGEAU: Same thing for
18 microtunneling?

19 GIL PAQUETTE: Yes.

20 MS. TOURANGEAU: Same thing for pipe
21 jacking?

22 GIL PAQUETTE: Yes.

23 MS. TOURANGEAU: Thank you. Mr. Bardwell,
24 cost estimates for undergrounding were at the
25 conceptual level; is that correct?

1 JUSTIN BARDWELL: Yes, that's correct.

2 MS. TOURANGEAU: And that means that they
3 were accurate to 25 to 50 percent?

4 JUSTIN BARDWELL: That's correct.

5 MS. TOURANGEAU: And putting that in kind of
6 laymen's terms because if I understood that I'd be
7 either over there or over there. If we're talking
8 about a million dollars that means it could be
9 \$750,000 or 1.5 million?

10 JUSTIN BARDWELL: That would be correct.

11 MS. TOURANGEAU: Okay. And then you add a
12 contingency for those conceptual level numbers of 30
13 to 50 percent?

14 JUSTIN BARDWELL: The contingency depends on
15 the risk that's been evaluated.

16 MS. TOURANGEAU: What contingency did you
17 use for the estimates that are in your testimony?

18 JUSTIN BARDWELL: There is a different
19 contingency for most of the estimates.

20 MS. TOURANGEAU: A different percentage was
21 used for each of those estimates?

22 JUSTIN BARDWELL: Yes, based on the
23 preliminary evaluation of the risks.

24 MS. TOURANGEAU: Could you tell me which
25 percentage you used for each of those?

1 JUSTIN BARDWELL: The shorter ones were
2 somewhere between I believe 25 and 35 percent and the
3 longer ones were I believe 15.5.

4 MS. TOURANGEAU: And by longer do you mean
5 the ones that -- for shorter do you mean --

6 JUSTIN BARDWELL: Sorry, I'd like to correct
7 that. The longer ones were 14.46 percent and the,
8 let's see, AT crossing was 30 percent, Beattie Pond
9 was 20 percent and it looks like Gold Brook was 30
10 percent.

11 MS. TOURANGEAU: So which one was 14.46?

12 JUSTIN BARDWELL: Those were the two longer
13 where we evaluated the very long --

14 MS. TOURANGEAU: Oh, it's the full length.

15 JUSTIN BARDWELL: -- segments, yes.

16 MS. TOURANGEAU: Gotcha. Yup. Like the
17 route that went along Route 201 for the full 53
18 miles?

19 JUSTIN BARDWELL: Correct.

20 MS. TOURANGEAU: Gotcha. What level
21 estimate was used for the bid to the -- into the Mass
22 83-D RFP?

23 JUSTIN BARDWELL: I'm afraid I can't answer
24 that.

25 MS. TOURANGEAU: So you probably can't

1 answer what percent of accuracy or contingency was
2 used on that bid either?

3 JUSTIN BARDWELL: I was not involved in that
4 proposal, so I don't know any of the data.

5 MS. TOURANGEAU: Does anyone on the panel?

6 JUSTIN TRIBBET: Yes, I can answer that.

7 MS. TOURANGEAU: Thank you.

8 JUSTIN TRIBBET: So I guess in regards to
9 the level of accuracy, I, again, I think you could
10 argue that it was somewhere beyond a conceptual
11 estimate, perhaps a Class B estimate. I don't have
12 the target accuracy off the top of my head. I think
13 the thing to keep in mind here is it's a fixed bid
14 project, so the level of accuracy is somewhat
15 irrelevant. The contingency actually was set very
16 similar, let's say, in the same range as what
17 Mr. Bardwell used for his full length estimates of
18 around 15 percent.

19 MS. TOURANGEAU: So you were using a Class B
20 level estimate with a 15 percent contingency?

21 THORN DICKINSON: Yeah. And just to be
22 clear, the exact amount of the contingency is a
23 confidential part of our bid.

24 MS. TOURANGEAU: Okay. So, but 15 is
25 ballpark and that's close enough. The amendment for

1 undergrounding under the Kennebec included high
2 intensity soil surveys, did anyone here work on that?
3 The amendment to the application for the alternatives
4 analysis that's before the Department considering the
5 undergrounding option going --

6 JUSTIN BARDWELL: I'm familiar with the
7 study that was done for the Kennebec River --

8 MS. TOURANGEAU: Yes.

9 JUSTIN BARDWELL: -- I would not consider it
10 high intensity for undergrounding.

11 MS. TOURANGEAU: I'm sorry?

12 JUSTIN BARDWELL: I'm familiar with what was
13 done for the Kennebec River.

14 MS. TOURANGEAU: Uh-huh. And did -- are you
15 familiar with the high intensity soil survey that was
16 done for that amendment?

17 JUSTIN BARDWELL: I would not characterize
18 it that way.

19 MS. MILLER: Can you speak a little closer,
20 I'm sorry, we're having trouble hearing you.

21 JUSTIN BARDWELL: I would not characterize
22 that study as high intensity. I would consider that
23 a minimum necessary within the project risks.

24 MS. TOURANGEAU: But there was a soil survey
25 that was done by -- Section 11 of the SLODA

1 application says a Class B high intensity soil survey
2 was conducted by Robert Vile Soil Consulting within a
3 plus or minus five acres at both the proposed Moxie
4 Gore and West Forks termination station on October 12
5 and 13, 2018. That's in Exhibit 11.1 of the SLODA
6 application.

7 JUSTIN BARDWELL: Okay. That is not the
8 Kennebec River crossing, so I don't know exactly what
9 you're referring to there.

10 MS. TOURANGEAU: Okay. What am I referring
11 to? I -- this was submitted as part of the amendment
12 for the Kennebec River horizontal drilling.

13 JUSTIN BARDWELL: So that was related to the
14 termination stations not the underground line, so I
15 was not involved in that.

16 MS. TOURANGEAU: Okay. Would you agree that
17 soil survey information and information about
18 competency of bedrock would be relevant to estimating
19 the cost associated with the -- with an
20 undergrounding project?

21 JUSTIN BARDWELL: That would be required to
22 get to a detailed estimate that you want for project
23 approval.

24 MS. TOURANGEAU: Mmm Hmm. And is that the
25 kind of information that you would have for a

1 application amendment?

2 JUSTIN BARDWELL: I don't know.

3 MS. TOURANGEAU: Okay. Thank you. Are
4 you -- is anyone on the panel aware of whether soils
5 information or types of bedrock or other
6 site-specific information were gathered with regard
7 to any of the specific undergrounding locations that
8 are being considered by the Department?

9 NICK ACHORN: So there -- there is soil data
10 subsurface investigation that was either historically
11 available based on previous projects where that's
12 already been attained or parts of this project where
13 those areas are readily accessible, so depth to
14 bedrock, that type of information was privy and was,
15 I believe, that was shared --

16 JUSTIN BARDWELL: Yes --

17 NICK ACHORN: -- with the undergrounding --

18 JUSTIN BARDWELL: -- the estimates did
19 account for the bedrock that was identified in the
20 existing borings.

21 MS. TOURANGEAU: For the crossing of the
22 Kennebec or for the estimates that were prepared for
23 the other locations?

24 JUSTIN BARDWELL: Particularly to the AT
25 crossing, the Gold Brook crossing and the Beattie

1 Pond approach.

2 MS. TOURANGEAU: Do you have that data for
3 the P-RR subdistrict? Did you have that data for any
4 of the nine TNC locations that were considered as
5 part of this additional day?

6 JUSTIN BARDWELL: I did not provide
7 estimates specific to those areas.

8 MS. TOURANGEAU: Does anyone on the panel
9 have that data for those locations?

10 NICK ACHORN: Data specific to the borings
11 --

12 MS. TOURANGEAU: The nine TNC locations and
13 the relative cost of undergrounding compared to other
14 alternatives.

15 NICK ACHORN: No, I can't answer that
16 question.

17 MS. TOURANGEAU: No one? Okay. Thank you.
18 Mr. Bardwell, you testified that there were increased
19 environmental impacts associated with undergrounding
20 and would you agree that the vast majority of the
21 impacts that you listed are temporary construction
22 impacts?

23 JUSTIN BARDWELL: Yes.

24 MS. TOURANGEAU: Thank you. Mr. Dickinson,
25 when we last met you testified that the Kennebec

1 crossing exhausted the contingency for the project,
2 correct?

3 THORN DICKINSON: If -- if you're going to
4 quote me I'd like to see the answer.

5 MS. TOURANGEAU: I don't have the
6 transcript, but my recollection is that it's the --
7 there was no contingency left in the project.

8 THORN DICKINSON: I -- I don't -- I don't
9 believe that that was my testimony.

10 MS. TOURANGEAU: Okay. The cost of
11 undergrounding for the Kennebec River crossing was 31
12 million?

13 JUSTIN TRIBBET: The incremental cost of the
14 undergrounding was 31 million.

15 MS. TOURANGEAU: Mmm Hmm. And then there
16 was another 11 million for other incremental costs?

17 JUSTIN TRIBBET: That's correct, relative to
18 the overhead improvements.

19 MS. TOURANGEAU: Bringing it to 42
20 million?

21 JUSTIN TRIBBET: Specific to this proceeding
22 with DEP, that's correct.

23 MS. TOURANGEAU: Mmm Hmm. So if you were to
24 round for ease of my math purposes, the capital cost
25 of this project to a billion dollars, what percent of

1 the project cost would -- of the capital cost would
2 that be? My math is roughly 4 percent.

3 THORN DICKINSON: I'll -- I'll take your
4 number.

5 MS. TOURANGEAU: Okay. Thank you. And for
6 the P-RR subdistricts, the incremental cost increases
7 range from 13, 28 and 30 million or an additional 1,
8 3 and 3 percent of capital costs for the project?

9 THORN DICKINSON: Yeah, that sounds about
10 right.

11 MS. TOURANGEAU: Thank you. Mr. Freye, you
12 testified earlier that access around Spencer Road was
13 undesirable according to the then owner; is that
14 correct.

15 KENNETH FREYE: That's correct.

16 MS. TOURANGEAU: Was that confirmed by the
17 current owner?

18 KENNETH FREYE: It's a different owner --

19 MS. TOURANGEAU: Mmm Hmm.

20 KENNETH FREYE: -- so, you know, we did --
21 we did speak to them, but not everyone that we --
22 we're dealing with the prior owner is there and they
23 generally agreed with that -- with the statements
24 that I made, but it's a different owner, they have
25 different people in some of the same positions that

1 we were dealing with.

2 MS. TOURANGEAU: Mmm Hmm. And you also
3 testified that there was an easement with the
4 National Park Service for the Appalachian Trail
5 crossing at Troutdale Road?

6 KENNETH FREYE: That's correct.

7 MS. TOURANGEAU: Does CMP own and control
8 the fee in that location, the fee interest in the
9 land?

10 KENNETH FREYE: The document is an
11 interesting document. Technically or legally I think
12 CMP has the fee interest, but the wording of the
13 document says that the National Park Service has an
14 easement and they have all of the rights except the
15 rights that are specifically reserved to Central
16 Maine Power Company, which is the right to clear the
17 full 300 foot width of the corridor, construct and
18 maintain the existing line and additional lines and
19 all other rights go to the park service.

20 MS. TOURANGEAU: Thank you. How much time
21 do I have left?

22 MS. KIRKLAND: 3:30.

23 MS. TOURANGEAU: I cede the balance of my
24 time back to Group 4.

25 MS. MILLER: That leaves the next group,

1 which is Group 4 with 35 minutes.

2 MS. ELY: Good evening. Sue Ely
3 representing Group 4, Natural Resources Council of
4 Maine, Appalachian Mountain Club and Trout Unlimited.
5 Mr. Paquette, I'm going to start with you. You are a
6 witness for Group 3; is that correct?

7 GIL PAQUETTE: That's correct.

8 MS. ELY: Have you ever done any work for
9 Central Maine Power?

10 GIL PAQUETTE: I have in the past, yes.

11 MS. ELY: Approximately when was that work
12 done?

13 GIL PAQUETTE: 2001, I think was the last
14 time.

15 MS. ELY: Okay. Do you have any current
16 work with CMP, Avangrid or Iberdrola?

17 GIL PAQUETTE: My company does.

18 MS. ELY: Your company does?

19 GIL PAQUETTE: Right.

20 MS. ELY: But not you particularly?

21 GIL PAQUETTE: I'm -- I'm not working on
22 those projects.

23 MS. ELY: Okay. Is there a -- is there any
24 chance that you'll work on those projects?

25 GIL PAQUETTE: Yeah, I guess there is always

1 a chance that I could, yes.

2 MS. ELY: Okay. When -- when planning a
3 route to go underground, is it typical to choose a
4 route or several routing options for above-ground
5 transmission and to evaluate their potential for
6 undergrounding?

7 GIL PAQUETTE: With the project that I
8 worked on, the terrestrial project, we did that
9 during the feasibility study, we examined overhead
10 options and underground options.

11 MS. ELY: Would it -- would it ever make
12 sense to look at potential undergrounding options
13 aside from the one above-ground options; in other
14 words, an entirely different route?

15 GIL PAQUETTE: Yes, we did that as well.

16 MS. ELY: Your testimony talks about soil
17 types. Have you done analysis of soil type along the
18 proposed route?

19 GIL PAQUETTE: Along this route?

20 MS. ELY: CMP's proposed route?

21 GIL PAQUETTE: Oh, no. No, I'm...

22 MS. ELY: Did you do a soil analysis for the
23 Spencer Road or Route 201?

24 GIL PAQUETTE: I'm not working on that
25 project, so.

1 MS. ELY: Are you aware of any soil studies
2 done by Central Maine Power for this project?

3 GIL PAQUETTE: I am actually not aware very
4 much about this project --

5 MS. ELY: Okay.

6 GIL PAQUETTE: -- except for what I've read
7 in the testimony.

8 MS. ELY: So does that mean that you don't
9 know whether or not there are any analysis of -- of
10 ledges? You -- you had a -- Section 4 of your
11 testimony talks about how you would need to know what
12 the ledge make-up was for along the route.

13 GIL PAQUETTE: Yeah, for -- for planning a
14 project that's one of the things you'd want to
15 consider is the amount of ledge and that's for any
16 underground project, so.

17 MS. ELY: Okay. So to the best of your
18 knowledge has CMP done that analysis for the proposed
19 route?

20 GIL PAQUETTE: I'm not sure, but I would add
21 that on the projects that I've worked on during
22 construction, those -- those types of analysis aren't
23 typically done. What's -- you know, where you're
24 doing geotech borings to determine where the ledge is
25 located, basically you look at USGS mapping, collect

1 other information to make an estimate for what that
2 ledge might be and then you include that in your cost
3 analysis for the project and then when you bid the
4 project out the contractor has to make a decision as
5 to how much ledge they think will be involved in that
6 project.

7 MS. ELY: Okay. You also testified -- your
8 testimony included information about cable
9 mobilization and is it fair to characterize that it's
10 difficult to mobilize cable in remote regions?

11 GIL PAQUETTE: I think it would be very
12 difficult, yes.

13 MS. ELY: Okay. Is it easier to mobilize
14 cable within a disturbed corridor or where there is a
15 road system?

16 GIL PAQUETTE: The project that I worked on
17 was along a road system and it was -- I won't say
18 it's equally as difficult, but it was very difficult
19 and one of the reasons why that project didn't move
20 forward.

21 MS. ELY: Okay. You talked about replacing
22 sections of damaged cable, are you aware that Central
23 Maine Power has proposed to bury a spare line along
24 the route?

25 GIL PAQUETTE: They would bury a spare if it

1 was an underground project?

2 MS. ELY: Yes.

3 GIL PAQUETTE: Yes.

4 MS. ELY: Okay. Mr. Freye, I'm going to
5 start with your rebuttal and then move on to your
6 additional testimony. Hopefully, we'll get this in
7 the right order here. You had responded to issues
8 regarding the Tomhegan Stream crossing, do you recall
9 that in your rebuttal testimony?

10 KENNETH FREYE: The Tomhegan Stream, yes.

11 MS. ELY: Okay. You testified that there
12 was a lot of need to negotiate -- not -- negotiate
13 with the environment on where to place the stream --
14 place the crossing of the stream, you moved it
15 several times to get the location right, is that a
16 fair description?

17 KENNETH FREYE: Yes, the corridor location
18 was -- had one major move and one minor move.

19 MS. ELY: Okay. So would it be accurate to
20 say that the area around Tomhegan Stream contained a
21 number of sensitive habitats?

22 KENNETH FREYE: I don't know that it's any
23 more sensitive than any other stream. It's a
24 relatively small stream. The project crosses several
25 of these and I don't know that Tomhegan is any more

1 sensitive than some of the other streams.

2 MS. ELY: But it is sensitive; is that
3 correct?

4 KENNETH FREYE: Well, I don't know that it's
5 any more sensitive than any of the other streams?

6 MS. ELY: Okay. Would you have chosen to
7 cross a location with a number of braided channels if
8 there was a location available with a single
9 streaming channel?

10 KENNETH FREYE: I don't think that the
11 crossing of the braided channels creates any
12 additional difficulty. The main channel is 10 to 15
13 feet wide maybe. The other channels are maybe the
14 sort of the width of the this table. There is
15 existing low vegetation there now if it's cleared. I
16 think if you imagine you have several of these
17 channels and you have vegetation as high as the
18 ceiling here, it's going to get full shade, you're
19 going to have leaf drop in it. So I think it's like
20 most of the other very small streams that the project
21 crosses that it doesn't propose any special problems.

22 MS. ELY: So you don't think -- you don't
23 think that the crossing of the Tomhegan Stream
24 creates any problems?

25 KENNETH FREYE: Like I said, I don't think

1 it poses any more problems than the number of other
2 small streams that are crossed by the project.

3 MS. ELY: There has been a number of
4 questions around the Jackson -- Jackson tie line --
5 Jackman tie line. It's -- so Central Maine Power
6 then owns the 100 foot corridor?

7 KENNETH FREYE: The ownership varies. Some
8 of it is easement. I think the -- probably most of
9 it is fee. It crosses the public lot that's the
10 public -- there is actually a public lot in West
11 Forks Plantation and one in Johnson Mountain. It's
12 right on the town line and I believe that is -- it's
13 either an easement or perpetual actual agreement with
14 the state on that.

15 MS. ELY: Okay. Moving on to your
16 additional -- the additional testimony, you testified
17 that based on a very high level review not comparable
18 to thorough study that was conducted to select the
19 proposed route, what do you mean by a very high level
20 of review?

21 KENNETH FREYE: That is of the -- along 201?

22 MS. ELY: Mmm Hmm.

23 KENNETH FREYE: Okay. Looking at the LUPC
24 tax maps to get an idea of the property ownership and
25 kind of looking at Google Earth to see aerial imagery

1 and also my knowledge of the area. I think those are
2 probably the three -- three things that I took into
3 consideration?

4 MS. ELY: Okay. And so in your opinion then
5 that is significantly less than the three years that
6 was taken to site the current proposed route; is that
7 correct?

8 KENNETH FREYE: Yeah, obviously I spent less
9 than three years on assessment.

10 MS. ELY: All right. And so when were you
11 asked to look at the Route 201 option?

12 KENNETH FREYE: Could you repeat the
13 question, please?

14 MS. ELY: When -- when were you asked to
15 look at this 201 option for this line?

16 KENNETH FREYE: I think that's when the
17 question came up, I'm not sure when, but relatively
18 recently?

19 MS. ELY: Okay. But not prior to the start
20 of this proceeding?

21 KENNETH FREYE: No. An underground option
22 was not part of the scope of the work for Dirigo
23 partners to site this line.

24 MS. ELY: Okay. In your testimony you --
25 you mentioned a 75 foot wide corridor for burying the

1 line, do you know where the 75 feet comes from?

2 KENNETH FREYE: I think that came from
3 testimony from Mr. Bardwell.

4 MS. ELY: Okay. I'll ask Mr. Bardwell. I
5 have a series of questions about that I'll ask it
6 later on in my questions, I just wanted to know if
7 that -- if it came from you or Mr. Bardwell, so
8 that's helpful. Thank you. You mentioned that
9 additional grading might be necessary to co-locate
10 the line along Route 201; is that correct?

11 KENNETH FREYE: Yes.

12 MS. ELY: Okay. Is that -- is that part of
13 the rationale that this is not a viable option for
14 CMP?

15 KENNETH FREYE: Yeah. There are a number of
16 places along Route 201 where the land either drops
17 off steeply on one side or it rises steeply on the
18 other. If you're going to dig a trench that's 12
19 feet wide at the top, 6 feet wide at the bottom and 6
20 feet deep, you have to have a relatively flat surface
21 on which to do that and the only way you could get
22 that is to, if possible, do additional side slope
23 grading on that.

24 MS. ELY: So would grading also be necessary
25 then along CMP's preferred route through the

1 greenfield?

2 KENNETH FREYE: This would be for an
3 underground?

4 MS. ELY: Right.

5 KENNETH FREYE: We've made no evaluation of
6 the preferred route for an underground. There are
7 places that have side slope, so I think that would be
8 a consideration. There is also a number of places
9 that have wetlands that are spanned over by the
10 overhead line, but those would have to be taken into
11 consideration for an underground.

12 MS. ELY: Thank you. And there has been
13 questions about that you approached the prior owner
14 of Plum Creek, but that is it my understanding that
15 you have not approached Weyerhaeuser about acquiring
16 a route along the Spencer Road or 201?

17 KENNETH FREYE: That's correct.

18 MS. ELY: Okay. In your conclusion of your
19 testimony you write that overhead transmission lines
20 adjacent -- overhead transmission lines, and then
21 just paraphrasing, adjacent to a road are not ideal
22 because of the linear nature of the road. Is that
23 conclusion also the same for undergrounding or it
24 seemed like your testimony looked at --

25 KENNETH FREYE: I am sorry. I didn't catch

1 part of your question. Could you repeat it?

2 MS. ELY: Your testimony you close -- you
3 spend a lot of time undergrounding routes and why it
4 wouldn't be reasonable and then your -- but your
5 conclusion talks about an overhead transmission line
6 and I'm just trying to square the two. From the --
7 you say from the perspective of the person
8 responsible for siting the NECEC corridor, siting an
9 overhead transmission line adjacent to a road is
10 generally a poor idea unless the road is straight and
11 the surrounding country is flat and dry. I don't
12 believe that running the corridor along --
13 above-ground along 201 and the Spencer Road was an
14 alternative that any other people looked at in this
15 panel, so I'm wondering, did you -- did you mean
16 underground or were you talking about an overhead
17 line?

18 KENNETH FREYE: I think the -- the point
19 that I was trying to make is that putting any
20 transmission line either overhead or underground
21 along a road is not necessarily a good idea unless
22 you're in some place where the roads are very
23 straight and the land is very flat on either side.
24 The roads tend to be a series of curves and
25 transmission lines -- overhead lines tend to be --

1 they are a series of straight tangents and when you
2 try to match the two together you end up with angle
3 points that are in wetlands, your pole locations end
4 up in low spots instead of high spots, so it's one of
5 these ideas that people think, oh, this is great,
6 we've got a road, we'll run the overhead transmission
7 line next to it and it's really not good idea from a
8 siting standpoint.

9 MS. ELY: So it is your testimony then that
10 it's always better to run through an undisturbed or
11 greenfield area?

12 KENNETH FREYE: I'm sorry, I'm having a real
13 hard time because your voice is soft --

14 MS. ELY: Sorry. I'm a soft talker.

15 KENNETH FREYE: -- and I have a hard time
16 with soft voices.

17 MS. ELY: Is it then your testimony that
18 it's always better to site a transmission line in
19 undeveloped or greenfield areas?

20 KENNETH FREYE: Certainly from a social
21 impact standpoint it's better to site a transmission
22 line where there is less social impacts, so given the
23 choice between going through say a subdivision and
24 undeveloped area, yeah, it's better to go into the --
25 the undeveloped area. You know, there is

1 subdivisions -- or the transmission lines that get
2 sited through developed areas, but from an impact
3 study or impact standpoint the undeveloped area would
4 be a preferable location.

5 MS. ELY: So, I'm sorry, so we --
6 subdivision is a new concept that you've just added.
7 I think we were discussing the difference between
8 greenfield or an undeveloped area or a road, so not a
9 subdivision, a linear road structure?

10 KENNETH FREYE: Well, like I said, the --
11 particularly in this part of the world where we're
12 looking here where you have a lot of terrain changes,
13 your roads are not straight particularly on private
14 roads, which the owners tend to move frequently or
15 with some regularity and a good example is the
16 Capital Road. You saw the imagery of that where the
17 owner decided to rebuild a bridge and they moved it
18 over by several hundred feet. We know of other
19 forest management owners that have acquired land and
20 completely rebuilt the road system. So putting a
21 piece of infrastructure particularly next to a
22 logging road has a certain amount of risk associated
23 with it.

24 MS. ELY: Thank you. I'm going to switch
25 gears here. Mr. Dickinson, I just wanted to confirm

1 that you didn't ask a different consulting firm to do
2 any type of underground analysis for undergrounding
3 the entire route prior to these questions?

4 THORN DICKINSON: Prior to which
5 questions?

6 MS. ELY: Prior to this proceeding, the
7 questions in this proceeding.

8 THORN DICKINSON: No.

9 MS. ELY: Thank you. Mr. Dickinson, on Page
10 5 of your, I guess it was your rebuttal testimony,
11 you emphasize that the Massachusetts electric
12 distribution companies emphasize the cost containment
13 piece; is that correct?

14 THORN DICKINSON: Yeah, that's correct.

15 MS. ELY: Okay. And I -- I would like to
16 ask but for that emphasis on cost containment would
17 you have looked at additional alternatives such as
18 co-location or burial?

19 THORN DICKINSON: I think cross components
20 would have been -- every RFP that's come out in the
21 last five or six years all had a very similar tone
22 associated with the cost containment, but I think
23 your point is a good one, which is if the -- if the
24 requesting entities had been looking for something
25 totally different then we would have -- might have

1 looked at a different approach.

2 MS. ELY: Thank you. Mr. Tribbet, on your
3 rebuttal testimony at Page 5 you state that CMP has
4 exhausted the ability to incur additional costs
5 without compromising the viability of the project; is
6 that correct?

7 JUSTIN TRIBBET: That's correct.

8 MS. ELY: Okay. So is it your testimony
9 that CMP is unable to incur any additional mitigation
10 costs?

11 JUSTIN TRIBBET: I don't believe my
12 testimony says that.

13 MS. ELY: So what does exhausted the ability
14 to incur additional costs without compromising the
15 viability of the project mean?

16 JUSTIN TRIBBET: I believe this was more in
17 reference to the additional underground proposed in
18 three alternatives by Mr. Bardwell. The 650 million
19 to 1.8 incremental in the paragraph below.

20 MS. ELY: Okay. So we're talking about the
21 cost of burial along the entire project; is that
22 correct?

23 JUSTIN TRIBBET: That's correct.

24 MS. ELY: Thank you. And actually since
25 we're talking about the alternatives and what was

1 included. On Page 5 -- Page 5 of your rebuttal
2 testimony, staying right there, Column 4 of the five
3 columns it's labeled underground alternative route,
4 is that the road alternative along Spencer Road and
5 201?

6 JUSTIN TRIBBET: Yes. My understanding
7 is --

8 MS. ELY: Okay.

9 JUSTIN TRIBBET: -- from Mr. Bardwell's
10 testimony is the route runs along 201 and Spencer
11 Road.

12 MS. ELY: And that is the cost -- in
13 analyzing the cost of burying it along that route; is
14 that correct? On the left.

15 JUSTIN TRIBBET: That's correct. Column 4
16 counting from the left versus that incremental cost.

17 MS. ELY: Okay. Is that the cost of running
18 it underground along the Spencer Road and 201 to
19 where it would dump out at the existing
20 infrastructure in the Caratunk area or does that cost
21 account for burying it along the entire rest of the
22 length of the line as well?

23 JUSTIN TRIBBET: So Column 4 addresses the
24 entire distance from basically of the HVDC line, so
25 it's 145 miles from the border to the southern

1 terminus in this case is the Merrill Road converter
2 station.

3 MS. ELY: Did you analyze what the cost
4 would be just to go from the Canadian border to the
5 inner tie at Caratunk along that road structure?

6 JUSTIN TRIBBET: I'm not sure. I don't
7 believe, so but I'm not sure exactly what demarcation
8 in Caratunk you're speaking of.

9 MS. ELY: That's where the existing -- so,
10 you know, looking just at the greenfield section of
11 the line that's where it hits the -- an existing
12 right of way and then goes along an existing right of
13 way within existing transmission lines.

14 JUSTIN TRIBBET: I believe that it connects
15 to the Brownfield right of way in Moxie Gore where
16 Section 222 turns the corner to Harris Dam. Is that
17 what you mean by that question?

18 MS. ELY: Probably.

19 JUSTIN TRIBBET: Okay. And if that is the
20 question then -- then, yes. To be clear,
21 Mr. Bardwell analyzed what is shown in Column 5 of
22 that same table and it's called underground new 53.5
23 mile corridor proposed road alternative.

24 MS. ELY: We're in dangerous territory here
25 with these books. So on Page 5 of your testimony

1 it's the fifth column underground new 53.5 mile
2 corridor proposed route alternative, so you're saying
3 that's the -- that's the one where it would stop
4 being underground and go above ground for the
5 remainder of the 146 miles?

6 JUSTIN TRIBBET: That's correct.

7 MS. ELY: Okay.

8 JUSTIN TRIBBET: But to be clear, that is in
9 the posed right of way, meaning the -- the corridor
10 that CMP owns, not along 201 and the Spencer Road
11 because that's the --

12 MS. ELY: That goes along -- so that's the
13 proposed corridor that goes along the greenfield
14 site?

15 JUSTIN TRIBBET: I -- yes, the new 53.5 mile
16 corridor, that's right.

17 MS. ELY: But you -- so you didn't do a cost
18 analysis of burying it along -- burying it along the
19 Spencer Road up 201 and then going above-ground the
20 remainder of the way?

21 JUSTIN TRIBBET: I'll let Mr. Bardwell
22 confirm, but I don't believe it's in any of the
23 testimony that alternative.

24 MS. ELY: Mr. Bardwell, can you confirm that
25 that's the case?

1 JUSTIN BARDWELL: That is correct.

2 MS. ELY: Thank you. And I guess either of
3 you could answer that. Given that you looked at the
4 cost differential between, you know the greenfield
5 site and burying it all along the rest of the way for
6 the other alternatives, why didn't you do the same
7 for this alternative?

8 JUSTIN BARDWELL: I think mostly because it
9 wasn't a viable option.

10 MS. ELY: And you determined it wasn't a
11 viable option based on the analysis that you did for
12 this May 1 filing or the...

13 JUSTIN BARDWELL: My rebuttal testimony.

14 MS. ELY: For your rebuttal testimony.
15 Okay. Is it fair to assume that if you had only
16 priced out burying it from along the Spencer Road to
17 201 and then above-ground the rest of the way that
18 the total cost for the underground alternative route
19 would be lower than burying it the entire length of
20 that route?

21 JUSTIN BARDWELL: Yes.

22 MS. ELY: This is probably anyone could
23 answer. I want to talk about proposed mitigation
24 measures. The proposed tapering and taller poles,
25 are those proposed to be for the life of this line to

1 be kept tapered or taller poles when you're proposing
2 these mitigation options?

3 THORN DICKINSON: Yes.

4 MS. ELY: Okay. I asked this question
5 earlier and I am expecting Mr. Manahan to object, but
6 CMP owns 300 feet of corridor. I'm not going to ask
7 you about the other 150 feet, I'm just going to stick
8 right to this corridor. But my question is if
9 another project is developed in that other 150 feet,
10 does that impact your ability to maintain a tapered
11 corridor within the 150 feet that we're analyzing
12 here and the same question does it affect your
13 ability to keep taller poles with full height
14 vegetation?

15 MR. MANAHAN: Ms. Ely is correct, I just
16 would object for the record because that is not
17 before us. This application does not propose
18 development on the other half of the corridor, so I
19 would object.

20 MS. MILLER: And I think the last time we
21 said that if it was proposed as a hypothetical
22 question it could be answered as a hypothetical
23 answer.

24 MS. ELY: Yes. Hypothetically speaking, I'm
25 just trying to understand whether circumstances would

1 change the use of these techniques?

2 THORN DICKINSON: I don't see any reason
3 there would be a problem.

4 MS. ELY: Does anyone else who has -- does
5 anyone else have a different perspective? I'm
6 imaging a tiny strip in the middle of two lines, you
7 know, does that pose a problem if you've got another
8 line on the other side?

9 KENNETH FREYE: Hypothetically that question
10 would be answered when a new project came up.

11 MS. ELY: Okay. And then, you know, looking
12 at it if it was a buried line either HDD or trenched,
13 is it possible to put a line -- another line later on
14 top of a trench or HDD drill site or would you need
15 to use the other side of the corridor?

16 JUSTIN BARDWELL: Usually we'd go the other
17 way around. It is technically possible. We'd have
18 to be very careful about conflicts. Chances are that
19 the new overhead corridor would be substantially
20 wider than the underground corridor.

21 MS. ELY: Okay. The decision to put a spare
22 line along, Mr. Bardwell, is that -- is that your
23 wheelhouse?

24 JUSTIN BARDWELL: I would be the one to
25 answer the question, yes.

1 MS. ELY: All right. Why did you choose to
2 locate a spare line along the whole length of the
3 corridor instead of deploying a fix later on if there
4 was a fault?

5 JUSTIN BARDWELL: So as I discussed at
6 length in order to make a repair to an underground
7 line that is at a lengthy process. Best case, you're
8 looking at two to three weeks, more often we are at
9 four to five weeks and I've seen them go out to 12.
10 The interconnection agreements -- the transmission
11 service agreement that's being used here has a
12 requirement that this line be available 90 percent of
13 the time in each month, which means having an outage
14 of more than six days would be a violation of that
15 agreement. The only way to meet that availability
16 requirement is to have an available spare so that it
17 can be switched over quickly.

18 MS. ELY: You would still need to get
19 technicians and trucks and supplies to go fix the
20 route, does it save you that much time to have the
21 spare within it?

22 JUSTIN BARDWELL: It -- yes, it saves a very
23 large amount of time because the switch is entirely
24 overhead without having to dig up the line or to cut
25 the cable at all.

1 MS. ELY: Okay. The 75 feet of clearing,
2 are you familiar, Mr. Bardwell, with the olive book,
3 the HVDC olive book?

4 JUSTIN BARDWELL: No. I work mostly out of
5 the CIGRE green book, which is really the
6 underground.

7 MS. ELY: Which I've heard it called the
8 CIGRE green book but Mr. Tribbet's testimony lists it
9 as the olive book.

10 JUSTIN BARDWELL: There are two different
11 books.

12 MS. ELY: Two different. Okay.

13 JUSTIN BARDWELL: Everybody likes to call
14 them by colors.

15 MS. ELY: All right. Now, does the green
16 book or the olive book talk about burying HVDC lines?

17 JUSTIN BARDWELL: They both would have input
18 into that.

19 MS. ELY: Okay. Do you know what -- how
20 much of a clearing that suggests?

21 JUSTIN BARDWELL: Which one?

22 MS. ELY: Either -- either one. Do they
23 have different suggestions?

24 JUSTIN BARDWELL: So the green book
25 guidelines are that you need to have a sufficient

1 clearing area so that the cable is not affected
2 during operations and it goes extensively the things
3 you need to take into account, depending on where
4 you're at, that's anywhere from 50 to 75 or 100 feet.

5 MS. ELY: Okay. Do you know which -- you've
6 mentioned that it's tree roots that are the concern;
7 is that correct?

8 JUSTIN BARDWELL: That's the largest concern
9 in this area.

10 MS. ELY: Okay. What tree species in this
11 area are causing root spread 35 feet to cause impacts
12 on the line?

13 JUSTIN BARDWELL: So they are two different
14 ones that I've looked at. I don't know if the
15 deciduous trees are in the area, but in that case it
16 is the large deciduous trees in Maine would have a
17 root span of 35 feet. I couldn't confirm that, so
18 the -- we consulted with a forester and he confirmed
19 that a spruce tree depending on the ground conditions
20 could be up to 60 feet, but in that case the root
21 system would be extremely shallow and less likely.
22 He said it was more likely that 35 feet would be the
23 appropriate number to evaluate.

24 MS. ELY: Okay. And you're saying 35 feet
25 from face out?

1 JUSTIN BARDWELL: Yes, from the center of
2 the tree.

3 MS. ELY: You estimated .53 faults per year
4 per 100 miles, is that based on for underground --
5 for above-ground transmission lines in your
6 testimony? It's on Page 6 and -- 6 to 7.

7 JUSTIN BARDWELL: So that's for the overhead
8 line?

9 MS. ELY: Yup.

10 JUSTIN BARDWELL: There is a condition on
11 that I need to double-check.

12 MS. ELY: It's on your additional, the last
13 testimony submitted. Overhead lines that --

14 JUSTIN BARDWELL: Yes, so that was
15 actually -- that was overhead -- that was -- actually
16 came from CMP records on existing EHV level lines.

17 MS. ELY: Okay. Did you look Avangrid or
18 any other networks or just CMP's lines?

19 JUSTIN BARDWELL: I focused on CMP's lines
20 and the assumption that would be closest to the
21 vegetation management we can expect to see.

22 MS. ELY: Okay. On Page 11 of this same
23 testimony in answer to Question 19, you estimated
24 that the -- sorry, on Page 12, you say that the -- at
25 close of the -- this section answering Question

1 Number 19 that, quote, the main cost difference would
2 the future maintenance of the permanent access roads
3 for underground construction adding additional cost
4 to the life of the project, did I get that right?

5 JUSTIN BARDWELL: That would be Question 20,
6 which was related specifically to the cost of an
7 access road versus creating a path during
8 construction.

9 MS. ELY: Okay. Would the cost of
10 maintaining access roads for underground construction
11 be less if the line was put along an already
12 disturbed corridor like a road?

13 JUSTIN BARDWELL: If the line was placed in
14 or near a road then that road could serve part of the
15 access road.

16 MS. ELY: Okay. So the -- the cost of
17 maintaining a permanent access road for underground
18 construction is -- is unique to a project that is not
19 located along a road or near a road?

20 JUSTIN BARDWELL: If there is an existing
21 permitted access way then an access road would not be
22 required.

23 MS. ELY: Okay. That must mean my time is
24 up.

25 MS. KIRKLAND: It is.

1 MS. ELY: Just one more question?

2 MS. MILLER: One more question.

3 MS. ELY: And this, again, I think
4 Mr. Bardwell or Mr. Freye, I just wanted to confirm
5 that you have discussed undergrounding of the AT
6 crossing with anyone at the Appalachian Trail
7 Conservancy?

8 KENNETH FREYE: Could you repeat the last
9 part of the question, please?

10 MS. ELY: Have you approached anyone --
11 well, I can ask, anyone at the Appalachian Trail
12 Conservancy about the potential for undergrounding
13 the project under the AT crossing?

14 KENNETH FREYE: No, we have not. The
15 easement that CMP granted to the Park Service, like I
16 said earlier, actually reserved only specific rights
17 to -- to CMP and those rights are all for overhead
18 transmission lines. None of the language in the
19 reserved rights states or even implies there is any
20 rights for underground line in that easement.

21 MS. ELY: The undergrounding is not
22 specifically addressed in the easement though, right?

23 KENNETH FREYE: Pardon?

24 MS. ELY: Undergrounding is not specifically
25 addressed in the easement though, correct?

1 KENNETH FREYE: Correct. It is not
2 specifically addressed and the language of the
3 easement says only the rights that are specifically
4 addressed, thus with CMP, all of the other rights go
5 to the Park Service.

6 MS. ELY: But just answer my question, it's
7 not specific --

8 KENNETH FREYE: I -- I --

9 MS. ELY: The undergrounding is not
10 mentioned in the --

11 KENNETH FREYE: I think I answered the
12 question.

13 MS. ELY: Okay. And then just to round it
14 out, I asked you about the Appalachian Trail
15 Conservancy, but that would be your -- you also have
16 not spoken to the Maine Appalachian Trail Club or the
17 National Park Service about undergrounding along that
18 section; is that correct?

19 KENNETH FREYE: We have not spoken with them
20 about undergrounding, CMP doesn't have the rights to
21 underground and we didn't site this as an underground
22 line.

23 MS. ELY: Thank you.

24 MS. MILLER: Thank you. So next, I have
25 four-and-a-half minutes for the Applicant to

1 cross-examine Mr. Paquette.

2 MS. GILBREATH: Hello, Mr. Paquette. My
3 name is Lisa Gilbreath, I represent CMP. Just a few
4 questions for you. I heard you reference earlier an
5 underground project that you worked on along a road
6 that did not go forward due to the difficulties with
7 undergrounding along that road, what were those
8 difficulties?

9 GIL PAQUETTE: Primarily access that was a
10 big issue and thermal sand, so with access you
11 couldn't use the road for access, it was prohibited
12 so we basically had to go down -- down the right of
13 way, so to speak. So that would require mats, you
14 know, matting through wetlands and so forth. Hauling
15 the thermal sand using the dump trucks, you know,
16 that was just too costly to do that. You know,
17 down -- down an area that would look just like, you
18 know, the setting is here. Or actually worse in the
19 Segment 1 corridor.

20 MS. GILBREATH: How is Segment 1 worse?

21 GIL PAQUETTE: Well, just the remoteness,
22 the lack of access roads. I mean, the project I
23 worked on there were a number of public roads that
24 crossed, so those would be your access points to the
25 right of way. You know, in this case, we're talking

1 logging roads, maybe old skidder trails that would
2 need to get -- get worked on, get upgraded to allow
3 vehicular traffic, trucks and so forth that are
4 needed for building an underground project.

5 MS. GILBREATH: Okay. That probably gets --
6 you probably answered much of my next question, but
7 let's see if there is more. You state at Page 7 your
8 sur-rebuttal that for many in the transmission field
9 not burying the NECEC would be an obvious conclusion
10 given the project setting, that's what you're
11 describing to me. What is it about that setting that
12 makes not burying the NECEC an obvious conclusion?

13 GIL PAQUETTE: I would say topography, the
14 remoteness, the lack of access being, you know, just
15 logging roads, skidder roads, the distance to where
16 the thermal sand may have to be hauled from. That
17 has to be a special sand that meets a certain thermal
18 resistivity to allow heat dissipation from the cable.
19 So, you know, all those things, the streams, wetlands
20 and so forth, it's just a number of things. So based
21 on the work I did along the road wasn't feasible so
22 how could something in the western mountains be
23 feasible?

24 MS. GILBREATH: And when you mentioned the
25 streams and wetlands you're talking about

1 environmental impacts?

2 GIL PAQUETTE: Environmental impacts, yes.
3 So crossing those streams because with the cable
4 being continuous you can't span like you would with
5 an overhead line, so you have to basically travel the
6 length of the right of way from one end to the other
7 to install that cable. So every stream would have to
8 get bridged, every wetland would need to be crossed
9 with mats. You wouldn't be able to get away with not
10 installing mats in areas where, you know, there might
11 be frozen ground or in uplands and so forth, you're
12 basically matting and I think you'd have to have some
13 leveling as well for safety purposes so that
14 equipment wouldn't teeter or fall off the mats.

15 MS. GILBREATH: Are you aware of any similar
16 constraints with regard to the construction process
17 and impacts for taller structures where CMP is not
18 proposing taller structures would be an obvious
19 conclusion given the project setting?

20 GIL PAQUETTE: I think that if that height
21 limitation is reached such that we needed a caisson
22 foundation, I think that's where you get into, you
23 know, similar types of impacts from the -- from the
24 road down the travel lane of the right of way, so
25 you're having to bring concrete trucks in because you

1 can't use precast type of foundations for that much
2 weight and that much load, so you're bringing
3 concrete trucks down the right of way. And I am not
4 aware of the -- the areas that are being proposed,
5 but I can imagine that if they're a deer wintering
6 area, you know, if they were pristine areas and so
7 forth that -- or areas that they want taller
8 vegetation that they must be forested in that
9 vicinity and so you're probably traveling down the
10 right of way a bit of a ways with a concrete truck, a
11 mixer and -- or you've got to get the mixer to the
12 right of way, so I'm not even sure where there is a
13 plant in that area and then you have to get it up to
14 the right of way and then pour your load of concrete.
15 And then you have to wash your concrete equipment,
16 the mixer and so forth and that's done on the right
17 of way as well, so there would be a, you know,
18 concrete residue that would be on the right of way.

19 MS. GILBREATH: Thank you. No further
20 questions.

21 MS. MILLER: Thank you. Okay. That
22 concludes cross-examination, so we're going to move
23 on to agency question. Any questions from the
24 Commission?

25 MR. WORCESTER: Nick has one.

1 MR. LIVESAY: I've been sitting here all day
2 waiting for this. Mr. Freye, you talked a little bit
3 about the ability or the unique deed associated with
4 the Appalachian Trail crossing and there was
5 testimony however many weeks ago it was and CMP's
6 position I think then was that they don't have the
7 ability to go underground at the crossing, is that --
8 am I characterizing things correctly? They don't
9 have a right to?

10 KENNETH FREYE: That's correct.

11 MR. LIVESAY: And that's -- so by right
12 you're referring to CMP's ability to do something
13 whether or not the Park Service agrees?

14 KENNETH FREYE: CMP would have to acquire
15 the underground rights from the Park Service.

16 MR. LIVESAY: And so --

17 KENNETH FREYE: That's our read of the -- of
18 the document.

19 MR. LIVESAY: So they couldn't do it now,
20 but it possibly could be acquired but that hasn't
21 been discussed?

22 KENNETH FREYE: Well, the question hasn't
23 been made to the Park Service. We know that there
24 was another transmission line project a few years ago
25 that could not get overhead or underground rights

1 across the Appalachian Trail and that was in Maine,
2 so you don't know until you ask, but the indications
3 are that you wouldn't get them.

4 MR. LIVESAY: Was that crossing where there
5 is already an existing crossing or would that have
6 been a new one you're referring to? Where are you
7 referring to with this alternative discussion about
8 overhead or undergrounding crossing with CMP?

9 KENNETH FREYE: That was the Kibby Wind
10 Project and they ended up having to go into the
11 highway right of way to connect there was, what, 28
12 miles of overhead line and the last 500 feet or 1,000
13 feet or whatever it was underground in the Route 27
14 and if it hadn't been for Route 27 being there it
15 probably wouldn't have been able to connect to the
16 grid.

17 MR. LIVESAY: So it was a new crossing of
18 the AT? That was a new crossing of the AT?

19 KENNETH FREYE: That was a new crossing,
20 yes.

21 MR. LIVESAY: Okay. Thank you.

22 KENNETH FREYE: Yup. Well, excuse me, there
23 was an existing -- it was a new crossing for them.
24 There was an existing overhead transmission line.

25 MR. LIVESAY: At that location?

1 KENNETH FREYE: At that location, yes.

2 MR. LIVESAY: But you haven't discussed this
3 with the Park Service? The new location hasn't been
4 discussed?

5 KENNETH FREYE: Has not been discussed.

6 MR. LIVESAY: All right. Thanks.

7 MR. HINKEL: There was some discussion
8 earlier about the cost associated with logistical
9 problems that arise and getting to the area around
10 Beattie Pond to deal with repairs on, you know, a
11 problem with the line if it was in a buried situation
12 and so I'm wondering how does an overhead or access
13 to the overhead align in that part of the project?
14 How is it different getting in during the winter say
15 that part of the project to access the line for an
16 overhead repair than it would for a burial?

17 JUSTIN BARDWELL: So my colleagues may have
18 to fill in on this, but in general the difference is
19 the type of equipment you're going to need to be
20 bringing in. So to make an underground repair you're
21 going to be excavating where you're going to be
22 bringing in very heavy equipment to get into the
23 vaults and rebuild the joint. In either case, you're
24 going to have to bring in what is not normally
25 off-road equipment and you're going to have to get it

1 in through whatever conditions that road is in and
2 the weather. For overhead, as I understand it, it's
3 generally a line truck to make those repairs and
4 those were meant to go into rather nasty locations.

5 NICK ACHORN: And the same idea based on the
6 time of year, if it's wintertime and you have snow
7 cover access may be easier depending on the equipment
8 that you have. And then it was mentioned earlier
9 today about, you know, standard CMP hardware, the
10 stuff that's readily available from a material
11 standpoint for overhead lines. It's just easier from
12 that perspective to have it ready to go.

13 MR. HINKEL: Thanks.

14 MR. BILLINGS: Can we have Terry DeWan's
15 thumb drive brought up? Specifically TNC Area 1.
16 That's it. Thank you.

17 We had some discussion about this at the
18 April 2 meeting. Obviously, the route shown there is
19 longer and costs more money than it would have if it
20 had gone straight across. I think in the second
21 meeting we were told that purchasing a right of way
22 or an easement or fee simple land across there and I
23 think the statement was it was five times more than
24 market value. Mr. Freye has just stated that market
25 value in this area is \$1,000 an acre, so are we

1 looking at \$5,000 an acre to buy right of way across
2 there? If we're looking at \$5,000 an acre to buy the
3 right of way across there it seems the extra distance
4 and poles would have more than made up for that cost
5 and avoided the P-RR zone. Can anyone answer that?

6 KENNETH FREYE: The number from Bayroot was
7 much more than \$5,000 an acre. We don't discuss
8 negotiations, but it was multiples of that.

9 MR. BILLINGS: Just a follow-up, how many
10 extra feet of line involves going around as opposed
11 to going across?

12 KENNETH FREYE: Oh...

13 MR. BILLINGS: Double?

14 NICK ACHORN: We could probably get back to
15 you here in a second.

16 MR. BILLINGS: And how much does the line
17 cost per foot? Thank you.

18 MR. GILMORE: Are we waiting for an answer?

19 MR. BILLINGS: I think it's going to take
20 them some time to look it up.

21 MR. GILMORE: Okay.

22 KENNETH FREYE: We've got to do some
23 measurements.

24 NICK ACHORN: One second. It would be
25 around 1 million. Right around there.

1 MR. BILLINGS: Thank you.

2 NICK ACHORN: You're welcome.

3 MR. GILMORE: If I could. So if I
4 understand my role as an LUPC Commission member, I
5 believe that it's our responsibility to certify to
6 the DEP that the land uses in this -- this district
7 you're proposal fits the bill under. So the question
8 that Millard asked you I think was a good question
9 and I just want to follow-up on that a little bit
10 because I do remember the discussion about the values
11 that a proposed purchase was going to cost you. And
12 I'm going to ask you a direct question, you can
13 answer it or not if you wish, but have you as yet or
14 did you intend to or hope to acquire eminent domain
15 status in any land acquisition should you need if
16 this project was to go forward?

17 THORN DICKINSON: So we have -- under the
18 current layout we have -- we have full right, title
19 and interest and no need for eminent domain. There
20 are obviously a few bills out there at the
21 Legislature that talks about this topic. We did get
22 RCPCM, which does have that currently that ability.
23 I'm not an attorney, so I don't know all of the
24 specifics associated with it, but as we sit here
25 right now in our proposed project there is no need

1 for eminent domain.

2 MR. GILMORE: I understand your opinion. So
3 in looking at the corridor that you purchased, and
4 you started buying those parcels some time ago, I'm
5 not sure that when we updated the rules in 2012
6 because I wasn't on the Commission at the time
7 whether or not there was any changes made to those --
8 those uses that either enhanced your opportunity or
9 deterred your opportunity to do what you're trying to
10 accomplish and I'm not suggesting that everything
11 isn't as it should have been and you've certainly
12 made some progress going forward. You did go out on
13 a limb, I would assume, to buy all this land with a
14 lot of uncertainties as to what might lie ahead and
15 whether or not we're able to come to some terms that
16 makes things work for you. I'm not sure why you did
17 that, but I commend your courage for taking that
18 step. I'm assuming that a lot of those acreage
19 parcels are still in tree growth and if they are I'm
20 not sure why we're talking to you because I would
21 have assumed that would you have had to remove those
22 parcels from tree growth before this entity
23 considered any activity that wouldn't be permissible
24 under tree growth status. Obviously, that's -- that
25 would be a concern of mine. It may not be of others,

1 but I think it's a question that needs to be asked.

2 KENNETH FREYE: The industrial forestland
3 was and still is in tree growth.

4 MR. GILMORE: So how could -- how could the
5 DEP or anyone else permit a project that doesn't
6 relate to tree growth rates with it being under that
7 status?

8 KENNETH FREYE: Well, I think the land would
9 be removed from tree growth when the project went
10 forward.

11 MR. GILMORE: I know more about municipal
12 rules than I do LURC rules, so for your sake I hope
13 you're right. One more -- one more question. Any --
14 any chance going forward if you were successful with
15 this project getting approved of any additional
16 energy type lines being added to this corridor down
17 the road or are we talking what's on the table today
18 is forever and nothing beyond that?

19 THORN DICKINSON: Well, let's first just
20 make sure I'm answering your question correctly this
21 is one of the things we talk to a lot of people in
22 the community is that this is a line that won't have
23 other connections to it. So this DC line going from,
24 you know, 50 miles inside of Quebec to Lewiston,
25 Maine there are going to be no other connections off

1 of that line. Is that your question?

2 MR. GILMORE: Well, I'm thinking about maybe
3 other energy sources, natural gas, things of that
4 nature.

5 THORN DICKINSON: I mean, the -- the only
6 project that we are thinking about right now related
7 to the property that -- that we have is the project
8 that we have in front of you.

9 MR. GILMORE: Okay. One other question that
10 I have, if you're successful you own a lot more land
11 there than what your corridor needs. Is there any
12 chance that we would ever see this land transferred
13 to a nonprofit so that there wasn't a tax base there
14 that was beneficial to the representing counties
15 going forward? In other words, if you put this under
16 a 501(C)3 you take away the rights for the county to
17 tax you on that land.

18 THORN DICKINSON: The future is impossible
19 to predict, I would start with that, but right now
20 the there is no plans to transfer any of this
21 property to any kind of a nonprofit or any aspect of
22 any idea like that.

23 MR. GILMORE: Okay. I will tell you
24 straight up that I am a proponent of hydropower.
25 I -- shame on the State of Maine for breaching the

1 dams that we had in place many years ago. I wish
2 they were still intact. They're not. We can't go
3 backwards probably. But I do worry about Maine
4 people and where the real value for Maine people --
5 and maybe this is an inappropriate comment and if it
6 is, please stop me. I do worry about Maine people
7 and what's truly in it for them. These are back
8 yards of a lot of people that have lived in these
9 areas for a long, long time and when you start
10 altering the landscape it certainly has an effect
11 that is a last being affect, so just I just want you
12 to know that. It doesn't mean that it changes
13 opinions or anything, but we have to be thinking
14 about those things as we move forward. Thank you.

15 THORN DICKINSON: Yeah, I mean, if it's --
16 is it okay for me to...

17 MS. MILLER: Did you want a response to
18 that?

19 MR. GILMORE: I don't need one. I just want
20 you to know how I feel.

21 MS. MILLER: Then no.

22 THORN DICKINSON: Okay.

23 MS. MILLER: Anyone else on the Commission
24 have any questions? Okay. We're going to move over
25 to the Department side know. Commissioner Reid.

1 MR. REID: I just have a couple. I'm going
2 to start with Mr. Freye and build on the questions
3 that Nick Livesay asked you. It sounded to me like
4 the implication of your testimony is that you can't
5 underground an AT crossing because your hands are
6 tied by the terms of the easement; is that right?

7 KENNETH FREYE: Well, the current easement
8 does not provide for underground rights.

9 MR. REID: Right. So you're planning on
10 going overhead, that's your proposal, correct?

11 KENNETH FREYE: Yes, that's the proposal.

12 MR. REID: So if you asked the National Park
13 Service would you prefer us to go underground and
14 they said yes, you could simply amend the terms of
15 the easement by agreement, correct?

16 KENNETH FREYE: That's a really hypothetical
17 question. The -- you know, just from an engineering
18 standpoint the CMP easement is 3,000 feet long and
19 then basically the Appalachian Trail corridor comes
20 in from the west, hits the CMP corridor, follows it
21 for 3,000 feet and then goes off to the east. If you
22 were just locating a transmission line and you had to
23 go under a thousand foot wide corridor, which is what
24 the Appalachian Trail is, you wouldn't do it there.
25 You'd do it in another location because you'd only

1 have a thousand foot underground as opposed to a
2 3,000 foot and it would -- it wouldn't be underneath
3 a pond, which is what this one would entail. So, you
4 know, I think it may be engineeringly feasible, but
5 it isn't -- it isn't the location where if you were
6 starting from scratch with nothing that's not the
7 location where you'd go for an underground.

8 MR. REID: Okay. So the easement is only an
9 obstacle if the National Park Service refuses to
10 amend it, is that fair to say?

11 KENNETH FREYE: Yes, but that's kind of like
12 other than that, Mr. Lincoln, how was the play?

13 MR. REID: But -- but you haven't asked them
14 yet.

15 KENNETH FREYE: That's correct, but CMP has
16 the overhead rights there.

17 MR. REID: Okay. I think I've got my answer
18 to that. When you refer to the crossing of Kibby
19 where it sounds like the National Park Service
20 refused to agree to undergrounding, was that a
21 situation where there was already an easement in
22 place that allowed overhead lines to be installed?

23 KENNETH FREYE: There is an existing
24 overhead transmission line which is owned by Stratton
25 Energy or whatever company they are now and the Kibby

1 generator lead basically parallels that down from
2 Stratton down to the Bigelow substation. So they
3 were two different owners of the transmission line.
4 The Stratton Energy line was put in about the time
5 the Appalachian Trail corridor was being acquired and
6 it may have actually predated the Appalachian Trail
7 corridor acquisition. I'm not sure of what the
8 genesis of their rights are there. But the Kibby
9 Wind generator lead came in later and although it's
10 next to an existing transmission line they're
11 separate owners.

12 MR. REID: So they didn't have the right to
13 go overhead?

14 KENNETH FREYE: That's correct.

15 MR. REID: Okay. I have a couple of
16 questions for Mr. Dickinson. If this application
17 were to be approved with conditions, I assume based
18 on what you have testified that there would be a
19 tipping point where the conditions would be too
20 expensive and too burdensome and you would determine
21 that the project were not economic and you would not
22 go forward with it, is that fair to say?

23 THORN DICKINSON: That's fair to say, yes.

24 MR. REID: And so if it were to be approved
25 with conditions you'd have to go back and evaluate

1 the cost of the conditions and compare that cost to
2 your contingency funds and your profit margin build
3 into your bid and determine whether it were still
4 worthwhile moving forward; is that right?

5 THORN DICKINSON: That's correct.

6 MR. REID: Okay. So nothing in how you
7 framed the project purpose in your testimony was
8 intended to imply that any additional conditions that
9 were imposed on the project were by definition
10 impracticable; is that right?

11 THORN DICKINSON: That's correct.

12 MR. REID: Okay. Thank you.

13 MR. BEYER: Okay. I have several and we'll
14 start with Mr. Paquette. Can you describe the
15 properties of thermal sand for me?

16 GIL PAQUETTE: My understanding is that it
17 allows heat dissipation, that it's a special sand
18 that the cable gets warm from electricity running
19 through the cable. To avoid hot spots this sand
20 allows the heat to dissipate.

21 MR. BEYER: Okay.

22 GIL PAQUETTE: I've never seen it. I don't
23 know if it looks like, you know, beach sand or -- but
24 I do know that it's a special sand that's required
25 and the cable manufacturer would dictate that it be

1 used or the cable warranty would be void if those
2 particular instructions weren't followed, so that's
3 why it becomes such a key issue.

4 JUSTIN BARDWELL: I might be able to better
5 answer that if you would like me to.

6 MR. BEYER: Yeah, go ahead.

7 JUSTIN BARDWELL: So thermal sand in
8 particular is a sand that has a high density when
9 it's compacted. That means it needs to have a very
10 uniform division of grain sizes. There is a thing
11 called a seed test that we use to determine this.
12 That means we have to get the sand from particular
13 places that gives us an even mixture of large, medium
14 and small particle sizes so that it can have that
15 high density when it's compacted.

16 MR. BEYER: Can it be sourced in Maine?

17 JUSTIN BARDWELL: I would have to confirm
18 that. I haven't tried to source it in Maine yet.
19 Chances are there is a good source for it, but we
20 would have to definitely get away from the coast for
21 that.

22 MR. BEYER: Okay. Segment 1 is away from
23 the coast.

24 JUSTIN BARDWELL: That's true.

25 MR. BEYER: I inspected the Maritimes and

1 Northeast pipeline and I don't remember the spec, but
2 there was a spec for the maximum size stone you could
3 have around the pipe.

4 JUSTIN BARDWELL: Yes, that would be bedding
5 sand.

6 MR. BEYER: Right. And if my memory which
7 is correct and it was 30 years ago, they manufactured
8 that sand for that bedding material from the material
9 they removed from the trench. Can you do that same
10 kind of thing with thermal sand in this -- for this
11 project?

12 JUSTIN BARDWELL: It's a much lower
13 probability that we would be able to find that along
14 the route for thermal sand. Bedding sand is much,
15 much easier to find because the general restriction
16 for bedding sand is only that it has no large, sharp
17 particles. With thermal sand we'll have to cover all
18 the way down to the fines, so we are testing for many
19 different grain sizes as opposed to the single grain
20 size they test for bedding sand.

21 THORN DICKINSON: And, Jim, on Maritimes I
22 worked on that too and walked a lot of that during
23 construction and they didn't have to create a lot of
24 that material, some of it was just the native
25 material that they could use. You're right they did

1 in some places, but.

2 MR. BEYER: Right.

3 THORN DICKINSON: You know, it's not like a
4 cable where you need to do it entire length. The
5 Maritimes was done in select spots where the size was
6 too great.

7 MR. BEYER: Mr. Paquette, a bunch of your
8 testimony get with the equipment that would need to
9 be utilized in order to do an underground
10 installation and particularly the weight of that
11 equipment and the size of that equipment, trucks,
12 here again going back to my experience on the
13 pipeline, what's the difference -- and as well as my
14 experience in the woods, what's the difference in the
15 weight between a fully loaded log truck, a truck with
16 a load of cable, a conduit -- a cable or a truck with
17 a load of pipe?

18 GIL PAQUETTE: Actually, there -- there are
19 differences there, so a lot -- when they -- for
20 Maritimes, for example, they skidded the logs to the
21 road, so the log truck would be like on an access
22 road or something. So we're talking going down the
23 right of way where log trucks didn't go down the
24 right of way. Pipe was the same thing, they didn't
25 off-load pipe along the right of way. It was on an

1 access road and then the pipe would be brought down
2 the right of way in individual pieces, you recall,
3 the lengths of the pipe.

4 MR. BEYER: Yeah, they were 60 feet.

5 GIL PAQUETTE: Right. So cable, you have to
6 bring that reel down the right of way where those
7 splice locations are. And I don't recall the weight
8 offhand, but, you know, one reel of cable is very
9 heavy.

10 MR. BEYER: Right. But --

11 GIL PAQUETTE: And heavier than logs and
12 heavier, you know, there is -- there is copper inside
13 which is very dense and that causes the heavier
14 weight.

15 MR. BEYER: But a lot of your testimony also
16 dealt with utilizing the existing access roads and
17 most of the log trucks --

18 GIL PAQUETTE: Yes.

19 MR. BEYER: -- are currently using those
20 existing access roads are -- they're supposed to be
21 less than 100,000 pounds, so.

22 GIL PAQUETTE: My difference is going down
23 the right of way on the travel lane with this heavy
24 equipment versus going to an access road at the right
25 of way and off-loading, that's the big difference.

1 MR. BEYER: Okay.

2 GIL PAQUETTE: The need to travel down the
3 right of way with the cable and the need to travel
4 down the right of way with the splicing trailer,
5 which probably won't be as heavy, and the need to
6 travel down the railroad -- the right of way with the
7 loads of sand. So that's going down the right of way
8 versus, you know, the logging truck and other
9 material that would get off-loaded at the access road
10 to go down the travel lane like a pole would. That's
11 how they off-load poles on the access road and they
12 travel down the right of way with a single pole.

13 MR. BEYER: Okay. Thank you.

14 GIL PAQUETTE: Yup.

15 MR. BEYER: Mr. Dickinson or any of the
16 other members of the panel, when I conducted a site
17 visit last June I drove within a half a mile of the
18 Canadian border on existing logging roads in close
19 proximity to the corridor. In preparing for this, I
20 did some research and I found a presentation by
21 Roger, and I'm going to butcher his name, Rosenqvist,
22 from ABB Incorporated and it was a presentation to
23 the Department of Energy last November and this is
24 what he says, undergrounding HVDC transmission lines
25 with a capacity in excess of 2000 megawatts can now

1 be done directly buried in 1 1/2 to 2 foot wide and 4
2 foot deep trench inside the perimeter of an existing
3 overhead transmission line right of way or along the
4 shoulder of a roadway or railroad. Can anybody on
5 the panel explain to me why you can't utilize this
6 technology for this project?

7 JUSTIN BARDWELL: Roger was very optimistic
8 and he is now unemployed as his company has left the
9 market. What he often failed to account for was all
10 of the other things that happened other than just the
11 cable. I can pack the cable into a space that small,
12 but I can't account for roots, I can't account for
13 work area and I can't account for all of the
14 logistics associated with it.

15 MR. BEYER: Okay.

16 GIL PAQUETTE: If I could, Jim, add to that
17 because I worked with Roger pretty closely on the
18 terrestrial project and he's correct that there is a
19 lot of those extra things that are missing. And I
20 didn't want to -- Roger is a nice guy. I didn't want
21 to mention his name when I was talking about the
22 onion, the ball to the onion, but as I -- as I
23 questioned Roger about different things that was
24 peeling the onion. What -- and I had a contractor
25 working with me who did underground work and he was

1 asking those questions and it was like, oh, well, we
2 need to do this and we need to do that, we -- and
3 logistically and for cost reasons, I mean, it just
4 kept going up and up and up and up until you had a
5 project that was impossible to build. So Roger was a
6 salesman for the company that he was working for and
7 he was trying to sell cable.

8 MR. BEYER: Okay. Thank you. That's
9 actually quite helpful. Mr. Achorn, how large of a
10 pad would you need to support a crane to install 100
11 foot tall structure?

12 NICK ACHORN: Is this direct embed or
13 caisson foundation?

14 MR. BEYER: Direct bury.

15 NICK ACHORN: Okay. So -- so one thing that
16 we looked at was in some of these areas even the full
17 height vegetation you can ship in these poles section
18 by section and it's not -- it's not something that
19 you would have to erect on the side, you could erect
20 it as you're setting it up. As far as the crane
21 height, I'm -- I'd have to defer to the construction
22 contractor, but our work pads, you know, for the
23 tangent suspension it's going to be about a 42 1/2
24 foot radius that they'll be working with. So they're
25 not going to have to pick up the entire structure at

1 once. It's going to be section by section.

2 MR. BEYER: Right. Okay. So typically
3 you've got a 42 foot pad, 42 square foot pad for your
4 typical -- or 40 foot diameter pad for a typical --
5 your typical 100 foot tall structure, correct? Is
6 that what I just --

7 NICK ACHORN: Connected -- yeah, connected
8 to the access road -- it's a 42 foot radius, so it's
9 going to be, you know, 85 feet wide.

10 MR. BEYER: Okay.

11 NICK ACHORN: Yup.

12 MR. BEYER: Okay. How large of a pad would
13 you need for 175 foot tall structure?

14 NICK ACHORN: It's a good question. I -- I
15 personally can't answer that. I'd have to leave it
16 up to the construction contractors, but I did talk to
17 a few to see how would this be done in the field and
18 based on what's been permitted for those work pads
19 based on what the plan is for the access roads going
20 in logistically it is feasible to do that.

21 MR. BEYER: Still on the same size pad.

22 NICK ACHORN: Still on the same size pad.
23 It obviously makes it more difficult, but it is -- it
24 is doable is what was said to me. I don't know if
25 you want to chime in.

1 GIL PAQUETTE: But with 175 foot pole though
2 you're talking about a caisson foundation.

3 NICK ACHORN: Right. So now it becomes more
4 of a sequencing type scenario where the first --

5 GIL PAQUETTE: Right.

6 NICK ACHORN: -- thing that you're going to
7 do is you come in, you do your excavation, they go
8 back out, you bring your rebar cage, you bring in
9 your anchor bold cage, you set your foundation then
10 you're back to the same situation that you'd have
11 with the direct embed type structure where you're
12 going to bring in those poles section by section and
13 start erecting it with that -- with that crane. So
14 sequencing-wise it's going to take more time, but
15 what has been communicated to me is that it is -- it
16 is feasible.

17 MR. BEYER: Okay. Here again I'm going to
18 ask you for typicals.

19 NICK ACHORN: Mmm Hmm.

20 MR. BEYER: How -- on a typical 100 foot
21 tall structure, how far below the top of the
22 structure is the conductor?

23 NICK ACHORN: It's -- at the structure?
24 You're looking right at it?

25 MR. BEYER: Right. At the structure.

1 NICK ACHORN: So what we're calling the
2 typical tangent suspension it's right around 23 feet.

3 MR. BEYER: 23 feet. Okay.

4 NICK ACHORN: So you've got your static
5 wire --

6 MR. BEYER: Right.

7 NICK ACHORN: -- at the top and 23 feet
8 below would be your conductors.

9 MR. BEYER: Okay. In a -- between two
10 typical 100 foot structures 1,000 feet apart, what's
11 the typical sag?

12 NICK ACHORN: Well, so given -- it's going
13 to be between, I believe, 20 to 30 feet in sag, but
14 we also need to maintain 34 feet clearance to grade
15 under max sag conditions.

16 MR. BEYER: Right. So below your 30 foot
17 sag you've got a 26 foot -- 24 foot...

18 NICK ACHORN: Right. And let me just -- let
19 me just look at something real quick. So it could
20 be, I guess, 30 to 40, yeah, right around 40. So if
21 you're able to max out your spans completely and
22 assuming all things are equal, right, that it's all
23 flat terrain, so if you had two 100 foot structures
24 it would sag down to about 43 feet.

25 MR. BEYER: Okay.

1 NICK ACHORN: But just to take a step back
2 here, I think our average heights are 94 or about 100
3 feet above grade because of all of the terrain that
4 we have to go up and down, so we do not have any of
5 these typicals out here on the project, but.

6 MR. BEYER: Right. I'm just trying to get a
7 picture in my head.

8 NICK ACHORN: Sure.

9 MR. BEYER: So I'm going to step over here
10 for a minute. Okay. So I have some specific
11 location questions that I've looked at along
12 the line. This is -- and it depends on what number
13 structure you're looking at because there is two
14 different numbering systems. This is the one with
15 the structures that are just west of Rock Pond. Rock
16 Pond would be over here. So between structure 211
17 and 212, we've got -- and these are 20 foot contour
18 lines, there is 20, 40 feet of sag -- of elevation
19 change between the two structures.

20 NICK ACHORN: Mmm Hmm.

21 MR. BEYER: Some of these streams located on
22 this particular map are ephemeral, but there is three
23 perennial and several intermittent. Would it be
24 possible with a 40 foot change in elevation between
25 these two poles and they're 1,300 feet apart, 1,200

1 feet apart, can you leave a 30 foot tall canopy and
2 not have to raise those structures?

3 NICK ACHORN: So a 30 foot canopy could mean
4 that we'd only have to bump up that required
5 clearance another 20 feet because under standard
6 conditions we're allowing 10 feet, right?

7 MR. BEYER: Right. And you've got a 40 foot
8 drop.

9 NICK ACHORN: Right. So --

10 MR. BEYER: So you could leave a 20 foot
11 canopy there --

12 NICK ACHORN: Right.

13 MR. BEYER: -- without doing anything?

14 NICK ACHORN: I'd have to get in and
15 double-check with my -- I mean, I think you're right.
16 I don't --

17 MR. BEYER: Okay.

18 NICK ACHORN: I don't think that would be a
19 problem.

20 MR. BEYER: Okay. This is another set of
21 structures and this is Bog Brook, I believe. There
22 again 20 foot contour lines, 20, 40 feet of
23 difference, elevation difference on one side. 20,
24 40, 60, 80 feet on the other. Could you leave full
25 height canopy there and not have to change anything

1 in your design?

2 NICK ACHORN: It's possible. It is
3 possible.

4 MR. BEYER: Okay.

5 NICK ACHORN: And when we say full height
6 canopy are we putting a number to what that is or?

7 MR. BEYER: In the deer wintering areas it
8 of 75 feet, but, I mean, realistically if there was a
9 35 foot canopy there.

10 NICK ACHORN: So just a quick clarification,
11 the deer wintering areas we have things called deer
12 traveling corridors --

13 MR. BEYER: Mmm Hmm.

14 NICK ACHORN: -- and so we're allowing up to
15 35 foot vegetation to grow in those areas.

16 MR. BEYER: Right.

17 NICK ACHORN: So it's the Gold Brook,
18 Mountain Brook --

19 MR. BEYER: That has the higher --

20 NICK ACHORN: -- full height vegetation,
21 correct.

22 MR. BEYER: Right. Okay. Well, I'll turn
23 the question around then, how high of a canopy could
24 you leave there?

25 NICK ACHORN: Based on the current design

1 that's certainly something we can look into and see
2 what we have.

3 MR. BEYER: Okay.

4 NICK ACHORN: I'd have to open what we call
5 the PLS-CADD model to truly see, you know, what that
6 appearance is.

7 MR. BEYER: Okay. This the South Branch of
8 the Moose River, 20, 40, 60 feet of elevation change
9 on the west side. 20, 40, 60, 80 feet, almost 100
10 feet of change.

11 NICK ACHORN: Mmm Hmm.

12 MR. BEYER: Would it be possible to leave
13 a -- to install those structures and not have to cut
14 anything within 100 feet of that stream?

15 NICK ACHORN: You know, I think any of these
16 ones here that you've -- you're taking a liking to,
17 we can certainly look into these in more detail to
18 see what's available, but.

19 MR. BEYER: Okay.

20 MR. BEYER: I think this one is Moxie
21 Stream. Here again, there is 20 plus feet of
22 elevation change on the south side and then 40 on the
23 north side. How tall of vegetation could you leave
24 given a 40 foot elevation change between structures?

25 NICK ACHORN: So just because we see a 40

1 foot elevation change doesn't mean we've got an
2 additional 40 foot of spacing because depending on
3 how you size those structures we might try to hug
4 that clearance line as closely as possible, so we're
5 being, you know, economical and not over designing.
6 So to answer your question the way to achieve that is
7 to -- you would have to raise those structures to get
8 those heights that you're looking for.

9 MR. BEYER: Okay.

10 NICK ACHORN: If it's -- it's already not
11 done. I can't tell based on this if this is already
12 within the DWA.

13 MR. BEYER: No, that's outside of the DWA, I
14 believe.

15 NICK ACHORN: Okay. All right.

16 MR. BEYER: And then the last one is
17 Tomhegan. There again, the braided channel. And
18 you've got 40 plus feet of elevation change and I'm
19 not quite 40 feet of elevation change on the west
20 side -- east side. There again, how -- I mean, and
21 this is -- a lot of this vegetation is fairly low.
22 Do you even need to cut vegetation there would be my
23 question especially seeing how the existing
24 vegetation is probably less than 35 feet tall.

25 KENNETH FREYE: I agree with your general

1 assessment there. When you looked at that it's
2 mostly low vegetation in there now. I think there
3 are some -- there are going to be a few trees that
4 have some height in there, but, yeah, that's mostly a
5 low vegetation area. Now, I think we'd say, you
6 know, until you look at the cross-section we really
7 don't know because those structures on either side
8 may be designed such that there isn't another 10 or
9 20 feet of clearance there, but that's an area where
10 you'd have low vegetation around the streams and it
11 would provide good cover.

12 MR. MANAHAN: Mr. Beyer, I think the version
13 that we have of this is different than what you have.
14 It says Tomhegan, but it's a different image. It
15 looks like Moxie Stream maybe.

16 MR. BEYER: Oh, the printouts -- yes, there
17 is one -- there is two Moxie Stream. I changed the
18 large map, but I forgot to change the small ones. I
19 think there is two Moxie Stream.

20 MR. MANAHAN: Yeah. But we do have the
21 first Moxie Stream, but we don't have this one here.

22 MR. BEYER: You don't have that one?

23 MR. MANAHAN: Right. It's called Tomhegan,
24 but it looks like it's Moxie.

25 MR. BEYER: Yeah.

1 MS. KIRKLAND: Sorry.

2 MR. BEYER: Right. We will get you that.

3 MR. MANAHAN: Great. Thanks.

4 MR. BEYER: I think that's about all I have.

5 MR. BERGERON: Mr. Paquette, can you give me
6 a sense of your role in the siting of the original
7 NECEC corridor in evaluating alternative routes?

8 KENNETH FREYE: Yes, Dirigo Partners was
9 hired to do the siting and the acquisition of the --
10 of the corridor and identify alternative routes.

11 MR. BERGERON: Was it just your firm or were
12 there other firms and CMP personnel involved as well?

13 KENNETH FREYE: Well, yes, we've worked very
14 closely with the CMP management team. There was a
15 consulting engineering company that was part of the
16 project team and then we subcontracted the resource
17 work to Wetlands STP, Aerial Imagery and Cadastral
18 Survey.

19 MR. BERGERON: Okay. Thank you. I think
20 you had mentioned earlier that the original corridor
21 siting process took about three years. When did that
22 start and when was it finished?

23 KENNETH FREYE: We started in January of
24 2014 and we secured -- pretty much I think it was
25 November of 2017 when we pretty much wrapped up the

1 acquisition process on this.

2 MR. BERGERON: Okay. Thank you.

3 Mr. Tribbet, could you describe your role in the
4 siting of the original corridor and evaluating
5 alternative routes, please?

6 JUSTIN TRIBBET: Sure. In regards to the
7 siting of the corridor, I would say it was limited
8 involvement. In certain areas discussions happened
9 between Ken and I, but that essentially was my role.

10 MR. BERGERON: Okay. Thank you. Page 5 of
11 your rebuttal testimony when you said CMP anticipated
12 the sensitivity around the Upper Kennebec in
13 developing the project and if that was the case, why
14 did the original application include an overhead
15 crossing and not an underground?

16 THORN DICKINSON: Yeah, the -- we still
17 believed at the time that we filed the application
18 that the overhead design was the best alternative and
19 obviously that is -- we have changed that now.

20 MR. BERGERON: Okay. Thank you.
21 Mr. Bardwell, you noted on Page 3 of your
22 testimony -- rebuttal testimony that CMP did a
23 thorough review of undergrounding any additional
24 segments of the NECEC line. When did that review
25 occur?

1 JUSTIN BARDWELL: I am afraid I'll have to
2 pull up the context of that, but let's see. It's on
3 which page?

4 MR. BERGERON: Page 3 of your March 25
5 rebuttal testimony or it was submitted March 25 with
6 the CMP package.

7 JUSTIN BARDWELL: That was done before I was
8 brought on the project. It is in my testimony, but
9 that came from other people at CMP.

10 MR. BERGERON: Okay. Thank you. Do you
11 have any input on that, Mr. Dickinson?

12 THORN DICKINSON: I apologize. Can you
13 restate that?

14 MR. BERGERON: Yeah, let me find the quote.

15 JUSTIN BARDWELL: Oh, I'm sorry. I'm
16 further reading. That was actually referring to
17 additional underground alternatives. That was me. I
18 was the one who was reviewing the additional option
19 particularly at the P-RR subdistricts.

20 MR. BERGERON: Okay. When did that review
21 occur?

22 JUSTIN BARDWELL: In the weeks leading up to
23 the testimony. I'm not sure when exactly we started
24 that off the top of my head.

25 MR. BERGERON: This year? Last year?

1 JUSTIN BARDWELL: It was this year.

2 MR. BERGERON: Okay. Thank you. Can
3 anybody on the panel -- it was brought up earlier,
4 but these other transmission line projects in other
5 states, Northern Pass, Connect New York, TDI Vermont,
6 can somebody explain or can anybody and everybody
7 explain the similarities and differences on a
8 technical basis with NECEC? Obviously, some of the
9 environmental concerns, the regulatory concerns, the
10 social and economic concerns are going to be
11 different, but in terms of the technical basis or the
12 engineering basis, what are the similarities and
13 differences with those projects, please?

14 THORN DICKINSON: I'll just say, I'll
15 believe all the technologies are similar and they're
16 all VSC technologies if that's your question.

17 MR. BERGERON: Does that mean HVDC lines
18 or --

19 THORN DICKINSON: Oh, I'm sorry. So I think
20 if I captured every one of your -- they were all DC
21 lines, yes.

22 MR. BERGERON: Okay. And from a technical
23 standpoint, again, setting aside economics, from a
24 technical standpoint, overhead versus underground
25 options are available from a technical perspective on

1 all those types of projects; is that correct?

2 JUSTIN TRIBBET: I guess I would say that
3 they are. I guess one thing that I would point out,
4 and Mr. Bardwell covered in his testimony, is that
5 the other projects were generally I think 1090
6 megawatts or less and I think Mr. Bardwell can
7 elaborate further on the complications of that. I
8 think it goes to a second cable per pole.

9 JUSTIN BARDWELL: The power of transfer
10 requirements proposed for this project increased the
11 cost for underground substantially because it crossed
12 the threshold where we had to increase the number of
13 conductors per pole.

14 MR. BERGERON: I guess I don't understand
15 that. Can you explain that a little bit more?
16 Because there is two conductors on the proposed
17 poles, right?

18 JUSTIN BARDWELL: The pole also refers to
19 the positive and negative conductors in the HVDC
20 system. So those two overhead conductors on the
21 other projects because they kept their power transfer
22 low they will able to match that with a single
23 underground cable for each overhead conductor. On
24 this project, the power transfer requirements are
25 significantly higher and that requires us to use two

1 underground cables for each of the one overhead
2 lines.

3 MR. BERGERON: Okay. Thank you. It's been
4 discussed quite a bit today about locating or looking
5 at one or more alternatives or options along Route
6 201. Can somebody explain to me why CMP has not
7 spoken directly DOT and asked them specifically or
8 gotten anything in writing or anything about why or
9 why not this line overhead or underground could be
10 co-located with that roadway?

11 THORN DICKINSON: Well, I'd start off just
12 by recognizing that from an overhead perspective, and
13 Ken can feel free to add in here, that it is a
14 nationally and state recognized scenic byway, so the
15 project was actually purposely designed in order to
16 minimize the viewshed from Route 201, so from an
17 overhead perspective. And as I describe in my
18 testimony, you know, we believe that an underground
19 line along 201 along being some of the other
20 challenges that were mentioned, even if you put all
21 those aside would have ultimately led to a defeat of
22 the project purpose, which is, you know, building a
23 project delivering clean energy to New England.

24 MR. BERGERON: Okay. Thank you. Maybe this
25 is for Mr. Bardwell as well. On Pages 15 and 16 of

1 the rebuttal testimony talking about additional risks
2 for overhead faults, can you help me understand if
3 there is tree clearing requirements around these
4 overhead conductors how could a falling tree impact
5 the lines?

6 JUSTIN BARDWELL: So the most common cause
7 for a fault on an overhead line is for a tree growing
8 up underneath to get past the vegetation management
9 program and get taller faster than we thought or
10 something from outside the corridor to lean into the
11 corridor and create a fault path.

12 MR. BERGERON: Like what?

13 JUSTIN BARDWELL: A tree.

14 MR. BERGERON: Okay.

15 JUSTIN BARDWELL: Trees fall.

16 MR. BERGERON: Right. But I thought with
17 the clearing distances that wouldn't be possible
18 given the height of the pole and the height of the
19 wires. I guess I'm just trying to understand that,
20 how if a tree on the edge of the cleared right of way
21 falls over is that not going to be shorter than where
22 the wire would be, again, unless there was a rogue
23 tree, let's say, that grew much faster than you
24 anticipated.

25 NICK ACHORN: Sorry, are you referring

1 specific to the overhead t-line?

2 MR. BERGERON: Yes.

3 NICK ACHORN: So part of the -- part of the
4 maintenance plan is also taking care of what we call
5 danger trees to make sure that there are no trees
6 that could potentially fall on the conductors, so
7 that is -- that is an additional thing that would be
8 done, you know, prior -- prior to energization. Does
9 that make sense?

10 MR. BERGERON: Yeah. I guess I'm just
11 trying to understand when you're making comparisons
12 about repairing overhead lines versus underground
13 lines and underground lines would take much longer to
14 repair what is the likelihood of a falling tree
15 actually taking one of these overhead lines out and
16 it seems pretty low and I just want to make sure I'm
17 understanding that correctly.

18 NICK ACHORN: Correct.

19 MR. BERGERON: Okay. Thank you.

20 NICK ACHORN: You're welcome. Back to my
21 question earlier about heaven forbid we have another
22 ice storm of 1998 here and one or more sections of
23 line -- overhead line physically come down, you know,
24 hundreds of feet, if not miles, of line come down,
25 how long would that take CMP to repair?

1 NICK ACHORN: So part of this -- part of
2 this project, I believe, going back to what Gil had
3 kind of touched on earlier about dead ends and
4 anti-cascading. I don't believe we have any run more
5 than 2 miles where we don't have a dead end to dead
6 end. So right there we have an anti-cascading
7 effect, so, I mean, if -- and the other part to this
8 is the load cases that we're using when we design
9 this line, CMP goes one step above and beyond what is
10 required by the National Electric Safety Code, so we
11 have a geographic specific ice case that we use. So
12 these structures are designed to withstand a good
13 amount of ice and then the structures are also
14 designed if something did happen it wouldn't be a
15 cascading event down the line. As far as how long it
16 would take them to get out there and do the
17 replacements, I mean, I would think it's, you know,
18 within a few days. We would have to have some
19 materials on hand for them to get out there to do the
20 work, but I'll open it up to the rest of the panel to
21 chime in too.

22 KENNETH FREYE: Yeah, I can just -- just for
23 reference in the '98 ice storm, CMP lost I think it
24 was one 115 kV structure and conductor on a river
25 crossing in that whole 34 kV line. The transmission

1 system is very rugged and rarely is put out for
2 weather. Distribution is something else. That takes
3 a lot of -- a lot of heat on an ice storm. So the
4 probability of an ice storm, you know, major damage
5 is relatively low based on experience. And then, as
6 Nick said, that the repairs are usually relatively
7 easy to do.

8 MR. BERGERON: Thank you. Switching to HDD
9 for a minute and this is for anybody on the panel. I
10 believe some somewhere in the testimony it stated a
11 maximum typical distances for HDD is in the range of
12 4,000 to 7,000 linear feet. At the Kennebec River
13 HDD, the pit to pit distance is apparently about --
14 or, I'm sorry, 1,600 horizontal feet, but the length
15 of the actual cable would be about 3,000 feet, if
16 we're measuring it correctly, with cable lengths of
17 2,000 to 2,500 feet how do you splice under the
18 river?

19 JUSTIN BARDWELL: So there would be no need
20 to splice underneath the river. We would locate a
21 splicing bay, a joint bay on either side of the hill
22 as far up the hill as we could get them so we had
23 access to them. 1,600 feet, that doesn't seem quite
24 right. I think we're significantly longer than that.

25 KENNETH FREYE: The distance -- the overhead

1 line is about a 2,500 foot span.

2 MR. BERGERON: Okay.

3 JUSTIN BARDWELL: But that is quite likely
4 at the Kennebec River crossing in order to be able to
5 access the splicing vaults we're going to have to
6 bring in oversized reels, which makes our access
7 requirements even more of an issue.

8 MR. BERGERON: Okay. One of the things we
9 had asked for in the Tenth Procedural Order was in
10 CMP exhibits that talked about the undergrounding
11 cost options for 53 miles or 147 miles, we had asked
12 for additional cost back-up for that. Can somebody
13 explain why that hasn't been provided. There was
14 narratives given in addition to that, but clearly I'm
15 guessing there was additional spreadsheets, costing,
16 unit prices, you know, labor costs, those sorts of
17 things to back-up those costs. Is that information
18 available?

19 MR. MANAHAN: Mr. Bergeron, if I may, that
20 may be more of a question for me because I -- the --
21 as I read your Procedural Order Number Four in
22 Appendix B it says for all of the cost estimates,
23 summary sheets in the rebuttal testimony please
24 provide additional back-up spreadsheets or details
25 for how each of the line item costs were determined.

1 And so I read that and I think our witnesses read it
2 partly at my direction as either/or and I think they
3 determined that the most -- the easiest thing for you
4 to understand would be the details.

5 MR. BERGERON: Okay. I guess I could have
6 been clearer when I asked, but similar to all of the
7 natural resource impacts we have, say, the executive
8 summary sheet for vernal pools and streams and then
9 we have, you know, hundreds of pages of back-up for
10 every single square foot of impact for those. I
11 guess I -- what I was looking for was that type of
12 dollar breakdown for those cost estimates not a
13 narrative on how you got there, so I probably
14 shouldn't have said or. I should have said please
15 give us numbers.

16 MR. MANAHAN: I apologize for that
17 misunderstanding.

18 MR. BERGERON: Okay. Thank you. This may
19 be for Mr. Paquette or anybody on the panel. Have
20 foundation types and dimensions of the poles been set
21 for each structure of the proposed line?

22 NICK ACHORN: Can you -- can you clarify
23 what you mean by dimensions of structure?

24 MR. BERGERON: Do you know how high each
25 pole is and do you know how many concrete or direct

1 embedded foundations you're going to have?

2 NICK ACHORN: Yes, at this point that has
3 been narrowed down. I guess kind of going back to
4 what Jim Beyer was looking at earlier, I mean, this
5 could have an impact on if we do raise some of those
6 structure heights what those differences will be,
7 but, yeah, for your running angles we have a set
8 distance for the dead ends, we have a set distance
9 between them and we know where some of those caisson
10 foundations would be required.

11 MR. BERGERON: And is that in our record for
12 this permit somewhere that we could go through or is
13 that additional information that would need to be
14 provided?

15 NICK ACHORN: I guess my understanding is
16 that that would be additional information.

17 MR. BERGERON: I just want to make sure I
18 have all of my questions taken care of. I think
19 that's all. Thank you.

20 MR. BEYER: I've got one -- two follow-ups
21 actually to questions that Mark asked about the
22 splice vaults on the Kennebec River crossing. Would
23 they be located closer to the river than the drill?

24 JUSTIN BARDWELL: No, they would be farther
25 away from the drill.

1 MR. BEYER: Okay. And then the last
2 question, can you horizontally directionally drill
3 around a corner or do you have to be in a straight
4 line?

5 JUSTIN BARDWELL: It needs to be a very big
6 corner. The turning radius is somewhere around 2,000
7 to 2,500 feet.

8 MR. BEYER: Okay. Thank you.

9 MS. BENSINGER: My first question was
10 deferred to this panel and I'm not sure who would
11 want to answer it. Would it be possible to string a
12 second set of conductors under the proposed set?

13 NICK ACHORN: Are you -- are you asking
14 would we go from horizontal configuration to vertical
15 configuration or are you asking could we install
16 another circuit underneath this current proposed
17 line? Sorry if I misunderstood.

18 MS. BENSINGER: It's the latter. At a
19 future date.

20 NICK ACHORN: I mean, it's always -- it's
21 always possible, but it would -- it would have to be
22 of a specific line voltage. You know, this is --
23 this is designed for a 320 kV HVDC, so when we talk
24 about impacts there could be additional impacts down
25 the road we might need, what we call mid-span poles,

1 so you might be able to under build it or you might
2 need something in between. There are those options.

3 KENNETH FREYE: I think the answer is it's
4 just not designed for it.

5 NICK ACHORN: Well, yeah, the true answer is
6 it's not do designed to support anything underneath
7 it, but if -- if there was a distribution down the
8 road, let's say, you might have that option, but
9 that's -- that would have to be looked at at that
10 time.

11 MS. BENSINGER: Thank you. To follow-up on
12 one of Mr. Bergeron's questions about -- which you
13 answered with a reference to the voltage of this
14 particular project. Wasn't the Northern -- isn't the
15 Northern Pass project for the same amount of power as
16 this project?

17 JUSTIN BARDWELL: No, it's not. It's
18 operating at the same voltage but it does not have
19 the same power transfer capacity.

20 MS. BENSINGER: So did the Northern Pass
21 project, the section of that that is proposed to be
22 underground, was that two cables underground?

23 JUSTIN BARDWELL: It was a total of two
24 cables as opposed to the four and the spare that
25 we're looking at here.

1 MS. BENSINGER: If the underground -- I
2 believe this is for Mr. Thornton (sic). If the
3 undergrounding of Segment 1 would make the total cost
4 of this 1.6 billion, isn't that the same price as the
5 Northern Pass project that was proposed in the
6 Massachusetts RFP process?

7 THORN DICKINSON: I don't think we know
8 actually what their capital cost was. I think we
9 know what they publicly said. I thought it was a
10 little less than 1.6 billion off the top of my head,
11 but I -- I don't remember exactly.

12 MS. BENSINGER: So the documents indicate
13 1.6 billion?

14 THORN DICKINSON: It's in that ballpark, I
15 think, yeah.

16 MS. BENSINGER: And they got the bid
17 originally from the Massachusetts RFP process,
18 correct?

19 THORN DICKINSON: That's correct. If I
20 could, would you mind if I just clarify one aspect of
21 that?

22 MS. BENSINGER: Please.

23 THORN DICKINSON: The, you know, this was
24 not a bid that was just evaluating what the capital
25 cost of a project is and the lowest capital cost is

1 the one that would be picked, so there is a detailed
2 model that the evaluation team would be looking at
3 the cost and benefits over time of a project, so
4 property taxes, O&M, A&G, return, all those things
5 would go into an overall analysis. It's not just a
6 capital cost. In addition, the timing associated
7 with the project, so Northern Pass had argued that
8 their project was going to come into service
9 significantly earlier than ours.

10 MS. BENSINGER: I understand that.

11 THORN DICKINSON: Okay. So on a net present
12 value basis that would have a substantial benefit
13 over a project that was later in time.

14 MS. BENSINGER: Right. I understand that.
15 In the project purpose that is described in the
16 application it was described as the overall purpose
17 of this project is to deliver up to 1,200 megawatts
18 of renewably generated electricity from Quebec to the
19 ISO New England electric grid at the lowest cost to
20 the ratepayers; is that correct?

21 THORN DICKINSON: That's correct.

22 MS. BENSINGER: Are we talking about the
23 Massachusetts ratepayers there? What ratepayers are
24 you referring to?

25 THORN DICKINSON: Yeah, the ratepayers that

1 would be paying for the project, which is the
2 Massachusetts ratepayers.

3 MS. BENSINGER: So if additional costs are
4 added as a result of if an approval were to be given
5 to this project and conditions made it significantly
6 more expensive that would still achieve the project
7 purpose in that Massachusetts ratepayers would not
8 have to pay any of those additional costs; is that
9 correct?

10 THORN DICKINSON: Yeah, unless as we were
11 talking about earlier it crossed a threshold where
12 the project wasn't able to move forward.

13 MS. BENSINGER: Right. Mr. Bardwell, are
14 underground lines more reliable than overhead lines
15 in terms of outages?

16 JUSTIN BARDWELL: More reliable is a little
17 hard to define, so underground lines have fewer
18 outages but the outages take longer. The statistics
19 are not very good for underground lines, so I can't
20 give a really good answer to that.

21 MS. BENSINGER: So you mentioned outage or
22 repair rate for overhead lines earlier today, what
23 was that?

24 JUSTIN BARDWELL: I believe it was 0.53
25 incidents per 100 miles per year.

1 MS. BENSINGER: And do you have a similar
2 ratio or rate for underground lines?

3 JUSTIN BARDWELL: Yes, it's in my testimony
4 in the same section. So the rate per underground
5 based on about nine year old data is 0.141 and that's
6 per year per 100 miles.

7 MS. BENSINGER: Thank you. On Page 7 of
8 your testimony -- your supplemental testimony, did a
9 New Hampshire and the proposed underground line going
10 to New York City happen to install spare cable?

11 JUSTIN BARDWELL: Is that -- I am not sure.
12 I don't know exactly what you're referring to.

13 MS. BENSINGER: The Northern Pass route,
14 does that have an installed spare cable?

15 JUSTIN BARDWELL: I don't know what they
16 have planned.

17 MS. BENSINGER: And there is a recently
18 discussed route or proposal that's gaining steam for
19 an installed underground cable bringing power from
20 Upstate New York to New York City, are you familiar
21 with that?

22 JUSTIN BARDWELL: I am not.

23 MS. BENSINGER: One minute. Connect New
24 York.

25 THORN DICKINSON: Connect New York is a

1 project that is something that I've worked on in the
2 past.

3 MS. BENSINGER: Is that an Iberdrola
4 contract -- project?

5 THORN DICKINSON: It's an Avangrid project.

6 MS. BENSINGER: Avangrid project. So are
7 you familiar with that project?

8 JUSTIN BARDWELL: I am not.

9 MS. BENSINGER: Mr. Paquette, you testified
10 that you worked on the Atlantic Link Project?

11 GIL PAQUETTE: Yes, I did.

12 MS. BENSINGER: What was the cost of that
13 proposed project? The capital cost.

14 GIL PAQUETTE: I -- I didn't work on the
15 cost for that project.

16 MS. BENSINGER: Okay.

17 GIL PAQUETTE: So I'm not sure what that
18 was.

19 MS. BENSINGER: What percentage of that
20 project was above-ground and what percentage was
21 below ground?

22 GIL PAQUETTE: It was primarily a submarine
23 cable and when it made landfall it had maybe 1 or 2
24 miles of underground.

25 MS. BENSINGER: And the Vermont proposal

1 that has already obtained its permits that goes
2 partially under Lake Champlain, do you know how much
3 of that is underground but not under water?

4 GIL PAQUETTE: No, I'm not familiar with
5 that project.

6 MS. BENSINGER: Are you familiar with the
7 Northern Pass project?

8 GIL PAQUETTE: Just what you read in news.
9 Because of the project Atlantic Link that I was
10 working on my company was working on other projects
11 at the same time, so we couldn't discuss those
12 projects amongst ourselves.

13 MS. BENSINGER: And you testified that you
14 worked on the Maritimes and Northeast pipeline?

15 GIL PAQUETTE: I did, yes.

16 MS. BENSINGER: How wide is the clearance
17 corridor for that project?

18 GIL PAQUETTE: The cleared corridor is 50
19 feet. They have rights 25 feet on each side of the
20 pipe. During construction the -- the working right
21 of way was 75 feet in most places.

22 MS. BENSINGER: In your sur-rebuttal
23 testimony on Page 7 you state that although there
24 tends to be agreement in the field regarding the
25 benefits of the PE cable, it's my understanding that

1 no PE project has operated for the entirety of its
2 useful life at the proposed voltage of the NECEC, so
3 are you suggesting that we should wait 40 years
4 before we use PE cable to make sure that they work
5 for the entire life of a project?

6 GIL PAQUETTE: That would be up to the
7 developer to assess the risk that -- I'm not
8 suggesting waiting 40 years. I'm just saying that
9 the information is not there.

10 MS. BENSINGER: Even though there is
11 agreement in the field regarding the benefits of that
12 technology?

13 GIL PAQUETTE: When compared to the mine
14 cables, yes.

15 JUSTIN BARDWELL: If it helps, that system
16 has been used in AC at this voltage for roughly 25
17 years.

18 MS. BENSINGER: Okay. Thank you. When you
19 testify -- on Page 14 of your sur-rebuttal and at
20 various points today, you referred to a recent HVDC
21 project that you worked on, what project was that?

22 GIL PAQUETTE: The most recent was Atlantic
23 Link.

24 MS. BENSINGER: And was that actually
25 constructed?

1 GIL PAQUETTE: No. Neither project that I
2 worked on was constructed.

3 MS. BENSINGER: And, Mr. Achorn, we have
4 conflicting testimony today about whether taller --
5 when using taller poles there would have to be more
6 poles or the poles would have to be closer together.
7 What is your view on that?

8 NICK ACHORN: Are you referring to the full
9 height vegetation areas what do we need?

10 MS. BENSINGER: Yes.

11 NICK ACHORN: If you -- you could minimize
12 the size of the structures themselves by putting in
13 more and that will save on a first structure cost,
14 but there is going to be more of them so that cost
15 will not be beneficial at the end of the day. But
16 for simply meeting the vegetation heights that are
17 requested whether it's 75 feet vegetation or it's 35
18 feet vegetation theoretically you should just be able
19 to bump those structures up in height.

20 MS. BENSINGER: So there would not need to
21 be more poles when they're taller?

22 NICK ACHORN: For the most part, yes. You
23 might find some certain situations where you're
24 traversing a hill where it might be tough and you
25 might need an intermediate structure. But you are

1 pushing the boundaries of how tall these structures
2 can get at a certain point because, you know, above
3 200 feet we start to have some issues.

4 MS. BENSINGER: Okay. Thank you. I don't
5 have any further questions.

6 MS. MILLER: Five seconds.

7 MR. BERGERON: I remembered one of my
8 questions about HDD. If the maximum distance is 4 to
9 7,000 feet what happens at the end of those, is there
10 are some above-ground structure where the underground
11 line would come up to something and then back down or
12 is it just a construction technique where it can
13 still all underground if it was HDD for say miles?

14 JUSTIN BARDWELL: We could continue on as an
15 underground line using trenched or trenching
16 techniques. We generally would have to install a
17 jointing bay very close to the end of a drill that
18 long and then we could continue on underground.

19 MR. BERGERON: Thank you.

20 MS. MILLER: Okay. So Group 3 redirect for
21 Mr. Paquette.

22 MR. BOROWSKI: I think it was a few hours
23 going now, but you might remember that Ms. Tourangeau
24 asked you about the need for site specific
25 undergrounding analyses, for example, on soil and you

1 agreed with her, but isn't it also true that you
2 testified that site specific underground analysis as
3 would be required for a full blown regulatory
4 alternatives analysis is not always necessary and
5 that, in fact, you weren't surprised that in this
6 case it wasn't done?

7 GIL PAQUETTE: Yeah, that's correct.
8 Especially during the permitting process, you know,
9 going out and taking those types of samples which
10 would be borings, we'd have to -- in order to
11 adequately characterize the types of soils along a
12 route would require many borings and you -- and you
13 wouldn't do that in advance of your -- of receiving a
14 permit.

15 MR. BOROWSKI: Okay. I think -- let me
16 ask -- try to ask a little clearer. I was just using
17 soil as an example, but speaking generally about site
18 specific analyses, I believe -- isn't it true that
19 you testified that it's not always necessary to do
20 site specific analyses beforehand, the types of
21 analyses that you would do for a full blown
22 regulatory alternatives analysis and that you weren't
23 surprised in this case that one wasn't done and you
24 described a few reasons why; is that true?

25 GIL PAQUETTE: Yes, I was not surprised

1 that -- that it was not completed.

2 MR. BOROWSKI: Can you explain some of your
3 reasons why you thought in this case that a
4 engineering type analysis rather than a full blown
5 regulatory alternatives analysis was sufficient?

6 GIL PAQUETTE: That an engineering analysis?

7 MR. BOROWSKI: An engineering type analysis
8 as opposed to a full blown regulatory alternative
9 analysis. I can point you to specific --

10 GIL PAQUETTE: Yeah, if you don't mind.

11 MR. BOROWSKI: I brought the wrong one.

12 GIL PAQUETTE: Do you mean it wasn't --
13 sorry.

14 MR. BOROWSKI: I'm going to refer you,
15 please, to Page 4 of your sur-rebuttal testimony.
16 Specifically the first full paragraph, the first
17 sentence would you read that for me?

18 GIL PAQUETTE: In this case, CMP was correct
19 in not initially considering an underground
20 alternative for Segment 1 from a legal perspective
21 that is doing a full blown regulatory alternatives
22 analysis because based on initial engineering
23 considerations it could be reasonably -- it could
24 reasonably be determined that undergrounding would
25 not work for varied reasons associated with

1 practicability including costs, transportation,
2 logistics and construction challenges, many of which
3 would increase negative environmental impacts
4 compared to an overhead line. And I do understand
5 your question now that the engineering analysis was
6 done and it wasn't in the full blown alternatives
7 analysis or underground wasn't considered in the full
8 blown alternatives analysis and I do agree that
9 because of the of many reasons that make
10 undergrounding difficult and challenging and costly
11 that you wouldn't have -- you wouldn't want to
12 include that in an alternatives analysis. Why waste
13 time looking at that alternative when you already
14 know that it's pointless.

15 MR. BOROWSKI: Is there a specific reason in
16 this instance for this region you would -- you have
17 that conclusion?

18 GIL PAQUETTE: Well, I think, as I mentioned
19 earlier, I think the remoteness, topography,
20 transportation, thermal sand, transporting reels to
21 the project right of way, all of those things
22 would -- are intuitive for those who are working in
23 the industry.

24 MR. BOROWSKI: Thank you. I just have one
25 more question, Mr. Bergeron asked Mr. Bardwell a

1 series of questions about the risk of a tree falling
2 on an overhead line and I believe you included in
3 your supplemental testimony some information that
4 would be responsive to his questions. So could you
5 tell me, does vegetation have to touch a line for a
6 fault to occur?

7 GIL PAQUETTE: No, it doesn't and that's why
8 it's been discussed that there is a -- that there is
9 a certain distance above the low point of the
10 conductor where the belly of the sag is to the ground
11 electric -- an electric transmission line especially
12 of this voltage can arc so vegetation doesn't have to
13 touch the tree -- the conductor in order for a fault
14 to occur. It can flash over to tall vegetation.
15 And, in fact, and I mentioned this, in 2003 there was
16 a blackout just for that reason. There was, you
17 know, a flashover conductor to the conductor and that
18 caused a huge blackout in the northeast.

19 MR. BOROWSKI: So roughly how far can that
20 flashover occur?

21 GIL PAQUETTE: For this voltage about 15
22 feet, I'd say.

23 MR. BOROWSKI: Okay. Thank you very much.
24 That's all I have.

25 MS. MILLER: Mr. Manahan for the Applicant.

1 MR. MANAHAN: Very quickly for Mr. Bardwell.
2 Mr. Bardwell, Ms. Ely asked you why CMP did not
3 analyze the cost to underground the project along
4 Route 201 and your response was that the analysis was
5 not done because that route was not viable and
6 Mr. Bergeron subsequently asked a similar question
7 which is basically why you or CMP did not speak with
8 DOT about an underground line or an overhead line
9 along Route 201 and I think Mr. Dickinson was
10 actually responding to the overhead line issue with
11 respect to the scenic byway issue. And my question
12 for you is why is it an underground route along Route
13 201 not viable?

14 JUSTIN BARDWELL: There are several reasons.
15 The biggest one and the hardest to overcome is that
16 the Maine Department of Transportation will not allow
17 the line to be built in the travel lanes and there is
18 insufficient room alongside the travel lanes to
19 actually install the line.

20 MR. MANAHAN: Thank you. No further
21 questions.

22 MS. MILLER: Recross. Group 8.

23 MS. TOURANGEAU: I will be very quick
24 because I know we are all ready to be done.
25 Mr. Dickinson, I just put a laptop in front of you

1 that has -- I'm going to represent this to you and
2 hopefully you'll take me at my word that has Pages
3 168 and then I'm going to ask you to scroll down to
4 Page 169 of the Dostie transcript from day two of
5 the -- so it would be the April 2 hearing date that
6 was the joint DEP and LUPC hearing.

7 MR. MANAHAN: I -- I object to Ms.
8 Tourangeau first off asking Mr. Dickinson a question
9 that had nothing to do with redirect. There is -- I
10 didn't ask Mr. Dickinson any question on redirect. I
11 asked Mr. Bardwell, so there is no question to be
12 asked of Mr. Dickinson on recross when I didn't
13 redirect him.

14 MS. TOURANGEAU: But this goes to the
15 questions that I was asking him earlier that he had
16 an answer for on the -- that he didn't recall the
17 testimony that he had given and this is that
18 testimony.

19 MS. MILLER: I -- I am inclined to agree
20 with Mr. Manahan on this one. It's not related to
21 the redirect that he just addressed.

22 MS. TOURANGEAU: Okay. Okay. So we can't
23 recross on items that were questions that were asked
24 as has been previously allowed?

25 MS. MILLER: Recross is to address redirect.

1 MS. TOURANGEAU: Okay. All right.

2 MS. MILLER: Any other recross? Okay. Any
3 other Department questions? Okay. So I'm going to
4 go ahead and I have just a few statements in closing,
5 but before I get to that there are a few things that
6 we addressed during today's long day. One was there
7 were some maps that Dr. Simons-Legard had indicated
8 that she was going to submit and we indicated that
9 she would have a week to submit those so that will be
10 next Thursday. And then we will provide an
11 additional week for all of the parties to provide
12 comments on those maps or responses or comments.
13 This one is from Mr. Bergeron, he had -- one of the
14 questions he had for this particular panel had to do
15 with the cost breakdown and there was an interchange
16 between Mr. Bergeron and Mr. Manahan about those and
17 he's specifically looking for cost dollars, numerical
18 back-up for CMP exhibits -- specific CMP Exhibits 11,
19 CMP 11-B, CMP 11-C, CMP 11-D, CMP 11-E, CMP 11-F and
20 CMP 11-G of Mr. Bardwell's pre-filed rebuttal
21 testimony, which is dated March 25, 2019. And is
22 that something that can be provided in a week?

23 MR. MANAHAN: So we just need to look at
24 which ones they are.

25 MS. BENSINGER: Would it be helpful if I

1 gave you this list in writing?

2 MR. MANAHAN: I think that would be helpful,
3 yes.

4 MS. GILBREATH: It's just 11-B through G,
5 right?

6 MR. MANAHAN: Is it 11-B through G?

7 MS. BENSINGER: Correct.

8 MR. BERGERON: Essentially all of the
9 undergrounding options spreadsheets, all of the cost
10 data kind of behind those numbers. I am assuming
11 there is additional spreadsheets, maybe there is not.
12 If there is no other detail than what exists on these
13 sheets, fine, but my guess with numbers this big
14 there is probably multiple spreadsheets behind
15 documenting that.

16 MR. MANAHAN: So I guess I would defer this
17 to Justin Bardwell. It sounds like this is all
18 Justin Bardwell's back-up. It's all of the 11s and
19 so I would defer to him to ask is that something you
20 can supply within a week, these back-up sheets?

21 JUSTIN BARDWELL: Unfortunately, the sheets
22 do include some proprietary data, so would I have to
23 check with my own corporate lawyers and make sure
24 what I can and cannot provide, but I should be able
25 to provide you something in a week.

1 MR. BERGERON: Thank you. That would be
2 great.

3 MS. MILLER: Okay. And then of course a
4 week after the parties will have another week after
5 that, so the following Thursday to respond to that
6 information. Okay. So for both of those documents,
7 the maps and the back-up data, everybody gets until a
8 week from today, Thursday, and then the following --
9 the following week after that parties have an
10 opportunity up until that point to submit any
11 comments.

12 The other issue we discussed earlier today
13 was also that there is the possibility of a site
14 visit and as soon as we know anything after that's
15 been decided, all of the parties will be notified as
16 to what will happen with that. So with that I --

17 MR. MANAHAN: Ms. Miller, could I just say
18 within that week Group 4 filed shortly after their
19 presentation today some hundreds of pages of
20 additional comments, which I -- have to do with
21 various issues and one of the procedural orders
22 previously said that if one of the parties files
23 materials at the last minute, Ms. Bensinger I know
24 had given many cautions to file comments well prior
25 to the deadline, but these comments were filed today

1 with the close of the record, so we don't have
2 obviously any time to review them or respond, so I
3 would ask within that week to be able to respond to
4 the last minute materials that Group 4 filed today at
5 about noon or two weeks since that's, sorry, that's
6 the deadline for filing these supplemental materials.

7 MS. BENSINGER: We discussed that briefly.
8 We haven't seen that filing yet, so that will be
9 taken -- your request will be taken under advisement
10 and we will let you know, but we haven't even seen
11 it. It may be that it doesn't warrant extra time to
12 respond to. These are non-hearing topics I'm told,
13 so we'll take your request under advisement.

14 MR. MANAHAN: Thank you.

15 MS. MILLER: Okay. So thank you all for
16 your participation -- Group 4.

17 MS. ELY: Just -- I would just like to
18 object to the characterization that somehow we are
19 trying to dump things at the last minute. We've been
20 dealing with an awful lot of paperwork and filing
21 with CMP and so we did our best to file things and
22 today was the deadline so we did our best to file
23 comments that are not hearing topics before the
24 deadline and we did that.

25 I have a question, there was some discussion

1 with the last panel about whether they could make
2 certain heights -- it was in response to Mr. Beyer's
3 questions with the sheets about whether they could
4 make certain heights, you know, with the vegetation
5 cover and there was some talk about -- I was unclear
6 whether there was going to be a response to those
7 questions like the particular streams that were
8 mentioned here, Tomhegan Stream, Moxie Stream,
9 whether they could be full vegetation or what the
10 pole height would have to be, a lot of them were
11 Mr. Achorn's questions and I wasn't clear on whether
12 there would be a response to that or -- or not.

13 MS. MILLER: So that was in relation to Mr.
14 Beyer's questions with those big maps and I think
15 that was the questions to Mr. Achorn, is that
16 information that you could get us within a week?

17 NICK ACHORN: Yes. These maps that are
18 shown right here, where did these come from? Was
19 this from Amy Segal or was this something --

20 MR. BEYER: No, I made them.

21 NICK ACHORN: You did. Okay.

22 MR. BEYER: Yes. And I can --

23 NICK ACHORN: Can I get you --

24 MR. BEYER: I can email you .jpegs of those
25 with all of those on it --

1 NICK ACHORN: Perfect.

2 MR. BEYER: -- but it came off of Google
3 Earth information on our website.

4 NICK ACHORN: Okay. Yup. If you could pass
5 a that along that would be great.

6 MR. BEYER: Yup.

7 NICK ACHORN: Thank you.

8 MS. MILLER: And similarly with any of the
9 new information we are going to receive in a week we
10 will provide an extra week for the parties to provide
11 comments on. Okay. Anything else before I get
12 started now with closing?

13 Okay. Thank you all for your participation
14 in this adjudicatory hearing. This concludes the
15 hearing and aside from the exceptions we just talked
16 about no more evidence will be submitted by the
17 parties. The parties will have the opportunity to
18 submit closing briefs, proposed findings of fact and
19 reply briefs.

20 At this time, it's my understanding that the
21 transcript for today will be ready on May 20. At the
22 end of the hearing day on April 5, I asked parties to
23 provide input on the length of time they preferred to
24 prepare and submit their closing briefs and findings
25 of fact. Upon consideration of those requests, I

1 decided to allow 21 days after the transcript has
2 been provided to the parties for the submission of
3 closing briefs and proposed findings of fact. The
4 parties may submit reply briefs, which will be due 14
5 days after the due date for closing briefs. The
6 exact deadline line for briefs will be confirmed in
7 writing once we receive and distribute the
8 transcript, but right now it looks like it will be
9 June 10, 2019 for the closing briefs and proposed
10 findings of fact and June 24, 2019 for the reply
11 briefs.

12 Your arguments will be most meaningful and
13 credible if you include citations to evidence in the
14 record where appropriate. Do not attach any
15 documents that are not already -- that are not
16 already in the record. Any post-hearing material
17 submitted that is not in accordance with the terms
18 I've just outlined will not be considered and will be
19 stricken.

20 A little bit more about written public
21 comments. As we indicated earlier in this hearing
22 process written comments from the public, not the
23 parties, will be accepted by the Department and
24 Commission for 10 calendar days following the
25 conclusion of this hearing. So that's through May

1 20, 2019. For an additional seven calendar days
2 members of the public, not parties, may file
3 statements in rebuttal to those comments received in
4 the above 10 day window, that's through May 27, 2019.
5 Comments that do not meet this criteria will not
6 become part of the record. Any written comments from
7 the public should be sent to the Maine Department of
8 Environmental Protection to the attention of Jim
9 Beyer or to the Land Use Planning Commission to the
10 attention of Bill Hinkel.

11 At this time, does anyone have any
12 questions? Group 4.

13 MS. ELY: So you've set the date of the
14 clock starting by the May 20 transcript, my
15 calculation there is still going to be comments back
16 about the material submitted due on the 23rd and then
17 public comment rebuttal won't end until May 27 and so
18 was it -- was it going to be four weeks from the
19 transcript or four weeks from the time that new
20 information stopped coming in?

21 MS. MILLER: Hang on a second. I think what
22 we'll do -- it's three weeks was the time that we
23 decided, so 21 days and we'll do that from the date
24 the last filing comes in. What we'll do is confirm
25 that in writing once we have that information or once

1 I can get back to the office and look at a calendar
2 basically, we'll go ahead and confirm that in writing
3 to the service list so that everybody is on the same
4 page.

5 MS. ELY: Thank you.

6 MS. MILLER: Any other questions? All
7 right. With that, I will officially close this
8 hearing and thank you very much.

9

10 (Hearing concluded at 8:30 p.m.)

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C E R T I F I C A T E

I, Robin J. Dostie, a Court Reporter and
Notary Public within and for the State of Maine, do
hereby certify that the foregoing is a true and
accurate transcript of the proceedings as taken by me
by means of stenograph,

and I have signed:

_/s/ Robin J. Dostie_____

Court Reporter/Notary Public

My Commission Expires: February 6, 2026

DATED: May 19, 2019

< Dates >	May 20, 2019	000 287:19
10/30/2007	495:25	03301-4202
109:2	May 27 496:17	4:17, 8:17
11/25/2001	May 27, 2019	03581 5:28
109:4	496:4	04011 6:28
April 1 13:10	MAY 9, 2019	04101 3:10,
April 19 241:16	1:15	3:18
April 2 14:21,	May 9, 2019	04101-2480
432:18, 488:5	1:21	7:13, 7:21
April 23 109:14	November 25,	04112-9546
April 25 45:24	2011 68:15	4:41, 6:14
April 5 494:22	October 12	04330 5:14,
February 1	391:4	5:21
281:20,	\$1,000 384:2,	04332-0188 6:39
330:21	432:25	04332-1058 4:33
February 28,	\$10.78 368:19	04333-0112 7:30
2019 243:7	\$11 348:4	04351 5:35
February 6,	\$115,000	04976 3:35
2026 498:15	115:12,	
January 20	322:18,	< 1 >
274:4, 279:20	329:16,	1,000 36:9,
January 22	329:25	142:9, 229:8,
274:4, 325:1,	\$180,000 80:18	229:9,
332:10,	\$2 355:7	355:17,
332:19	\$200 89:20	430:12,
January 22,	\$200,000 80:16	452:10
2019 276:20,	\$240,000 329:16	1,090 368:25
330:19	\$243,000 115:13	1,200 368:25,
January 30	\$400,000 115:10	453:25,
276:11,	\$5,000 433:1,	475:17
309:20	433:2, 433:7	1,300 453:25
January 30,	\$645 371:25	1,600 468:14,
2019 279:23	\$650 89:20,	468:23
June 10, 2019	348:19, 372:9	1. 68:2, 72:22,
495:9	\$750,000 387:9	83:7, 93:9,
June 24, 2019	\$950 89:17,	114:13,
495:10	371:15	126:23,
March 25 461:4,	'98 467:23	142:18,
461:5	.53 421:3	153:22,
March 25, 2019	.8 142:14	172:17,
66:2, 489:21	.jpegs 493:24	276:5, 292:3,
May 1 242:23,	.kmz 224:24	310:1, 310:7,
247:2, 247:6,	.O. 4:32, 4:40,	432:15
292:11,	5:27, 6:13,	1.1 57:8
292:21,	6:38	1.1-B 57:19
415:12		1.5 387:9
May 19, 2019	< 0 >	1.6 348:21,
498:17	0.141 477:5	474:4,
May 20 494:21,	0.53 476:24	474:10,
496:14		

474:13	11-F 489:19	391:5, 395:7
1.8 348:18,	11-G 489:20	13-A 345:14
411:19	11. 373:4	130 160:5,
1/2 161:13,	11.1 391:5	170:6, 170:9,
214:13,	110 187:24,	170:14,
448:1, 449:23	189:19	170:17,
10-1 313:8,	112 7:29	171:13,
327:22,	113 10:4	171:15,
328:11,	115 287:19,	191:3, 191:7,
335:11	322:25,	196:6,
10-12 213:11,	323:12,	198:16,
213:13	380:24,	205:23,
10-2 72:25,	381:15,	205:25,
246:19,	467:24	206:4,
327:22,	115,000 233:13,	206:10,
328:11	378:5,	211:19,
10-2. 335:11	380:12,	212:21,
10. 30:10,	380:19	225:13,
136:4,	117 10:5	226:1, 226:8,
171:24,	11:46 178:11	285:17,
350:14,	11:55 178:12	285:19,
367:14, 368:2	11s 490:18	285:22,
10.1 313:8	12 212:9,	286:11,
10.78 368:24	212:13,	286:13,
10/30/2007.	302:15,	287:8,
68:8	346:15,	287:11,
100,000 144:8,	373:3,	377:21
446:21	405:18,	132 10:8
101 243:6	421:24	136 10:9
104 4:24	12. 418:9	14 6:26, 75:2,
1058 4:32	12.5 28:20	76:9, 235:22,
108 331:2,	120 137:12,	236:17,
333:13	375:8,	480:19, 495:4
1090 463:5	375:12,	14-B 123:17
10: 8:5	375:13,	14.46 388:7,
10:10 108:3	375:16,	388:11
10:25. 113:8,	375:24,	140 97:10,
113:13	376:7,	226:5
10s 37:23	377:20,	141 10:10
11 373:15,	379:22,	145 412:25
390:25,	380:13,	146 414:5
394:16,	381:13	147 469:11
421:22,	122 10:7	149 302:23
489:18	125 171:5,	15. 284:3
11-12 376:1	171:13,	15.5. 388:3
11-B 489:19,	171:15, 286:1	153 10:14
490:4, 490:6	13 65:16,	154 10:15,
11-C 489:19	182:18,	330:24
11-D 489:19	235:21,	16 67:9,
11-E 489:19	236:17,	104:24,

153:18,	1970s 125:19	2012 435:5
175:15,	1984 127:4	2014 66:24,
190:22,	1998 317:2,	345:12,
231:20,	466:22	459:24
231:22,	1999 43:23	2014. 345:12
271:17,	1: 3:25	2015 66:24,
271:18,		258:6
283:13,		2016. 68:24
283:15,	< 2 >	2017 187:22,
314:11,	2,000 468:17,	191:18,
314:13,	472:6	292:8, 459:25
326:17,	2,500 468:17,	2018. 391:5
327:10,	469:1, 472:7	2019 13:11,
327:12,	2,700 218:14	246:20
334:18,	2. 83:9, 83:10,	205 10:20
334:19,	295:5,	206 10:21
384:24,	299:11,	207 3:11, 3:19,
464:25	303:17,	3:36, 4:34,
16. 182:20,	361:20,	4:42, 5:15,
182:21	361:23	5:22, 5:36,
160 198:16,	2.2 142:12	6:15, 6:29,
226:6	2.8 348:21	6:40, 7:14,
165 10:17,	2/10 9:12	7:22, 7:31
191:7, 191:9,	200 28:5, 28:8,	21 167:7,
196:7,	121:15,	208:12,
225:20,	240:16,	213:19,
287:9, 287:12	240:20,	243:23,
168 488:3	302:24,	495:1, 496:23
169 488:4	315:15,	211 453:16
17 231:20,	379:1, 482:3	212 453:17
234:10	200. 298:9	22 350:2
17. 190:15	2000 43:23,	22,000 115:7
172 10:18	447:25	222 413:16
175 450:13,	2001 397:13	225-2585 4:18,
451:1	2002 26:17	8:18
18 141:3,	2003 486:15	23 351:25,
246:4, 350:15	2005 254:15	452:2, 452:3,
18. 350:15	2005. 341:4	452:7
180 10:19	2007 26:18,	231 11:4
188 6:38	27:18	235 11:5
19 421:23,	2008 27:18	23rd 496:16
422:1	2008. 345:9	24 174:6,
19-9 364:24	201. 201:6,	283:24,
195 286:1,	337:23, 464:6	314:18,
286:6, 287:12	2010 119:5,	314:20,
1970 119:4,	125:13,	314:21,
119:5,	148:23,	452:17
125:12,	259:20,	240 380:24
259:20, 260:9	260:19, 321:4	241 11:6
1970. 125:23	2011 68:21	243 287:19

243,000 233:13, 378:6	2: 4:4 2nd 6:37	374:5, 452:14, 467:25
243,000. 322:25		340 11:19
246 11:9		344 11:20
25 26:6, 55:13, 81:15, 82:25, 120:9, 235:17, 242:25, 243:12, 270:21, 275:4, 284:3, 334:19, 335:8, 335:9, 335:16, 387:3, 388:2, 479:19, 480:16	< 3 > 3,000 119:10, 125:9, 249:16, 250:3, 250:24, 251:5, 251:8, 259:22, 260:18, 261:5, 439:18, 439:21, 440:2, 468:15	350 11:22 351 11:23 354.5 350:6 36 115:15, 288:10 364 12:4 367 12:5 37 344:6 372 12:6 375 353:1 38 187:9 384 12:7 399-6330 3:36 3: 4:20 3:30. 396:22
25. 211:14, 212:9, 212:13, 213:19	3-B 226:16, 226:21, 226:22	
250 24:23, 28:19, 28:22, 34:22, 35:22, 36:1, 37:4	3. 48:17, 74:13, 74:15, 136:1, 174:15, 205:16, 205:20, 361:17	< 4 > 4,000 468:12 4. 39:25, 40:6, 55:11, 60:10, 87:13, 107:24, 157:13, 245:24, 246:9, 330:15, 330:16, 361:7, 362:22, 364:9, 367:16, 372:24, 396:24, 492:16, 496:12
253-0567 7:14	300 138:1, 156:16, 396:17, 416:6	4.4 262:11
254 3:9, 3:17	31 125:22, 259:23, 348:1, 394:11, 394:14	40,000 144:8 40,54 9:9 40. 452:20
26 9:6, 125:21, 383:17, 452:17	310 75:8, 75:16 310.5-A 57:13 313 115:14, 288:7, 288:8	400 33:25, 37:15, 156:17, 193:2, 298:9,
267 5:34	32 271:19	
267,330 11:10	320 472:23	
27 3:34, 74:16, 172:4, 246:7, 315:8, 334:19, 430:13, 430:14	324 11:14 33 350:21 330 121:13 335 27:24 335. 28:10 336 11:18	
273 243:7	34 174:4, 373:24, 373:25,	
28 188:1, 395:7, 430:11		
282 11:11		
29 178:17, 178:18, 180:12		
290 11:12		
296 11:13		
298 5:27		
299 302:24		

298:11
 401 6:27
 42 348:5,
 394:19,
 449:23,
 450:3, 450:8
 424 12:9
 43 125:21,
 452:24
 430-0109 5:22
 430-0175 5:15
 44 28:8,
 178:10,
 357:17
 45 4:31, 97:6
 46 330:24
 466-8140 5:29
 48 28:18,
 284:1,
 314:12,
 314:16,
 314:25, 315:2
 48,53 9:10
 482 12:10
 4: 5:4
 4:20 372:20
 4:26 372:21
 4:26. 372:14,
 372:21

< 5 >
 5,000 144:4
 5. 40:8, 90:4,
 92:12,
 197:17,
 360:13
 50 28:12,
 97:19, 110:8,
 110:12,
 110:17,
 360:16,
 387:3,
 387:13,
 420:4,
 436:24,
 479:18
 500 105:23,
 342:15,
 430:12

501(C)3 437:16
 51 28:20
 515 1:22
 53 67:8,
 136:11,
 183:25,
 246:15,
 264:19,
 369:19,
 371:5,
 388:17,
 469:11
 53.3 142:17
 53.5 114:13,
 348:14,
 351:13,
 371:17,
 372:5,
 413:22,
 414:1, 414:15
 54 57:21,
 58:16,
 283:25,
 314:22,
 314:25,
 315:5, 315:6,
 374:11
 55 9:14, 28:18
 59 57:8
 5: 6:4
 5:25. 362:10

< 6 >
 6. 40:4, 90:8,
 90:12,
 160:18,
 166:1, 166:2,
 199:15,
 275:22,
 334:7, 334:8,
 361:5, 363:23
 60 9:15, 21:8,
 69:13, 97:11,
 97:19, 110:8,
 110:12,
 110:18,
 112:22,
 113:4, 159:6,
 193:4,

193:11,
 198:10,
 198:15,
 237:12,
 420:20,
 446:4,
 454:24,
 456:8, 456:9
 600 7:12, 7:20,
 37:15,
 105:23,
 119:25,
 349:25
 603 4:18, 5:29,
 8:18
 615-9200 5:36
 620 27:25,
 44:22
 621-6300 6:40
 623-5300 4:34
 624-3687 7:31
 640 372:7
 645 348:18
 65 9:16,
 320:14,
 320:16
 650 60:2,
 371:17,
 411:18
 6: 6:18

< 7 >
 7 40:2, 74:11,
 80:4, 141:2,
 141:14,
 161:20,
 161:22,
 162:3,
 171:25,
 234:1, 253:9,
 263:16,
 296:16,
 303:17,
 342:17,
 361:15,
 362:24,
 363:14,
 364:9,
 364:11,

426:7, 477:7,
 479:23
 7,000 468:12,
 482:9
 7-7 273:13,
 273:24,
 279:1,
 279:20,
 281:25, 309:4
 7. 40:1,
 131:18,
 136:3, 141:5,
 172:2,
 200:18,
 290:8,
 296:18,
 363:2, 363:3,
 364:14, 421:6
 70 124:8,
 133:14,
 237:12
 725 195:14
 726 195:14
 727 195:14
 729-5181 6:29
 74,108 9:19
 740 171:5,
 171:6, 171:15
 75 28:20,
 28:22,
 284:20,
 285:7, 285:9,
 285:20,
 305:3, 315:3,
 320:13,
 334:21,
 404:25,
 405:1, 419:1,
 420:4, 455:8,
 479:21,
 481:17
 750 25:10
 76 115:15,
 288:10
 765 338:19
 77 91:3, 92:19
 771-9246 7:22
 791-1189 3:11,
 3:19
 791-3000 4:42,

6:15
 7: 6:32

 < 8 >
 8 39:23, 93:21,
 94:2, 132:20,
 144:7,
 145:23,
 145:24,
 162:13,
 162:17,
 178:17,
 178:18,
 180:12,
 202:5,
 210:14,
 210:21,
 244:20,
 246:1, 284:2,
 363:13,
 364:9,
 372:18,
 384:24, 385:1
 8,000 384:1
 8. 20:3, 39:22,
 94:1, 171:22,
 210:16,
 362:1,
 362:23,
 367:21,
 367:22,
 372:12,
 487:22
 80 454:24,
 456:9
 800 33:25
 83 9:20
 83-D 388:22
 84 7:11, 7:19
 85 450:9
 87,111 9:21
 88 28:8, 28:14
 8: 7:4
 8:00 1:23
 8:30 497:10
 8:40 360:19

 < 9 >

9 44:15, 92:14,
 93:13,
 131:22,
 132:4, 132:7,
 141:14,
 145:23,
 145:24,
 202:23,
 247:25,
 302:13
 9. 164:17,
 164:23,
 302:12
 90 9:22,
 381:13,
 418:12
 900 119:9,
 119:10,
 355:17
 90s 353:17
 93 9:23
 94 320:2,
 373:12,
 379:19,
 380:13,
 380:20, 453:2
 950 368:12
 9546 4:40, 6:13
 96 6:37,
 283:25,
 314:16,
 314:25
 9: 7:24
 _/s/ 498:12

 < A >
 A&G 475:4
 A-25 339:5
 A-26 338:14
 A. 3:14, 4:14,
 8:14
 a.m. 1:23
 AB 16:17
 abandoned 68:19
 ABB 447:22
 ability 21:14,
 112:12,
 120:2,
 135:19,

206:19,	375:12,	19:17, 357:2
214:25,	376:7,	accommodate
230:22,	377:19,	237:10,
411:4,	414:4, 453:3,	346:7,
411:13,	467:9, 482:2,	346:11,
416:10,	486:9, 496:4	365:15
416:13,	above-ground	Accommodation
429:3, 429:7,	61:10, 61:16,	342:8
429:12,	328:25,	accomplish
434:22	398:4,	435:10
able 66:19,	398:13,	accordance
94:20, 95:21,	407:13,	27:20, 181:2,
112:7,	414:19,	495:17
112:11,	415:17,	according
150:9,	421:5,	92:15, 115:8,
213:15,	478:20,	178:11,
226:4, 227:4,	482:10	360:17,
227:16,	absence 62:25	395:13
259:13,	Absent 236:7,	Accordingly
282:24,	260:23,	237:18
356:19,	261:14,	account 25:9,
372:9, 427:9,	261:23	263:10,
430:15,	Absolutely	308:10,
435:15,	99:12,	392:19,
443:4,	129:17,	412:21,
444:13,	290:15,	420:3, 448:9,
452:21,	327:11	448:12,
463:22,	absorbed 244:6	448:13
469:4, 473:1,	abundant 302:3	accounting
476:12,	abut 266:14	379:6
481:18,	abutting 175:4	accuracy 389:1,
490:24, 492:3	abuxton@preti.c	389:9,
above 58:8,	om 4:35	389:12,
63:16, 99:24,	AC 480:16	389:14
123:12,	academic 53:22	accurate 95:24,
134:12,	accept 247:10,	168:9, 170:8,
158:10,	258:20	293:11,
159:9,	acceptable	320:10,
160:14,	340:15	378:9,
170:5,	accepted 117:3,	385:13,
187:24,	243:24,	387:3,
191:9, 196:7,	368:10,	401:19, 498:5
198:15,	495:23	accurately
199:19,	accepts 76:16	270:11
212:7, 215:6,	accessed	achieve 128:6,
226:12,	218:11, 285:1	140:1, 457:6,
245:7,	accessible	476:6
245:17,	312:17,	acknowledge
319:3,	392:13	17:7, 25:11
329:22,	accidentally	acquire 429:14,

434:14	432:22,	213:13,
acquired 365:3,	433:1, 433:3,	283:23,
409:19,	433:11	387:11,
429:20, 441:5	ACSR 376:6	399:20,
acquiring	Act 1:10, 1:11,	448:16,
337:15,	13:7, 17:24,	464:13
406:15	27:24, 121:9,	added 279:2,
acquisition	130:3, 236:14	281:3,
66:9, 336:23,	acting 265:5	373:20,
338:6, 338:7,	Action 120:21	409:6,
339:3,	active 106:16,	436:16, 476:4
365:16,	161:1,	adding 56:13,
366:2,	163:13,	422:3
434:15,	357:23	addition 61:18,
441:7, 459:9,	actively	64:24, 65:3,
460:1	137:23,	81:2, 99:12,
acquisitions	266:13, 299:1	106:17,
384:1	activities	110:3,
acre 121:2,	202:21,	234:17,
383:20,	338:13,	273:4,
384:2, 384:4,	341:8, 358:1	323:23,
432:25,	activity 34:22,	342:18,
433:1, 433:2,	358:6, 435:23	348:2,
433:7	actual 58:18,	469:14, 475:6
acreage 435:18	59:8, 59:18,	Additionally
acres 50:20,	75:25, 76:19,	339:22
50:22, 50:24,	76:21, 88:19,	additions
119:24,	88:25, 89:15,	73:13, 106:23
120:1, 144:4,	89:24, 94:5,	additive 135:4
144:8,	108:21,	address 14:25,
152:15,	168:5, 213:1,	19:20, 56:10,
384:1, 391:3	225:24,	63:23, 70:17,
across 44:11,	292:16,	78:1, 78:10,
62:17, 66:10,	298:8,	78:16, 79:20,
77:20, 84:7,	366:19,	82:16, 168:7,
93:8, 103:12,	382:14,	169:6,
234:24,	403:13,	175:12,
252:13,	468:15	205:21,
264:3, 264:9,	acuity 227:11	209:14,
264:19,	adapt 85:18,	235:23,
265:1,	85:20, 85:22	336:25,
265:11,	add 15:13,	362:14,
312:12,	18:25, 19:24,	488:25
334:25,	69:14, 97:14,	addressed 66:1,
335:1,	97:16,	71:1, 80:12,
335:15,	112:17,	106:12,
339:21,	125:19,	133:2,
367:4, 382:1,	135:5,	141:15,
430:1,	156:20,	176:11,
432:20,	203:8,	205:22,

209:8,	75:13, 149:14	aerials 367:7
264:12,	admitted 333:21	affect 40:19,
265:2,	adopted 268:5	41:23,
301:14,	adult 44:10,	106:23,
340:18,	99:16, 250:4	174:12,
423:22,	adults 22:20,	416:12,
423:25,	34:1	438:11
424:2, 424:4,	advance 230:22,	affected 21:23,
488:21, 489:6	294:3, 483:13	38:17, 41:18,
addresses	advantages	103:23,
340:9, 412:23	305:24	175:17,
addressing	adverse 22:2,	330:25,
22:23, 26:24,	35:19, 53:19,	331:2,
145:8, 235:10	64:7, 64:12,	333:13, 420:1
adds 25:3,	185:24,	affiliated 16:3
106:21,	186:1,	affirm 18:16,
115:12,	200:25,	117:21, 336:8
330:23,	232:4,	affirm. 18:18
371:17	232:10,	affirmed.
adequacy 87:4,	234:25,	117:23,
87:5	235:11,	336:10
adequate 70:24,	307:23	afraid 388:23,
81:21,	advertising	461:1
114:15,	58:25	afternoon
119:15,	advised 16:19,	153:24,
135:10,	332:4	154:22,
234:12,	advisement	180:16,
234:19,	149:25,	180:17,
235:9,	150:2, 492:9,	205:18,
264:25,	492:13	231:15,
265:11,	Advisor 113:21,	235:15,
270:9,	113:24	241:11,
271:24, 273:2	Advocate 7:25,	290:11,
adequately	7:28, 352:17	296:17,
61:3, 63:23,	advocating	336:17,
79:9, 79:19,	139:20,	340:23,
483:11	151:15	346:13,
adhere 18:11	Aerial 96:11,	367:25
Adjacency	111:15,	age 118:13,
249:9, 258:22	112:7,	124:7, 124:25
adjoining	112:12,	age/class
127:9, 251:14	118:23,	286:17
adjudicatory	236:1,	agencies 272:9
494:14	248:21,	agency 27:21,
adjusted 263:8	252:20,	52:11, 52:15,
adjustments	263:3,	53:10, 95:1,
69:24	297:23,	107:19,
Administrative	403:25,	217:22,
17:24	459:17	233:15,
admission	aerially 329:1	272:20,

303:19,	allowed 15:7,	13:20, 57:12,
428:23	35:15, 73:14,	57:15, 75:10,
agenda 18:5,	121:6, 126:7,	94:3, 94:17,
19:7, 19:9	126:13,	241:22,
ago 68:22,	177:22,	346:22,
112:5, 264:5,	243:12,	347:21,
264:6, 321:3,	255:18,	348:4,
429:5,	286:21,	348:10,
429:24,	311:17,	348:17,
435:4, 438:1,	320:20,	348:22,
444:7	322:6,	350:20,
Agreed 51:1,	339:20,	390:3,
66:23, 81:20,	376:18,	393:14,
96:19, 239:7,	440:22,	410:17,
240:12,	488:24	411:18,
240:17,	allowing 63:18,	411:25,
261:4,	130:23,	415:6,
339:13,	232:20,	461:17,
348:3,	278:15,	464:5, 483:4,
395:23, 483:1	331:20,	483:22,
agreement	374:3, 454:6,	484:5,
59:19, 88:19,	455:14	484:21,
368:17,	allows 38:25,	485:6, 485:8,
381:25,	229:23,	485:12
403:13,	242:9,	Although 58:7,
418:11,	242:10,	93:4, 118:8,
418:15,	312:25,	232:6,
439:15,	326:5,	289:15,
479:24,	326:11,	298:12,
480:11	371:19,	441:9, 479:23
agreements	373:13,	amend 439:14,
58:19, 59:9,	373:15,	440:10
347:17,	374:5,	amended 60:21,
418:10	442:17,	61:20, 63:19,
agrees 429:13	442:20	116:1
aids 164:11	alluded 38:4,	amendment
aimed 145:13	183:24	247:4, 247:7,
albeit 61:8	almost 349:1,	389:25,
alders 67:25,	456:9	390:3,
69:21	alongside	390:16,
align 431:13	487:18	391:11, 392:1
alignment	alphabetical	America 32:8
66:10, 68:9,	275:23	American 118:5,
69:2, 376:13	altered 131:14	119:12,
allocated	altering 24:7,	254:17
361:10	438:10	among 20:7,
allocating	alternate	36:20, 36:22,
363:5	60:24, 71:16,	111:20,
allotted 18:11,	87:6	361:10,
141:6	Alternatives	362:20

amongst 479:12	154:7,	357:14,
amount 60:2,	482:25,	416:22,
73:16, 74:19,	483:18,	417:10,
89:21,	483:20,	424:11,
100:19,	483:21	426:6, 473:13
125:10,	analyze 225:25,	answering
125:21,	226:5, 413:3,	176:3,
130:5,	487:3	307:12,
182:10,	analyzed 61:20,	352:9,
213:14,	358:24,	370:15,
303:7,	413:21	370:22,
337:20,	analyzing	421:25,
349:2,	412:13,	436:20
364:15,	416:11	answers 137:4,
365:23,	anchor 379:10,	304:16, 359:7
368:8,	451:9	Anthony 4:29
368:23,	and/or 13:21,	anti-cascading
374:9,	58:2, 337:6,	467:4, 467:6
389:22,	337:14	anticipate
399:15,	anecdote 358:19	304:22, 311:3
409:22,	Angela 254:15	anticipated
418:23,	angle 168:17,	28:11,
467:13,	168:19,	201:11,
473:15	214:8,	243:3,
amounts 89:25	214:12,	243:18,
Amphibian	354:5, 354:6,	460:11,
21:13, 22:5,	376:15, 408:2	465:24
22:14, 23:13,	angler 192:24	anticipating
23:21, 23:25,	Anglers 4:8,	334:22
24:19, 25:1,	30:12, 156:14	anybody 112:2,
36:18, 43:12,	angles 471:7	164:6, 287:1,
43:22, 44:25,	animal 358:22	384:11,
48:5, 52:5	animals 24:4,	448:4, 462:3,
amphibians	27:13, 33:13,	462:6, 468:9,
21:14, 21:22,	35:20, 35:25,	470:19
23:4, 24:1,	39:7, 39:16,	anyway 365:23
27:1, 27:6,	47:18, 47:19,	apart 314:19,
32:11, 32:22,	85:18, 85:20,	319:4,
33:10, 34:1,	239:4	452:10,
37:20, 38:7,	announcement	453:25, 454:1
39:6, 39:19,	16:23	apologize
43:18, 50:11,	announcements	19:13,
103:15,	178:24	275:25,
103:20	annual 369:2	319:13,
analogy 354:21,	answered 178:3,	461:12,
359:8,	192:12,	470:16
359:12,	192:15,	Appalaches
359:16,	199:14,	367:3
359:23	316:19,	Appalachian
analyses 64:21,	357:11,	5:7, 5:26,

40:14, 60:9,	138:7,	332:3, 332:4,
87:15,	241:23,	332:6, 370:8,
206:21,	246:22,	420:23,
337:9, 339:6,	269:16,	495:14
339:12,	289:20,	approval 54:11,
340:1, 340:2,	294:2, 310:3,	370:10,
343:4,	322:17, 374:1	391:23, 476:4
343:10,	applies 301:16,	approvals 370:4
343:14,	325:11	approved 27:21,
343:20,	apply 49:7,	34:4, 436:15,
396:4, 397:4,	49:11, 49:25,	441:17,
423:6,	246:14,	441:24
423:11,	262:13,	approximate
424:14,	268:15,	347:25
424:16,	347:11,	Approximately
429:4, 430:1,	347:12	27:25, 112:9,
439:19,	applying 84:9,	115:10,
439:24,	269:18, 290:1	160:5,
441:5, 441:6	Appraisal	161:13,
Apparently	55:22, 87:25,	162:2, 174:7,
57:11,	88:2	187:24,
267:16,	appraised 56:6	193:1,
298:12,	appraiser	201:16,
309:9,	59:11, 88:9	229:8,
323:25,	appreciate	233:13,
468:13	65:24,	242:19,
appear 67:18	139:13,	242:20,
appearance	171:20,	249:3,
456:6	282:12, 283:1	259:20,
appeared 249:2	approach 62:8,	285:5,
appears 278:14,	88:9, 137:18,	314:11,
339:15,	322:6, 393:1,	347:24,
339:16	411:1	350:2, 350:7,
Appendix	approached	397:11
231:20,	66:14, 66:17,	approximating
235:22,	406:13,	213:12
241:14,	406:15,	April 17:11,
242:3,	423:10	19:21, 55:15,
243:22,	approaching	71:3, 155:17,
345:17,	161:8	158:3,
350:13,	appropriate	159:15,
350:14,	33:11, 62:6,	161:11,
350:15,	126:16,	253:7, 268:4,
469:22	133:14,	278:23, 337:4
Appleton 93:4,	218:2,	aquatic 47:16
280:17	233:21,	arbitrary 241:1
applications	235:9,	arc 486:12
13:6, 252:24	252:13,	Architect
applied 63:2,	269:8, 287:7,	153:14,
65:6, 131:8,	308:21,	154:24

archive 119:5	264:23, 265:9	441:17
argue 64:7,	assertions	assumed 284:20,
208:10,	26:21, 27:15,	353:15,
347:8, 389:10	117:1, 349:7	435:21
argued 71:23,	assess 62:25,	assumes 345:19,
269:7, 475:7	63:20, 83:23,	381:2
arguing 65:8	143:6,	Assuming 171:9,
argument 56:13,	182:12,	179:25,
57:1, 58:4,	183:9,	209:9, 268:6,
101:2,	186:10,	280:24,
101:14,	228:14, 480:7	312:3, 379:4,
347:18	assessed 28:12,	380:7,
arguments	38:11,	380:15,
495:12	181:25,	381:18,
arise 431:9	182:7, 185:3,	435:18,
arisen 60:18	205:22,	452:22,
Army 15:17,	216:18	490:10
24:14, 45:24,	assessing	assumption
54:8, 54:24,	26:16, 88:3,	293:19,
144:6	182:3,	305:1,
arrangement	184:22,	333:12,
18:7, 372:10	194:13,	421:20
array 39:4	234:3, 338:24	assumptions
arrive 83:23,	assessments	100:19
83:24, 86:25,	26:11, 39:20	Atlantic
144:8	assessor 59:11,	352:12,
arrow 261:14	88:8	352:24,
arteries 343:3	assets 56:6	478:10,
article 258:7,	Assistant	479:9, 480:22
299:6	14:12, 118:1	atmospheric
articles 299:6	assisting 345:3	227:9
aside 185:4,	Associates	attach 495:14
323:9, 324:8,	154:25	attached 91:12,
356:7,	Association	91:14, 91:16,
398:13,	237:6	91:19, 92:23,
462:23,	assume 96:11,	195:9,
464:21,	133:11,	273:12,
494:15	169:18,	273:15,
asks 243:23	171:11,	273:17,
aspect 152:8,	205:12,	274:2, 274:5,
437:21,	207:20,	274:11,
474:20	209:12,	274:14,
aspects 80:9,	248:7,	274:16,
81:2	259:15,	274:21,
assemblage	288:2,	274:23,
240:22	289:11,	275:5, 275:7,
assert 122:2	293:1,	276:12,
assertion	320:14,	276:20,
56:11,	415:15,	279:9, 281:1,
118:18,	435:13,	282:10

attachments	350:18,	avoided 67:7,
98:13	351:1,	69:16,
attained 392:12	368:22,	144:12,
attempt 62:5	380:9,	145:9, 370:8,
attempting	392:11,	433:5
56:13,	402:8,	avoiding 97:24,
185:16,	418:12,	107:17,
185:23	418:16,	244:17
attempts 134:17	432:10,	awarded 56:18,
attention	456:18,	56:20, 58:5,
90:19,	462:25,	58:8
300:23,	469:18	away 16:22,
302:12,	Avangrid 351:8,	41:20, 113:9,
496:8, 496:10	397:16,	161:13,
Attorney 1:27,	421:17,	162:3,
3:6, 3:14,	478:5, 478:6	201:17,
14:12, 434:23	average 33:22,	227:4, 379:7,
attract 39:3	142:11,	427:9,
attracted 24:1	198:11,	437:16,
attributes	229:6, 250:4,	443:20,
146:11	251:2, 285:8,	443:22,
ATV 218:18	285:23,	471:25
Atwood 3:7,	286:12,	awful 492:20
3:15	286:14,	awkward 165:23,
Audubon 124:21,	305:2, 320:2,	206:20
236:3, 237:4	320:12,	
Augusta 4:33,	320:13,	
5:14, 5:21,	320:15,	
6:39, 7:30	373:12,	
authoritative	376:2, 453:2	< B >
300:3, 300:5,	averages 42:1	B-2 338:14
300:13	avoid 71:18,	B. 7:9
authority 14:4	84:24,	Bachelor 345:8,
authors 23:6,	114:16,	351:22
238:10	114:17,	back-up 469:12,
availability	121:11,	469:17,
418:15	134:25,	469:24,
available	139:22,	470:9,
15:23, 18:2,	145:4, 145:6,	489:18,
18:4, 18:7,	188:6,	490:18,
29:17, 59:16,	215:14,	490:20, 491:7
60:4, 70:12,	241:7,	backbone 265:5
73:17, 112:4,	268:16,	backfill 378:22
197:15,	354:9, 442:19	background
235:25,	avoidance	56:5, 227:8,
248:21,	140:1,	242:7, 317:5
314:11,	144:10,	backpack 244:5
315:1, 332:1,	151:15,	backwards 438:3
338:3,	318:7, 359:1,	bad 70:7,
346:25,	360:4	384:7, 384:8
		badgering
		192:13

Baker 280:20	basic 174:2,	191:15,
balance 164:15,	337:17	192:2, 192:5,
370:10,	Basically	280:17,
396:23	101:12,	343:23,
balancing	109:15,	344:4,
307:5, 307:15	142:19,	344:14,
ball 354:22,	160:11,	388:8,
354:23,	251:25,	392:25,
448:22	272:5, 297:5,	431:10
ballpark	352:19,	become 39:6,
389:25,	354:7,	92:13, 96:22,
474:14	356:12,	102:25,
ban 208:23,	356:17,	112:4, 380:8,
290:2	359:20,	496:6
Bangor 1:23,	369:8,	becomes 222:24,
18:2, 18:8	399:25,	443:3, 451:3
bank 73:19,	412:24,	becoming 236:11
109:19,	425:12,	Bedding 444:4,
110:5,	427:5,	444:8,
341:17,	427:12,	444:14,
342:18,	439:19,	444:16,
342:20	441:1, 487:7,	444:20
bankfull	497:2	bedrock 385:21,
110:25,	basins 41:18	391:18,
111:3, 111:5	basis 45:18,	392:5,
banks 105:25,	86:22, 86:24,	392:14,
163:5, 210:7,	86:25,	392:19
211:2, 211:6	298:13,	beforehand
Barkley 8:9,	309:4, 369:2,	483:20
30:17	462:8,	begin 101:22,
barometer 249:4	462:11,	120:5, 223:1,
Barrett 93:17,	462:12,	293:15, 368:7
280:20	475:12	beginning 20:5,
barrier 121:10,	Bass 6:36,	31:5, 66:13,
130:3	99:25	160:2, 195:1,
barriers 342:23	bay 342:15,	250:2, 295:8,
Barry 7:27	468:21,	345:12
barry.hobbins@m	482:17	behalf 205:20,
aine.gov 7:32	Bayroot 433:6	299:22,
bars 212:16	bays 342:15	299:25,
basal 118:15,	BCM 4:15, 8:15,	324:18
176:9	30:9	behavior 22:24,
base 170:10,	beach 442:23	26:24
346:5,	Beattie 93:4,	behind 281:8,
375:11,	155:13,	490:10,
437:13	155:15,	490:14
baseline	156:1,	belief 79:10,
226:12,	187:10,	79:25, 295:20
285:23,	188:13,	believed 460:17
378:24, 384:3	189:6,	Beliveau 4:30,

4:38, 6:11	6:35	389:10,
Bell 153:11	benjamin.smith@	436:18, 467:9
belly 486:10	soltanbass.co	bid 56:16,
below 72:7,	m 6:41	56:19, 56:23,
99:24,	Benji 205:18	57:2, 88:23,
121:13,	Best 70:7,	88:24, 89:6,
158:8, 196:5,	70:8, 125:1,	89:11, 89:13,
196:17,	140:1,	89:16, 90:1,
198:12,	143:11,	94:11,
198:13,	174:14,	101:15,
313:15,	174:20,	101:18,
411:19,	174:25,	102:1,
451:21,	175:2,	351:15,
452:8,	175:10,	368:16,
452:16,	176:11,	368:18,
478:21	178:3, 225:6,	369:5,
Ben 74:11,	237:20,	369:23,
141:4,	238:11,	388:21,
296:17,	283:7,	389:2,
364:13	399:17,	389:13,
beneficial	418:7,	389:23,
70:20, 96:20,	460:18,	400:3, 442:3,
97:20, 97:23,	492:21,	474:16,
151:11,	492:22	474:24
151:24,	BETSY 2:7	bidder 56:25,
340:12,	better 38:24,	57:22, 58:9,
437:14,	69:4, 70:12,	89:11
481:15	122:1,	bidding 59:10
benefits 60:23,	211:21,	bids 58:5
62:15, 73:25,	264:12,	biennial 119:6
74:1, 77:8,	277:19,	big 104:8,
80:24, 81:17,	277:22,	104:9,
96:25, 97:2,	288:4,	158:21,
97:5, 107:3,	316:24,	324:12,
107:16,	408:10,	324:13,
159:21,	408:18,	383:22,
165:16,	408:21,	425:10,
182:13,	408:24, 443:4	446:25,
229:1,	beyond 21:23,	472:5,
241:24,	23:9, 24:22,	490:13,
295:25,	24:23, 35:20,	493:14
296:3, 296:5,	36:1, 37:4,	Bigelow 441:2
304:3, 304:7,	60:22, 88:23,	biggest 168:23,
307:6,	139:25,	487:15
308:11,	176:9,	Bill 2:5, 2:10,
344:13,	183:18,	217:25,
475:3,	227:6, 296:8,	434:7, 496:10
479:25,	358:10,	BILLINGS 2:9,
480:11	359:5,	432:14,
Benjamin 4:37,	378:13,	433:9,

433:13,	464:4, 495:20	8:19
433:16,	Black 340:25,	Bog 93:16,
433:19, 434:1	345:1, 345:11	280:21,
billion 348:19,	blackout	454:21
355:7,	486:16,	bold 451:9
394:25,	486:18	bolt 379:10
474:4,	blanket 31:22,	book 238:5,
474:10,	291:16	419:2, 419:3,
474:13	blanks 319:1	419:5, 419:8,
billions 59:25,	blend 227:7	419:9,
102:7	block 159:7,	419:16,
bills 434:20	222:5, 222:6	419:24
binding 136:23	blocks 240:6,	books 413:25,
Biodiversity	287:5	419:11
236:4, 237:1	blowdown 77:17	border 105:10,
biogeochemical	blown 181:6,	337:8,
38:9	483:3,	338:17,
biological	483:21,	338:23,
240:9, 262:16	484:4, 484:8,	339:2,
Biologist	484:21,	366:23,
235:17,	485:6, 485:8	366:25,
352:4, 352:15	blue 24:11,	367:2,
biologists	34:16,	412:25,
28:3, 262:20	157:16,	413:4, 447:18
bird 146:9,	170:22,	borings 392:20,
151:22,	213:25,	393:10,
151:25, 152:3	335:14	399:24,
birds 22:7,	BMP 213:7,	483:10,
130:8, 152:6,	229:21	483:12
152:12	Bmps 164:12	born 345:6
bisect 145:2,	Board 56:9,	borne 288:1
265:10	181:11, 221:9	BOROWSKI 4:37,
bisected	boarder 67:10	10:20, 12:10,
102:15,	boat 158:14,	18:21, 48:18,
119:23	158:25,	74:14, 136:2,
bit 16:9,	160:11	205:18,
34:20, 41:20,	Bob 3:32,	205:19,
112:25,	30:23, 93:3,	206:3, 206:9,
113:1, 149:6,	275:3,	206:16,
151:25,	276:19,	290:8,
163:24,	280:14,	358:12,
170:3,	309:10,	359:6,
201:20,	324:20,	359:11,
219:19,	330:19	361:18,
220:17,	Bob.haynes@myfa	373:2,
221:2, 316:9,	irpoint.net	482:22,
368:6,	3:37	483:15,
428:10,	body 128:25	484:2, 484:7,
429:2, 434:9,	boepple@nhlandl	484:11,
463:15,	aw.com 4:19,	484:14,

485:15,	178:13,	428:2,
485:24,	282:15,	431:20,
486:19,	361:19,	431:22,
486:23	361:22,	477:19
bottom 41:25,	361:25,	broadcast
46:18, 46:21,	362:6, 385:3	16:20, 17:1
46:22, 148:9,	Break. 113:11,	broaden 166:16,
160:4, 187:6,	178:22,	183:15
198:9,	282:18,	broadly 240:12
302:15,	362:11	broken 317:1
315:23,	breakdown	Brood 115:25
385:5, 405:19	470:12,	Brookfield 6:6,
bottoms 72:4	489:15	99:21
boundaries	breed 33:18,	brooks 93:4,
482:1	33:19, 39:17	280:17
Boundary 3:27,	breeding 22:5,	Brotherhood
23:9, 31:2,	22:16, 23:4,	4:23
157:23	23:15, 33:10,	brought 18:3,
Box 4:32, 4:40,	33:12, 47:18	46:8, 432:15,
5:27, 6:13,	bridge 68:7,	446:1, 461:8,
6:38	68:10, 68:12,	462:3, 484:11
BPL 158:25	68:20, 69:2,	Brownfield
bracketed	100:18,	413:15
254:20	102:10,	Brunswick 6:28,
Bradstreet	409:17	352:25
93:5, 280:18	bridged 427:8	buffer 73:20,
braided 70:10,	bridges 236:12	107:11,
402:7,	brief 172:19,	125:9, 176:8,
402:11,	297:18,	240:14,
457:17	337:12	246:22,
Branch 71:6,	Briefly 46:3,	250:3,
71:9, 72:10,	74:23, 155:5,	250:25,
96:2, 99:8,	358:12, 492:7	251:1, 251:6,
117:11,	briefs 494:18,	251:8,
156:4, 156:8,	494:19,	265:19,
156:22,	494:24,	267:5, 271:8,
162:23,	495:3, 495:4,	272:18,
165:14,	495:5, 495:6,	310:1,
192:25,	495:9, 495:11	325:10,
209:21,	brightest 33:13	331:1, 331:8,
308:23,	bring 67:15,	331:16
308:25,	167:9,	buffers 70:24,
325:20, 456:7	285:14,	81:4, 81:11,
branches 107:10	304:20,	81:20, 87:4,
breaching	427:25,	121:16,
437:25	431:24,	135:9,
break 16:18,	446:6, 451:8,	234:11,
108:2, 108:3,	451:12, 469:6	234:18,
113:7, 130:1,	Bringing 356:9,	234:24,
165:22,	394:19,	235:8,

239:10,	bury 59:23,	381:24,
266:4,	400:23,	382:6,
266:17,	400:25,	427:21,
266:20,	449:14	449:13,
266:22,	burying 58:13,	451:2, 471:9
266:24,	58:16, 58:21,	calculate 115:5
267:8, 270:8,	64:2, 75:5,	calculated
272:16,	75:14, 76:12,	125:9, 261:18
277:19,	79:23, 101:1,	calculation
277:23,	404:25,	54:23,
331:4,	412:13,	144:14,
331:14,	412:21,	227:3, 496:15
332:3,	414:18,	calculations
332:22, 340:4	415:5,	331:1, 351:11
build 100:16,	415:16,	calculus 25:7,
356:13,	415:19,	34:17
370:3, 439:2,	419:16,	calendar
442:2, 449:5,	426:9, 426:12	495:24,
473:1	Business 18:8,	496:1, 497:1
building	235:19,	call 13:2,
100:15,	345:2, 351:7,	20:9, 90:19,
100:18,	384:21	125:15,
341:2,	butcher 447:21	178:13,
356:17,	Buxton 4:29	178:16,
426:4, 464:22	buy 433:1,	178:17,
buildup 368:23	433:2, 435:13	211:22,
built 103:12,	buying 383:23,	242:25,
487:17	384:4, 435:4	270:23,
bulk 47:18	Buzzell 8:7,	300:2,
bullet 40:17,	30:14	303:16,
41:25, 42:5,	Byway 3:33,	419:13,
43:9	162:2,	456:4, 466:4,
bullfrogs 39:4	464:14,	472:25
bump 454:4,	487:11	called 73:12,
481:19		125:16,
bunch 445:7		125:18,
burdensome	< C >	245:4, 316:6,
441:20	cables 464:1,	351:20,
Bureau 1:29,	473:22,	382:7,
14:11, 200:12	473:24,	413:22,
burial 61:4,	480:14	419:7,
61:19, 62:9,	Cadastral	443:11,
78:19, 114:4,	459:17	455:11,
114:7,	cage 379:10,	458:23
410:18,	451:8, 451:9	calling 452:1
411:21,	caisson 115:20,	calls 153:19
431:16	346:3, 379:7,	Caloun 9:5
buried 417:12,	380:5,	campsite 159:14
431:11, 448:1	380:16,	campsites
Burns 231:18	381:4, 381:6,	158:15

Canada 3:29, 3:33, 31:3, 120:22	253:4, 289:20, 417:18	396:23
Canadian 67:10, 105:10, 366:23, 366:25, 413:4, 447:18	Carpenter 8:9, 30:16	ceded 30:20, 372:24
capable 177:17, 177:19, 244:11, 313:12, 349:6	Carrie 8:9, 30:16	cedes 30:23, 39:24, 40:2, 40:5, 48:18, 74:12, 83:8
capacity 447:25, 473:19	carries 17:4	ceding 20:3, 166:1, 171:23, 246:1, 246:5
Capital 59:4, 67:24, 68:6, 68:9, 96:13, 97:11, 98:5, 104:17, 108:17, 110:9, 110:23, 162:15, 164:6, 164:7, 213:11, 351:12, 368:11, 368:14, 369:4, 371:15, 371:18, 394:24, 395:1, 395:8, 409:16, 474:8, 474:24, 474:25, 475:6, 478:13	carry 356:11	ceiling 402:18
capture 17:5	Caruso 67:4, 350:5	cell 17:14
captured 462:20	cascading 354:9, 467:15	cement 115:22
Caratunk 4:7, 30:12, 412:20, 413:5, 413:8	cases 48:15, 92:16, 147:23, 147:24, 160:13, 166:19, 169:3, 237:17, 253:15, 310:25, 467:8	Center 1:22, 4:39, 6:12, 69:6, 161:11, 162:18, 315:7, 334:15, 334:22, 421:1
carbon 22:9	cash 59:13	centered 315:6, 335:13
care 204:24, 466:4, 471:18	catch 249:19, 366:5, 406:25	Central 1:7, 3:4, 13:5, 25:15, 48:23, 88:10, 238:23, 239:7, 241:13, 254:18, 293:16, 396:15, 397:9, 399:2, 400:22, 403:5
career 26:8	category 279:4	Certainly 52:1, 52:6, 140:9, 162:11, 163:10, 164:8, 255:25, 281:14, 289:19, 322:17, 383:5, 408:20, 435:11, 438:10, 456:1, 456:17
careful 240:17,	Cathy 5:18	Certification
	cause 47:22, 48:12, 64:11, 146:24, 232:9, 420:11, 465:6	
	caused 22:12, 486:18	
	causes 446:13	
	causing 21:13, 343:15, 420:11	
	cautions 491:24	
	cc'd 93:3	
	cede 20:11, 20:17, 74:10, 95:7, 122:17, 132:20, 136:3, 178:7, 245:25, 267:19, 367:15, 372:11,	

- 1:12, 13:8,
 15:9, 129:12,
 143:13, 237:5
 Certified
 235:16, 262:7
 certify 434:5,
 498:4
 certifying 15:6
 cetera 59:20,
 93:6, 291:18
 chain 20:18
 Chair 2:2,
 14:17
 challenge 147:3
 challenges
 61:24, 65:6,
 232:16,
 342:6,
 464:20, 485:2
 challenging
 245:1, 485:10
 Chamber 4:25,
 4:26
 Champlain 479:2
 chance 19:20,
 108:5,
 166:15,
 245:19,
 299:12,
 333:6,
 397:24,
 398:1,
 436:14,
 437:12
 Chances 224:3,
 417:18,
 443:19
 changed 69:1,
 91:8, 111:25,
 187:18,
 187:19,
 259:24,
 458:17,
 460:19
 changes 23:23,
 25:1, 84:19,
 99:20,
 118:25,
 204:22,
 259:19,
 371:4,
 371:21,
 409:12,
 435:7, 438:12
 changing
 239:18,
 239:19, 265:6
 channel 70:10,
 239:4, 402:9,
 402:12,
 457:17
 channels 70:10,
 70:13,
 234:16,
 235:2, 270:6,
 270:22,
 402:7,
 402:11,
 402:13,
 402:17
 Chapter 27:24,
 28:9, 75:8,
 75:15, 270:21
 characteristics
 47:13,
 237:16,
 332:4, 332:17
 characterizatio
 n 147:14,
 185:23,
 186:2,
 186:13,
 265:22,
 265:24,
 265:25,
 492:18
 characterize
 166:17,
 168:12,
 185:16,
 271:23,
 306:22,
 390:17,
 390:21,
 400:9, 483:11
 characterized
 121:23
 characterizing
 370:23, 429:8
 charge 59:3,
 182:14,
 182:17,
 186:19, 205:2
 chart 92:14,
 134:12,
 325:13
 check 65:15,
 165:25,
 225:8, 316:8,
 490:23
 checked 66:16
 chemicals
 292:2, 313:23
 chime 450:25,
 467:21
 choice 408:23
 choose 398:3,
 418:1
 chop 273:4,
 323:23
 chose 23:1,
 57:23, 192:8
 chosen 56:15,
 56:16, 57:8,
 70:6, 70:11,
 402:6
 CIGRE 419:5,
 419:8
 Circle 4:31
 circuit 472:16
 circumstances
 347:11,
 416:25
 citations
 148:8, 495:13
 cite 40:23,
 45:17, 86:1
 cited 93:21
 City 4:22,
 4:39, 6:12,
 477:10,
 477:20
 Civil 345:8
 claim 41:6,
 41:13, 261:23
 clarification
 150:7,
 178:24,
 242:3,
 296:11,

309:21,	374:11,	Clement 15:17
455:10	452:14,	climate 24:8,
clarify 19:22,	454:5, 457:4,	25:2
54:20, 95:12,	458:9, 479:16	climbing 233:1
172:5,	clearances	clock 496:14
191:12,	346:1	close 44:16,
275:14,	clearcut 23:19,	105:18,
294:25,	36:10, 50:12,	196:18,
334:9,	119:13,	232:25,
380:23,	125:21,	245:2,
470:22,	127:6, 130:2,	275:17,
474:20	163:16,	284:20,
Clarifying	251:15	343:1, 365:2,
108:7,	clearcuts	389:25,
313:23,	44:12, 50:8,	407:2,
325:23	119:16,	421:25,
clarity 294:5	122:10,	447:18,
Class 125:15,	125:17,	482:17,
389:11,	223:19,	492:1, 497:7
389:19, 391:1	238:11, 259:8	closed 23:1,
classes 125:17	clearcutting	23:21, 44:5,
Clean 1:8,	253:10	122:5
13:9, 14:9,	cleared 22:12,	closely 141:25,
153:16,	25:10, 98:24,	311:20,
345:5, 351:3,	103:12,	448:17,
464:23	117:5, 117:7,	457:4, 459:14
clear 20:15,	164:3,	Closer 20:25,
28:2, 30:22,	214:11,	55:19,
31:4, 54:19,	215:9,	268:14,
54:20, 56:18,	215:11,	311:16,
57:7, 57:17,	216:4, 216:5,	318:22,
92:13, 99:4,	217:12,	319:6,
110:1, 119:8,	219:10,	319:11,
121:11,	220:6, 220:7,	353:23,
138:15,	220:11,	390:19,
139:13,	228:24,	471:23, 481:6
180:20,	242:5, 242:6,	closest 161:4,
183:17,	271:19,	338:20,
184:8,	285:4,	367:1, 421:20
222:15,	365:23,	closing 489:4,
260:13,	402:15,	494:12,
311:22,	465:20,	494:18,
323:13,	479:18	494:24,
334:14,	clearer 470:6,	495:3, 495:5,
389:22,	483:16	495:9
396:16,	Clearly 16:3,	closure 118:15
413:20,	71:22, 109:5,	closures 342:22
414:8, 493:11	339:9,	Club 5:7, 5:26,
clearance	348:21,	40:14, 60:9,
373:24,	469:14	87:16,

206:21,	coffee 90:12,	comitted
340:1, 397:4,	361:19, 362:4	157:18, 239:9
424:16	coincidence	commencing 1:23
CMP'S 91:13,	119:1	commend 435:17
307:22,	collaboratively	comment 51:12,
308:15	204:12	60:23, 78:6,
co-exist 44:18,	colleague	78:15, 179:5,
349:25	231:16	250:19,
co-locate 405:9	colleagues	438:5, 496:17
co-located	144:17,	Comments
74:3, 349:23,	431:17	281:23,
464:10	collect 399:25	308:22,
co-location	collected	489:12,
114:4, 114:6,	27:17, 182:5,	491:11,
139:24,	358:21,	491:20,
338:4, 350:6,	358:23	491:24,
350:8, 410:18	color 175:3,	491:25,
coarse 32:17,	213:24, 214:6	492:23,
302:3	Colorado 301:7,	494:11,
coast 115:15,	301:16	495:21,
443:20,	colors 419:14	495:22,
443:23	Column 412:2,	496:3, 496:5,
Coburn 106:6,	412:15,	496:6, 496:15
115:6,	412:23,	Commerce 4:25,
116:19,	413:21, 414:1	4:26
116:23,	columns 412:3	Commercial 3:9,
131:18,	combination	3:17, 50:4,
141:24,	65:18, 291:4,	50:15, 50:16,
141:25,	340:15	50:20, 127:9,
142:12,	combine 112:12	134:21,
161:10,	combined 106:16	202:14,
161:11,	combining	238:8,
161:21,	136:18	251:14,
167:8, 168:6,	comes 19:4,	288:21,
169:11,	20:9, 74:8,	288:25,
174:23,	87:11, 106:6,	289:7, 289:13
199:17,	255:15,	Commissioner
200:12,	289:11,	1:26, 2:2,
200:16,	310:2, 405:1,	2:5, 2:6,
213:19,	439:19,	2:7, 2:8,
214:4, 214:9,	496:24	2:9, 14:6,
214:23,	coming 30:19,	14:8, 52:16,
216:9, 218:4,	39:17, 89:25,	95:6, 95:8,
218:5, 218:6,	94:14, 102:6,	143:3, 150:4,
218:9,	160:20,	150:20,
222:22,	162:15,	150:21,
223:3, 223:17	176:18,	153:6, 205:8,
Code 467:10	283:13,	218:22,
coded 213:24	352:22,	303:23,
coding 214:7	496:20	438:25

Commissioners	compared 41:7,	competitive
17:18,	43:18,	370:6
336:18, 337:3	125:21,	complete 39:1,
commitment	155:8,	86:6, 86:8,
138:10,	214:20,	148:25,
291:22,	296:5, 344:3,	181:11,
293:8, 294:6,	393:13,	224:18, 225:1
328:8,	480:13, 485:4	completed
328:14,	comparing	15:23, 95:15,
348:2, 348:5	40:25, 289:4,	95:16, 96:3,
committed	307:25, 308:2	180:24,
169:9, 289:23	comparison	181:8, 484:1
committing	107:12,	completely
333:24	216:3, 380:4	35:24, 80:13,
common 236:21,	comparisons	175:25,
465:6	466:11	301:9,
communicated	compatible	409:20,
451:15	29:19, 33:4,	452:21
community	44:18	complexities
23:24, 26:15,	compensates	366:1
103:4,	21:17	COMPLIANCE
238:25,	compensating	1:28, 312:3,
253:24,	106:20	312:19
267:3,	Compensation	complicated
301:23,	21:19, 24:13,	174:14, 355:5
436:22	24:15, 24:20,	complications
compacted	24:21, 25:5,	385:9, 463:7
443:9, 443:15	25:7, 25:9,	component
companies	37:12, 49:2,	21:15, 89:7,
368:20,	49:16, 51:1,	138:9, 302:7
410:12	54:23, 80:9,	components
Company 3:4,	80:23, 81:2,	32:14, 32:16,
56:6, 231:18,	81:24,	80:15, 410:19
241:13,	131:11,	compose 300:15
351:20,	131:16,	comprehensive
396:16,	144:5, 150:5,	71:10, 184:3
397:17,	150:20,	comprehensively
397:18,	150:25,	183:13
440:25,	232:3,	comprised 30:14
448:8, 449:6,	233:19,	compromise
459:15,	325:6,	35:23, 49:5,
479:10	332:11, 333:9	177:25
COMPANY'S 1:7	competency	compromised
comparable	385:20,	27:9, 27:11
403:17	391:18	compromises
comparative	competing	142:23
89:3, 215:2	57:24, 58:4	compromising
compare 223:10,	competition	411:5, 411:14
310:17,	23:25, 32:25,	computer 154:7,
356:17, 442:1	177:12	263:15,

358:24	377:13	356:22,
concedes 290:8	conclude 85:23,	374:20,
concentrated	165:11,	375:11,
239:3	209:19,	377:23,
concept 352:20,	288:6, 297:5	379:7,
354:20,	concluded	379:13,
354:21, 409:6	273:8, 497:10	380:5,
concepts 124:16	concludes 44:4,	380:15,
conceptual	52:3, 233:20,	427:25,
386:25,	235:13,	428:3,
387:12,	428:22,	428:10,
389:10	494:14	428:14,
concern 13:23,	conclusion	428:15,
13:24, 56:12,	28:24, 53:18,	428:18,
60:15, 61:10,	65:10, 73:23,	470:25
75:6, 75:15,	83:24, 85:16,	condensed 31:8,
76:13, 76:16,	261:7,	56:9
98:3, 103:21,	307:18,	condition
116:18,	308:5,	62:20,
272:17,	308:10,	102:23,
288:25,	406:18,	103:6, 109:3,
320:8,	406:23,	109:16,
324:12,	407:5, 426:9,	128:18,
324:14,	426:12,	129:3,
339:15,	427:19,	138:23,
420:6, 420:8,	485:17,	247:11,
435:25	495:25	421:10
concerned	conclusions	conditions
105:12,	31:15, 45:18,	24:8, 62:18,
169:5, 221:2	51:21, 64:18,	108:19,
concerning	64:24, 65:1,	109:1,
90:20, 150:5	83:23, 84:1,	135:22,
concerns 56:11,	84:5, 85:8,	174:8, 209:7,
60:16, 67:1,	85:9, 86:7,	227:9,
67:3, 72:13,	87:1, 87:3,	253:14,
78:1, 78:10,	92:20, 236:6,	253:19,
78:17, 79:4,	256:22	254:5, 254:6,
79:12, 79:14,	conclusively	258:19,
82:17, 114:5,	42:22	313:11,
114:8,	concomitant	326:6,
186:11,	184:24	326:11,
232:22,	Concord 4:17,	326:13,
268:10,	8:17	341:20,
268:15,	concrete	344:20,
272:21,	115:20,	420:19,
340:10,	116:6,	432:1,
344:17,	136:24,	441:17,
462:9, 462:10	136:25,	441:19,
concise 18:12	140:18,	441:25,
concisely	346:8,	442:1, 442:8,

452:15,	417:18	116:16,
454:6, 476:5	confluence	135:10,
condominiums	105:19,	135:14,
59:13	105:24	151:18,
conduct 167:10,	confused	154:12,
180:22,	218:13,	232:5,
183:8, 184:2	250:23,	258:24,
conducted	282:4, 319:10	263:23,
13:10, 13:12,	confusion 282:5	264:20,
21:7, 27:20,	coniferous	265:6,
29:2, 53:17,	112:8, 302:9	265:11,
297:15,	conjunction	265:15
299:18,	114:10,	connects 105:1,
299:25,	137:14, 328:4	413:14
300:8, 391:2,	Connect 1:8,	Connolley 93:3
403:18,	13:9, 14:10,	consequences
447:16	153:16,	64:15
conducting	238:18,	Conservancy
13:14, 181:6	240:19,	6:20, 6:25,
conduit 445:16	240:24,	113:21,
confer 360:4	241:5, 345:5,	113:24,
confident 190:7	347:6,	114:1,
confidential	430:11,	115:16,
389:23	430:15,	151:10,
configuration	462:5,	186:11,
472:14,	477:23,	204:23,
472:15	477:25	206:22,
confined 60:25	Connected	210:13,
confirm 206:24,	85:21,	283:5, 340:2,
259:1,	195:17,	423:7,
283:12,	251:7,	423:12,
285:7,	280:19, 450:7	424:15
349:11,	Connecting	Conservation
381:12,	129:4, 238:2,	6:21, 21:6,
409:25,	239:1	86:17, 90:10,
414:22,	connection	112:2,
414:24,	23:14, 91:3,	114:11,
420:17,	240:8,	143:20,
423:4,	250:14,	143:24,
443:17,	251:5, 322:3,	144:20,
496:24, 497:2	338:17,	144:25,
confirmed	338:22	145:7, 237:1,
253:8,	connections	237:4,
395:16,	36:20,	262:15, 365:2
420:18, 495:6	436:23,	conservational
conflates 64:22	436:25	120:22
conflict 384:20	connectivity	conservative
conflicting	22:22, 62:17,	191:3, 206:1,
481:4	62:21, 77:20,	212:22, 226:2
conflicts	85:15,	conserve 144:16

conserved	63:21, 66:11,	368:9, 396:17
145:16,	66:22, 66:25,	constructed
145:19,	101:22,	341:17,
145:24,	102:4,	480:25, 481:2
146:3,	114:20,	constructing
146:12,	120:17,	40:18
146:16	152:14,	consultant
conserving 96:5	176:13,	351:20
consider 49:16,	176:23,	Consultation
57:23, 77:2,	177:7,	34:25, 81:23,
101:5,	177:16,	231:25,
120:10,	209:11,	233:15,
121:3,	277:10,	234:21,
138:17,	290:1, 290:3,	273:6, 273:9,
143:20,	322:1,	281:11
153:25,	323:25,	consultations
176:15,	331:8, 347:9,	276:18
177:1,	392:8, 393:4,	consulted
184:18,	435:23,	420:18
223:17,	485:7, 495:18	Consulting
238:16,	Considering	144:17,
300:4, 303:3,	57:12, 58:7,	391:2, 410:1,
303:8,	135:4, 143:9,	459:15
357:22,	172:20,	consults 272:20
360:10,	179:10,	consume 364:15
390:9,	238:14,	Consumer 4:21,
390:22,	239:15,	205:19
399:15	239:19,	cont. 4:2, 5:2,
consideration	303:7, 390:4,	6:2, 7:2,
13:15, 15:3,	484:19	8:2, 12:1
71:14, 129:7,	consistent	contact 66:18,
129:10,	27:21, 132:7,	66:19
148:24,	306:5,	contain 259:16,
173:9,	334:25,	276:2, 277:9,
240:18,	348:25,	280:16,
289:20,	374:10	312:24,
347:5,	consists 30:11,	332:12
356:20,	31:1, 70:9	contained
404:3, 406:8,	consonant	27:23,
406:11,	384:19	276:24,
494:25	constantly	401:20
considerations	239:18	containing
15:12,	constraint	48:1, 239:12
154:13,	366:15	containment
173:18,	constraints	410:12,
232:15,	18:10, 51:10,	410:16,
371:8, 484:23	115:1,	410:22
considered	338:25,	contains 34:4,
24:13, 24:20,	427:16	279:3, 332:14
34:14, 59:9,	construct	content 223:20

contention	contractors	384:11,
248:9,	378:8, 450:16	384:12
277:22,	contracts 58:6,	conversion
358:20	59:8, 88:20,	21:24
context 223:22,	94:10, 94:11,	convert 368:24,
236:19,	94:13	368:25
238:9, 461:2	contradict	converted
contingencies	67:18	265:19,
56:24, 371:20	contradicted	351:14
contingency	64:24	converter
387:12,	contradicting	349:6, 349:8,
387:14,	76:4	349:11,
387:16,	contradiction	349:18, 413:1
387:19,	246:25	convinced 358:2
389:1,	contrary 75:12,	cooperatively
389:15,	76:15	340:6
389:20,	contrast 110:1,	coordination
389:22,	223:7, 223:8,	343:1
394:1, 394:7,	244:15	Copies 15:22,
442:2	contribute	18:5, 155:4
continually	130:14,	copper 446:12
376:22	262:15	coppicing
continuation	contributes	245:4, 311:1
13:10, 14:20	48:3	copy 18:3,
continue 29:16,	contribution	18:20, 19:7,
64:6, 180:9,	73:7, 80:16,	46:8, 46:16,
360:20,	80:18	46:19,
371:23,	control 129:8,	273:11,
384:14,	129:16,	273:13,
384:16,	199:6,	273:17,
482:14,	199:11,	274:2, 274:8,
482:18	200:9,	274:18,
continued	200:14,	274:25
99:16, 215:17	202:20,	core 258:23,
continuous	243:25,	297:7, 300:16
159:24,	245:16,	corner 157:16,
341:9, 427:4	291:20,	413:16,
contour 453:17,	293:17,	472:3, 472:6
454:22	342:23,	Coronado
contract 56:18,	343:1, 396:7	299:19, 300:9
56:20, 58:8,	controlled	corporate
58:18, 59:20,	26:25	490:23
109:9, 478:4	conventional	Corps 15:18,
contracting	123:15	24:14, 45:24,
341:2	conversation	54:9, 54:24,
contractor	260:22,	144:6
286:25,	263:12,	correctly
356:1, 400:4,	334:16	80:16, 118:9,
448:24,	conversations	202:15,
449:22	16:20, 17:1,	429:8,

436:20,	97:4, 195:9,	created 61:18,
466:17,	204:15,	121:16,
468:16	263:4,	135:1,
correspondence	268:22,	243:11,
71:11, 281:9,	306:7, 491:3	253:16,
281:21,	Court 1:21,	293:15, 327:4
324:5,	15:24, 498:2,	creates 185:1,
324:10, 333:8	498:13	344:9,
cost-effective	cover 22:17,	402:11,
370:3	28:22, 29:16,	402:24
cost-prohibitiv	66:4, 67:21,	Creating 63:2,
e 369:11,	107:7, 107:9,	130:4,
369:20,	112:14,	195:24, 422:7
371:6, 371:7,	173:7, 175:3,	creative 137:17
371:10	175:10,	credible 495:13
costing 469:15	237:13,	Creek 384:11,
costly 245:15,	238:14,	406:14
348:3,	252:14,	crew 320:24,
425:16,	253:19,	320:25
485:10	432:7,	crews 344:8
Council 5:6,	444:17,	criteria 13:15,
5:12, 5:19,	458:11, 493:5	13:17, 13:20,
5:33, 40:13,	coverage 49:5,	54:11, 79:5,
87:15, 397:3	265:11	182:8,
COUNSEL 2:3,	covered 94:25,	272:12,
14:13	206:24, 463:4	351:17, 496:5
count 33:8	covering 133:14	criterion 77:2
counties 437:14	covers 173:1	critical 21:15,
counting 412:16	cozy 336:3	28:19, 28:23,
country 407:11	crane 318:4,	29:15, 34:15,
counts 39:14	449:10,	47:25, 89:7,
county 437:16	449:20,	128:19,
couple 19:8,	451:13	313:14
80:3, 83:19,	create 42:13,	Cross 1:22,
106:22,	49:14, 50:7,	20:10, 70:11,
178:23,	50:8, 50:9,	83:14, 85:24,
205:20,	181:24,	100:16,
218:11,	197:2,	105:22,
246:12,	198:20,	132:18,
288:14,	204:24,	135:13,
298:20,	206:4,	135:17,
300:7,	206:10,	152:19,
303:24,	206:13,	171:25,
310:5, 315:9,	234:25,	205:17,
365:9, 382:8,	235:11,	219:21,
439:1, 441:15	242:18,	246:11,
coupled 136:10	252:17,	290:7, 295:5,
courage 435:17	355:13,	299:11,
course 24:15,	444:23,	303:15,
51:4, 60:18,	465:11	303:17,

318:4,	111:25,	223:20,
343:12,	112:22,	244:10,
349:23,	210:12,	357:24
359:25,	210:20,	cutting 199:13,
360:7, 363:6,	217:15,	202:17,
402:7, 410:19	240:23,	245:13,
cross-examinati	268:18,	253:16,
on 19:12,	278:25,	266:10,
20:4, 29:22,	337:11,	275:16,
39:24, 60:19,	340:7, 340:9,	306:23,
74:7, 94:25,	340:19,	312:20
122:14,	340:20,	CV 345:14
126:8,	344:21	cycle 243:4,
165:21,	CRTK-9 350:5	243:20,
165:24,	CSF 66:9, 66:10	245:11,
180:9,	culverts 80:18	245:12,
245:23,	curious 20:3,	304:4, 304:7,
282:16,	191:20,	304:8,
283:2,	208:13, 216:7	304:11,
361:11,	currencies	304:17,
362:9,	119:7	305:6,
362:18,	cursor 64:21	305:10,
362:22,	curves 407:24	310:15,
364:10,	custom 379:9,	311:10
428:22	380:8	cycles 310:13,
cross-examine	cut 23:9, 24:8,	310:17, 312:1
425:1	73:6, 127:4,	cylinders
cross-examining	127:10,	212:21, 213:1
16:2, 126:17	127:12,	
cross-section	127:15,	
243:5, 314:7,	242:6,	< D >
458:6	242:14,	D. 3:6, 6:10
cross-sectional	242:17,	daily 111:17
316:4	242:18,	Dam 104:15,
crossed 403:2,	243:4,	365:3, 413:16
425:24,	243:20,	damage 341:22,
427:8,	244:25,	357:1, 468:4
463:11,	249:3,	damaged 400:22
476:11	251:16,	damaging 100:14
crosses 67:20,	273:21,	dams 56:7,
104:16,	311:3, 312:4,	438:1
107:15,	382:22,	danger 466:5
360:1, 367:2,	383:1, 384:5,	dangerous
401:24,	418:24,	413:24
402:21, 403:9	456:13,	Daniel 254:16
crossings 71:5,	457:22	dark 220:10,
72:5, 72:10,	cutoff 36:24	220:17
72:15, 97:13,	cuts 50:9,	darker 109:8
105:24,	119:1,	dashed 213:25
107:14,	223:19,	Data 27:17,

28:4, 28:25,	102:16,	271:24,
29:18, 51:24,	103:13, 246:9	272:22,
53:3, 58:20,	DAY 1:14, 90:7,	273:1, 273:5,
59:16, 84:14,	150:11,	302:3, 323:25
84:15, 94:6,	176:19,	decade 149:14,
94:8, 94:17,	208:19,	258:8
94:19, 99:13,	227:9,	decades 21:6,
182:5,	227:22,	258:8
248:21,	293:1,	decide 20:12
309:13,	309:18,	decided 96:5,
358:20,	393:5, 429:1,	179:2, 205:8,
358:21,	481:15,	347:24,
389:4, 392:9,	488:4, 489:6,	362:13,
393:2, 393:3,	494:22, 496:4	409:17,
393:9,	days 418:14,	491:15,
393:10,	467:18,	495:1, 496:23
477:5,	495:1, 495:5,	deciduous
490:10,	495:24,	112:8,
490:22, 491:7	496:1, 496:23	420:15,
date 68:7,	DBH 270:19	420:16
68:15, 68:16,	DC 345:4,	decision 15:8,
109:1,	436:23,	303:10,
109:20,	462:20	400:4, 417:21
132:8,	Dead 80:23,	decision-maker
140:20,	99:15, 157:4,	209:1
148:22,	258:20,	decision-makers
149:17,	354:7, 467:3,	179:13
179:25,	467:5, 471:8	decision-making
294:19,	deadline	14:4
324:23,	491:25,	decisions 86:21
472:19,	492:6,	decline 23:5,
488:5, 495:5,	492:22,	27:2, 152:14
496:13,	492:24, 495:6	declined 44:11
496:23	deal 431:10	declines 121:14
DATED 241:15,	dealing 355:5,	deed 66:7,
246:20,	395:22,	429:3
489:21,	396:1, 492:20	deemed 234:2,
498:17	dealt 352:7,	252:1
dates 68:4,	446:16	deep 405:20,
127:20	Dear 56:9	448:2
David 5:25,	debris 32:17,	deeper 354:25,
9:15, 60:5,	48:3, 63:8,	380:10
60:7, 60:8,	63:13,	deeply 285:24
77:10, 78:3,	106:16,	deer 142:16,
78:12, 79:11,	106:23,	203:13,
80:1, 83:21,	106:24,	239:9, 243:9,
83:25, 84:13,	234:16,	243:10,
84:17, 85:3,	235:1,	263:19,
85:6, 85:13,	235:10,	263:22,
86:10,	270:5,	322:3,

322:10,	289:11	33:14, 37:22
326:21,	degraded 24:3,	density 63:10,
327:2, 327:4,	27:12, 96:6	258:20,
334:11,	Degree 55:23,	443:8, 443:15
334:20,	120:1,	deny 65:14,
335:4, 428:5,	120:13,	259:2
455:7, 455:11	162:11,	depend 102:22,
default 16:15	166:24,	103:6,
defeat 57:10,	302:1,	149:11,
464:21	351:22,	286:15
defeats 75:6,	351:24	dependent
75:14, 76:12	deleterious	122:5,
defer 151:3,	50:11	238:21, 376:8
315:13,	delineate	Depending
316:1, 317:7,	248:24	78:22,
320:4, 382:4,	delineating	133:13,
449:21,	211:17	147:4,
490:16,	delineation	198:25,
490:19	224:13, 253:5	206:14,
deferred 382:9,	deliver 351:3,	225:21,
472:10	475:17	233:13,
deficient	delivering	243:13,
86:21, 238:14	464:23	268:24,
define 123:6,	Delivery 345:2	285:1,
123:9,	delta 320:14,	287:19,
124:11,	379:1, 380:5,	329:16,
353:8, 476:17	381:1, 381:11	420:3,
defined 102:21,	demarcation	420:19,
251:23,	413:7	432:7, 457:2
283:22, 285:7	demaynadier	depends 97:3,
defines 124:22,	22:25	149:6,
283:20,	demonstrate	168:17,
314:22	29:18, 84:7	169:23,
definitely	demonstrated	175:25,
37:24, 161:3,	44:10, 64:10,	223:2,
185:5, 316:1,	232:7,	225:16,
443:20	252:12,	227:8,
definition	347:15	374:22,
28:13, 122:6,	demonstrates	376:10,
123:15,	57:4, 134:12,	387:14,
194:15,	232:3, 346:23	453:12
333:18, 442:9	demonstrating	depict 228:2
definitive	350:8	deploying 418:3
170:18,	demonstrative	depreciation
170:20	126:14	59:5
deforested	denotes 157:17,	depression
61:11	220:10	320:19
degradation	dense 23:2,	depressions
288:20,	245:2, 446:13	229:13
288:25,	densities	depth 385:20,

392:13	236:10,	399:24,
depths 32:18	239:1,	441:20,
describe 256:5,	344:15,	442:3, 443:11
256:6,	458:8,	determined
284:14,	464:15,	103:7, 206:3,
287:24,	467:12,	206:9, 234:2,
288:16,	467:14,	258:18,
288:19,	472:23,	259:21,
302:6,	473:4, 473:6	304:10,
322:11,	designing	340:11,
359:13,	238:10,	340:14,
442:14,	341:1, 457:5	415:10,
460:3, 464:17	desirable	469:25,
described	72:23, 151:1,	470:3, 484:24
57:10, 61:20,	338:11	determining
125:8,	despite 117:1	57:20, 287:25
159:15,	destruction	deterred 435:9
159:20,	58:1	detrital-based
165:15,	destructive	23:20
237:15,	58:10	devastation
239:23,	detail 171:8,	27:8
241:8,	241:17,	develop 354:18,
283:12,	243:6,	369:4, 370:5
285:22,	253:24,	developed
291:4,	340:19,	123:25,
317:21,	351:10,	208:13,
325:24,	456:17,	208:15,
326:16,	490:12	237:3, 238:1,
475:15,	detailed	294:3,
475:16,	391:22, 475:1	353:17,
483:24	details 59:7,	367:5, 409:2,
describes	260:23,	416:9
123:25, 124:3	345:13,	developer
describing	469:24, 470:4	100:12, 480:7
175:24,	detect 120:19	developing
251:8, 426:11	determination	239:16,
description	76:7, 205:3,	460:13
350:15,	259:13	Development
401:16	determinations	1:11, 13:7,
deserves 209:2	86:20	124:1,
designate 20:5	determine	237:13,
Designated	58:21, 59:14,	238:7,
3:31, 4:13,	59:22,	239:19,
4:28, 5:10,	100:13,	339:19,
6:9, 6:23,	115:16,	351:8,
6:34, 7:8,	118:17,	352:14,
7:26, 8:13	143:23,	352:19,
designed 61:22,	176:22,	416:18
160:3, 210:5,	216:19,	devices 17:14
211:1,	248:15,	devil 352:17

diagram 198:8, 211:23, 212:19, 213:20, 213:25	380:1, 380:2, 381:15, 381:16, 415:4	174:20, 175:13, 301:25, 382:16
diagrammatic 159:5	differently 16:10	directing 144:25
diagrams 213:22	differs 33:23	direction 70:1, 215:8, 221:21, 470:2
diameter 73:11, 73:12, 119:24, 250:3, 251:2, 270:16, 270:23, 271:21, 450:4	difficult 27:6, 62:24, 66:8, 244:18, 275:23, 306:18, 356:11, 364:5, 400:10, 400:12, 400:18, 450:23, 485:10	directional 132:1, 142:16, 343:11, 343:17, 386:11, 386:13
Diblasi 8:11, 30:18	difficulties 344:9, 425:6, 425:8	Directionally 72:15, 472:2
dictate 268:25, 442:25	difficulty 402:12	directly 27:13, 36:2, 158:1, 159:22, 165:6, 172:23, 172:25, 193:19, 249:6, 275:10, 282:11, 317:16, 321:3, 371:14, 375:14, 448:1, 464:7
dies 263:16	diffuse 24:12, 34:15	Director 1:29, 2:4, 14:1, 14:8, 14:10, 235:19, 351:21
differ 238:23, 310:20, 310:22	dig 405:18, 418:24	Dirigo 336:20, 337:14, 404:22, 459:8
difference 53:22, 176:3, 181:14, 181:15, 181:16, 214:21, 288:22, 303:4, 318:18, 318:19, 331:3, 341:22, 353:14, 355:15, 409:7, 422:1, 431:18, 445:13, 445:14, 446:22, 446:25, 454:23	digging 354:25, 355:12, 355:13, 386:15	disadvantage 306:10
differences 350:16, 445:19, 462:7, 462:13, 471:6	digital 248:21	disagree 49:10, 49:13, 51:20, 54:6, 69:20, 81:25, 87:2, 87:5, 92:20, 92:21, 93:13, 127:3, 127:8,
differential	diligence 121:19	
	dimensions 314:3, 470:20, 470:23	
	diminished 232:5	
	diminution 58:1	
	dinner 360:18, 360:21, 360:23, 361:9, 361:14	
	dip 156:19	
	dips 229:23	
	directed 144:21, 171:18,	

- 255:16,
 255:22,
 277:23,
 296:22, 359:6
 disagreement
 33:3, 49:6,
 298:7
 discounted
 59:13
 discreet 38:6
 discuss 66:15,
 73:21,
 150:19,
 187:6,
 236:16,
 340:19,
 350:14,
 433:7, 479:11
 discussed 67:7,
 68:10, 72:20,
 81:9, 134:11,
 179:15,
 240:3,
 241:17,
 283:10,
 295:9, 343:6,
 343:25,
 418:5, 423:5,
 429:21,
 431:2, 431:4,
 431:5, 464:4,
 477:18,
 486:8,
 491:12, 492:7
 discusses
 69:24, 70:1
 discussing
 151:23,
 352:9,
 357:13, 409:7
 Discussion
 60:17, 61:1,
 131:9,
 173:10,
 179:21,
 201:5,
 205:13,
 278:17,
 287:8, 430:7,
 431:7,
- 432:17,
 434:10,
 492:25
 discussions
 66:20,
 262:19, 460:8
 disease 24:2,
 39:20
 dispersal
 21:20, 22:20,
 22:21, 36:7,
 37:19
 dispersers 34:2
 dispersing 27:6
 dispute 261:24
 disregard
 25:25, 276:22
 disruption
 341:9, 341:14
 disruptions
 17:15
 dissipate
 442:20
 dissipation
 426:18,
 442:17
 distance 33:22,
 35:21,
 121:12,
 142:6,
 173:22,
 219:10,
 222:15,
 226:24,
 229:7,
 229:24,
 240:25,
 251:1, 251:6,
 286:16,
 315:22,
 315:25,
 321:18,
 344:7,
 366:13,
 366:18,
 373:13,
 412:24,
 426:15,
 433:3,
 468:13,
- 468:25,
 471:8, 482:8,
 486:9
 distances
 33:16, 37:19,
 38:13, 61:6,
 318:20,
 465:17,
 468:11
 distinct
 238:23, 264:1
 distinction
 181:5, 287:9
 distinguish
 169:2
 distribute
 36:21,
 270:24, 495:7
 distributed
 20:7
 distributing
 88:20
 Distribution
 59:19, 94:13,
 337:23,
 337:24,
 364:24,
 365:13,
 366:12,
 368:20,
 410:12,
 468:2, 473:7
 district
 339:24, 434:6
 disturbance
 61:14,
 125:12,
 125:16,
 125:23,
 133:12,
 133:15,
 260:4, 260:9
 disturbances
 125:18,
 133:16
 disturbed
 41:17, 62:9,
 64:3, 74:4,
 79:24,
 105:10,

400:14,	276:17,	doubled-up
422:12	474:12,	207:8
ditches 33:9	491:6, 495:15	downside 148:22
diverse 240:9	doing 39:19,	downstream
diversity	84:25, 89:24,	104:17,
32:22, 32:23,	105:11,	105:22,
33:17, 38:22,	107:14,	105:23
38:23, 38:25,	133:3,	downtown 105:2
240:10,	167:20,	dozens 277:3,
262:16	167:22,	281:2
divide 284:2,	184:9,	dpubliccover@out
362:19	186:21,	doors.org
dividing	224:20,	5:30
171:12,	260:24,	draw 85:7, 85:8
374:19	352:21,	drawn 84:6
Division 26:6,	359:20,	drill 343:11,
345:2, 443:10	364:2, 366:4,	343:17,
doable 450:24	383:16,	386:13,
Doctor 126:14	399:24,	417:14,
document 42:9,	454:13,	471:23,
91:8, 91:10,	484:21	471:25,
121:23,	dollar 368:8,	472:2, 482:17
123:23,	368:18,	drilled 72:15,
123:25,	470:12	78:13
250:10,	dollars 58:24,	drilling 61:12,
250:15,	59:25, 102:7,	78:24, 132:1,
250:16,	348:21,	142:16,
250:19,	371:9, 387:8,	386:11,
255:8,	394:25,	391:12
270:24,	489:17	drive 67:16,
280:12,	domain 434:14,	98:9, 110:4,
299:12,	434:19, 435:1	218:16,
299:15,	door 17:19	228:12,
300:2,	doors 17:16,	236:21,
300:12,	17:17	432:15
396:10,	Doris 17:9	driven 23:23
396:11,	Dostie 1:20,	drivers 119:22
396:13,	15:24, 15:25,	driving 138:13,
429:18	488:4, 498:2	160:23,
documentation	Dostie_____	163:7, 164:6,
59:7	498:12	164:7
documented 28:6	DOT 104:20,	drones 318:13,
documenting	203:10,	328:24, 329:6
490:15	464:7, 487:8	drop 273:5,
documents	Double 433:13	312:7,
150:12,	double-check	323:23,
150:13,	131:19,	402:19, 454:8
150:16,	421:11,	dropping 107:8
179:4, 179:6,	454:15	drops 121:13,
275:15,		164:10,

405:16	130:15,	easy 16:24,
drove 109:19,	252:17,	109:10,
447:17	282:25	356:22,
DRS 339:19	Earth 68:3,	359:16, 468:7
Drummond 7:10,	68:24,	ecological
7:18	110:11,	21:24, 22:11,
dry 407:11	357:25,	49:15, 51:12,
dual 376:5	403:25, 494:3	70:4, 238:25
duct 341:16,	ease 211:17,	ecologically
342:18,	394:24	36:25, 39:7,
342:20	easement	49:5
Due 23:5, 27:2,	339:10,	ecologist 51:14
57:8, 61:23,	384:18,	ecologists
115:22,	396:3,	238:17,
118:20,	396:14,	299:19
121:19,	403:8,	Ecology 21:3,
122:1,	403:13,	21:5, 21:9,
202:13,	423:15,	26:13, 26:15,
232:5, 245:1,	423:20,	38:15, 118:4,
338:12,	423:22,	235:18,
341:13,	423:25,	301:20
342:3,	424:3,	economic
343:20,	432:22,	441:21,
344:6, 346:5,	439:6, 439:7,	462:10
425:6, 495:4,	439:15,	economical
495:5, 496:16	439:18,	457:5
dug 357:3	440:8, 440:21	economically
dump 356:11,	easements 365:2	70:22,
412:19,	easier 98:11,	241:21,
425:15,	149:11,	295:13,
492:19	359:16,	347:16
DURWARD 2:6	377:6,	economics
DWA 132:3,	400:13,	462:23
272:17,	432:7,	ecosystem
457:12,	432:11,	36:13, 38:2,
457:13	444:15	38:8, 38:12,
dynamic 238:15	easiest 38:19,	146:10,
	470:3	301:10
< E >	East 96:1,	ecosystems
early 28:17,	106:3,	25:6, 45:19,
43:10, 52:3,	145:22,	47:16, 48:1,
62:20, 85:19,	156:6,	134:13,
103:22,	156:25,	240:4, 240:8,
124:3,	157:1,	248:1, 248:12
129:19,	160:23,	Ed 30:14
129:21,	165:6, 203:4,	edge 23:7,
130:10,	439:21,	23:11, 24:9,
130:11,	457:20	77:11, 77:17,
130:13,	Eastern 14:1,	82:20, 83:1,
	145:21	98:22,

121:12,	effects 22:23,	116:17,
121:18,	23:7, 23:11,	154:17,
130:4,	23:19, 24:7,	161:9, 167:3,
152:21,	50:11, 77:11,	168:4,
152:22,	135:4, 154:2,	171:10,
158:5,	154:9,	175:24,
159:24,	175:20,	222:11, 224:2
160:16,	201:1, 202:7,	elevating
198:8,	232:4, 235:11	115:13
220:25,	efficiently	elevation
252:24,	180:20	192:22,
272:10,	efforts 347:21	193:9, 196:4,
283:13,	egg 33:6, 33:9,	196:5,
315:3,	33:15, 33:20,	197:23,
334:14,	36:21, 36:22,	198:12,
339:17,	39:14	219:20,
465:20	eggs 33:14,	453:18,
edges 73:3,	45:14	453:24,
73:15, 81:14,	ehowe@dwmlaw.co	454:23,
84:19,	m 7:23	456:8,
121:11,	EHV 421:16	456:22,
135:19,	eight 243:10,	456:24,
152:18,	327:4, 327:8	457:1,
238:22,	either/or 470:2	457:18,
242:10,	elaborate	457:19
242:21, 335:4	151:24,	elevations
edits 19:9	301:19, 463:7	164:11,
Edwin 8:7	electively	175:18, 210:2
effect 38:14,	347:24	Eleventh 126:6,
41:6, 41:13,	Electric	126:12
41:15, 51:13,	289:17,	eliminate
64:12, 86:1,	368:20,	62:10, 69:17,
138:5, 154:4,	410:11,	77:13,
154:10,	467:10,	206:12,
184:24,	475:19,	252:7, 252:9
211:24,	486:11	eliminated
226:13,	Electrical	70:13
232:10,	4:23, 233:9	eliminating
234:25,	electricity	117:7
249:1,	442:18,	elimination
272:11,	475:18	228:24
307:23,	electronic	Elizabeth 4:14,
438:10, 467:7	17:14	8:14, 30:9,
effective 63:6,	element 117:4,	67:3, 83:17,
137:6, 138:5,	140:5, 220:20	290:12, 368:1
173:11, 245:9	elements 23:16,	Elm 3:34
effectively	24:18	elsewhere
304:1	elevate 199:18	110:14,
effectiveness	elevated	123:10,
62:25	116:14,	170:7,

170:24,	94:2, 94:22	Energy 1:8,
294:19	eminent 434:14,	4:21, 6:6,
email 93:2,	434:19, 435:1	13:9, 14:9,
93:20, 274:4,	emphasis 410:16	26:9, 113:20,
274:19,	emphasize 66:3,	113:23,
275:3, 276:7,	144:9, 145:6,	135:16,
276:12,	410:11,	153:16,
276:17,	410:12	205:19,
276:19,	employed	345:2, 345:5,
276:24,	231:17,	346:16,
279:9,	345:10	351:3, 352:1,
279:20,	enacted 26:19	352:12,
280:4,	encapsulated	366:20,
280:14,	302:2	436:16,
281:7,	Enchanted 96:2	437:3,
281:22,	enclosed 44:5	440:25,
282:10,	encompasses	441:4,
324:20,	26:13	447:23,
324:24,	encroach 306:13	464:23
325:4,	end 17:8,	engaged 345:3
330:19,	19:15, 52:23,	Engineer 345:1,
330:22,	57:10, 66:13,	345:10,
493:24	150:11,	346:14
emails 275:14	150:16,	engineered
embed 330:5,	157:4,	101:9,
346:3,	158:15,	101:11,
375:11,	178:6,	170:16
375:25,	249:23,	Engineering
376:1,	280:6, 280:8,	11:16, 12:1,
377:22,	309:17,	15:12, 19:18,
378:17,	335:13,	173:9,
378:21,	339:17,	173:17,
379:22,	354:7, 356:3,	181:22,
380:21,	381:4, 408:2,	224:22,
381:2, 381:6,	408:3, 427:6,	231:18,
449:12,	467:5, 467:6,	288:4, 317:6,
451:11	481:15,	320:5,
embedded	482:9,	321:19,
375:14,	482:17,	321:22,
379:25,	494:22,	321:25,
381:14, 471:1	496:17	335:23,
embedding	endangered	345:8,
374:21	200:21,	345:11,
Emergency	239:13,	346:16,
17:15, 233:7,	272:13	349:12,
343:2	ended 430:10	352:5, 382:9,
emerging 44:6	ends 365:6,	439:17,
emigration	467:3, 471:8	459:15,
22:19	energization	462:12,
EMILY 7:17,	466:8	484:4, 484:6,

<p>484:7, 484:22, 485:5 engineeringly 440:4 Engineers 15:18, 24:14, 26:5, 54:9, 54:24, 144:6, 155:20, 171:18, 188:1, 188:8, 204:11, 224:19, 224:25, 235:20, 287:23, 315:10, 315:13, 316:2, 316:9, 316:24, 317:7, 319:1, 322:24, 352:18, 373:11 England 1:8, 13:9, 14:9, 29:12, 47:17, 137:24, 345:5, 351:3, 464:23, 475:19 enhance 95:14, 270:22, 340:3 enhanced 332:22, 435:8 enhancement 95:11 enhancing 96:6 enough 49:21, 78:17, 105:18, 116:7, 128:15, 130:15, 130:16, 133:11, 133:15, 140:12, 167:21, 168:16,</p>	<p>171:19, 190:6, 191:11, 229:24, 237:10, 240:5, 247:16, 265:8, 267:23, 284:18, 362:3, 373:13, 389:25 entail 440:3 enter 126:4 entered 18:1, 126:16 entering 229:16, 258:11 entire 58:16, 75:23, 78:12, 103:5, 136:15, 151:14, 152:16, 176:13, 176:24, 183:25, 242:4, 242:13, 243:24, 252:10, 259:6, 261:19, 290:2, 309:11, 335:15, 348:11, 348:13, 385:8, 410:3, 411:21, 412:21, 412:24, 415:19, 445:4, 449:25, 480:5 entirely 49:9, 398:14, 418:23</p>	<p>entirety 132:8, 141:23, 142:2, 480:1 entities 340:6, 410:24 entitled 377:9 entity 238:24, 435:22 entries 342:9 entry 126:6 envelope 47:24, 47:25, 82:21 environment 177:23, 185:13, 401:13 environmentally 58:9, 60:15, 114:22 envision 306:21, 320:6 envisioned 334:24 envisioning 179:14 EPA 46:14, 272:8 Epas 45:23, 46:4 ephemeral 453:22 equal 175:3, 320:15, 374:14, 452:22 equality 303:11 equally 400:18 equate 38:23 equation 241:2 equipment 233:1, 233:3, 268:11, 268:20, 269:1, 289:6, 289:8, 304:20, 312:6, 341:13, 343:18, 427:14,</p>
---	--	---

428:15,	establishing	347:21,
431:19,	151:18	398:5,
431:22,	establishment	420:23,
431:25,	301:8	441:25
432:7, 445:8,	estimate	evaluated 72:8,
445:11,	110:18,	154:3,
446:24	115:5,	154:11,
equitably	144:15,	155:18,
362:20, 364:6	191:3,	160:1,
erect 449:19	388:21,	162:21,
erecting 451:13	389:11,	200:19,
erection 378:22	389:20,	216:14,
Eric 8:9, 30:16	391:22, 400:1	221:25,
Especially	estimated	233:25,
47:23,	58:15, 59:2,	235:25,
132:12,	59:24, 144:4,	244:22,
160:25,	171:6,	341:7,
219:9,	347:25,	350:20,
219:15,	368:8, 421:3,	387:15,
222:15,	421:23	388:13
223:13,	estimates	evaluating
227:21,	352:23,	100:19,
239:17,	356:2,	111:22,
312:5,	385:14,	297:10,
352:17,	386:24,	308:21,
357:9,	387:17,	459:7, 460:4,
457:23,	387:19,	474:24
483:8, 486:11	387:21,	evaluation
Esq 3:6, 3:14,	389:17,	62:1, 76:18,
4:14, 4:29,	392:18,	87:5, 153:19,
4:37, 5:11,	392:22,	153:25,
5:18, 6:10,	393:7,	160:22,
6:35, 7:9,	469:22,	165:11,
7:17, 7:27,	470:12	170:12,
8:14	estimating	175:14,
essential 112:3	391:18	175:19,
Essentially	et 59:20, 93:6,	215:3, 217:2,
69:7, 70:6,	291:17	217:18,
73:18, 80:14,	evaluate 72:18,	263:2,
82:19, 85:16,	73:24, 88:16,	277:13,
89:11, 91:4,	100:11,	277:14,
106:6, 268:5,	100:21,	293:16,
269:5,	101:18,	305:7,
269:23,	154:9, 157:5,	337:19,
302:2,	157:11,	360:11,
380:20,	165:3, 175:7,	370:1,
460:9, 490:8	201:3, 205:2,	387:23,
establish 58:13	209:6,	406:5, 475:2
established	214:21,	evaluator 57:7,
27:4, 318:2	216:13,	57:18

evasive 178:2, 225:4	494:16, 495:13	345:24
evening 344:23, 364:13, 368:1, 383:18, 384:25, 397:2	exacerbate 206:6	exceeding 345:18
event 50:13, 354:9, 467:15	exacerbated 167:3	exceeds 268:22, 340:16, 377:20
events 24:3, 107:2	exact 53:4, 68:16, 104:19, 167:23, 366:10, 389:22, 495:6	except 374:2, 396:14, 399:6
eventually 97:4	Exactly 46:12, 115:4, 142:6, 201:9, 261:16, 319:15, 322:9, 324:25, 363:23, 374:7, 391:8, 413:7, 461:23, 474:11, 477:12	exception 15:7, 56:23, 165:13
Everett 2:2, 2:8, 14:17		exceptions 494:15
evergreens 109:7		excerpt 254:21, 313:4, 326:14
Everybody 19:10, 282:19, 356:7, 363:11, 364:7, 419:13, 462:6, 491:7, 497:3		excerpted 321:2
Everyone 16:21, 17:16, 46:9, 46:17, 46:19, 218:18, 221:18, 282:25, 344:24, 395:21	Examination 9:7, 9:18, 10:6, 10:16, 11:8, 12:3, 252:20	excess 218:14, 447:25
Everything 16:18, 41:17, 120:3, 204:1, 319:17, 435:10	examine 117:13, 117:14	exchange 275:13
everywhere 168:12	examined 398:9	Excuse 18:21, 35:3, 58:20, 274:21, 280:3, 295:8, 364:1, 430:22
evidence 18:1, 64:17, 65:11, 65:12, 85:10, 85:23, 86:4, 121:11, 149:18, 251:19, 303:9, 303:15, 333:21,	Examiner 178:8, 337:3	excused 231:1
	Examiners 336:18	execution 346:16
	Examples 26:22, 71:10, 349:19	EXECUTIVE 2:4, 470:7
	excavate 378:21	exhausted 394:1, 411:4, 411:13
	excavating 355:16, 431:21	Exhibits 57:18, 58:12, 71:4, 126:7, 279:6, 327:22, 328:11, 469:10, 489:18
	excavation 380:10, 451:7	exist 78:7, 78:16, 179:1, 239:5, 240:6, 269:21, 325:18, 350:10
	excavations 342:24	existence 42:3, 148:4, 149:2
	exceed 243:2, 243:3, 243:18,	exists 151:6, 266:9, 326:10, 372:10,

382:22,	26:25	341:25, 342:1
490:12	experimented	extending
exits 17:16	318:16	63:16,
expand 338:14	expert 64:25,	166:15,
expanded 81:4,	152:6, 257:1,	241:25
81:11, 207:15	287:1, 287:2	extends 158:21,
expanding 66:11	expertise 51:7,	162:13,
expands 339:5	51:9, 204:14	162:17
expect 121:9,	experts 87:3,	Extensive
270:17,	233:16	27:16, 61:15,
271:9,	Expires 498:15	65:4, 84:22,
305:11,	explain 75:22,	262:24,
305:12,	181:14,	342:21,
332:11,	197:24,	342:22,
343:11,	198:2,	342:25
384:6,	211:14,	extensively
384:16,	214:2,	63:1, 73:21,
421:21	255:20,	78:5, 78:17,
expected 14:25,	301:4,	78:22, 79:1,
28:13,	318:22,	158:3, 420:2
313:15,	352:5,	extent 25:17,
345:20	353:11,	29:14, 54:17,
expecting 90:6,	369:13,	131:16,
416:5	448:5, 462:6,	139:25,
expend 135:16	462:7,	140:14,
expensive	463:15,	144:13,
56:15,	464:6,	145:1, 151:5,
441:20, 476:6	469:13, 484:2	209:4, 215:7,
experience	explained	232:11,
26:7, 26:12,	56:21,	292:13,
53:20,	155:17,	292:20,
111:15,	350:24	300:11,
112:6,	explanation	316:16,
207:18,	292:21	322:2,
214:22,	explanations	364:21, 377:8
235:17,	250:2	extra 18:4,
236:1,	explicitly	288:1, 361:9,
248:20,	327:20,	363:13,
262:14,	328:10	363:14,
287:3,	explore 136:21	363:15,
289:16,	explored 366:9	364:6, 364:7,
298:25,	export 22:9	433:3,
312:20,	express 98:3	433:10,
340:3,	expresses	448:19,
345:13,	116:18	492:11,
346:15,	expressly 14:6	494:10
351:25,	extend 84:20,	extrapolate
445:12,	152:22,	112:8
445:14, 468:5	191:6, 191:9	extremely
experiment	extended	420:21

eyes 289:18	99:25, 465:21	Farmlands 238:6
	Falmouth 153:15	Farrar 8:10,
	familiar 86:14,	30:17
< F >	123:23,	farther 41:20,
face 25:4,	123:24,	250:5, 471:24
228:6, 420:25	155:21,	fast 311:12
faces 342:5	188:25,	faster 120:7,
facilitate	256:24,	284:22,
135:14,	257:2, 257:5,	465:9, 465:23
240:21, 241:9	274:7, 293:1,	fatal 61:4,
facilities	293:2,	79:9
348:25	299:14,	father 104:6
factor 121:5,	390:6,	fault 418:4,
229:9,	390:12,	465:7,
229:14,	390:15,	465:11,
251:9, 370:1	419:2,	486:6, 486:13
factored	477:20,	faults 317:4,
229:11, 230:3	478:7, 479:4,	421:3, 465:2
factors 129:11,	479:6	favours 244:12
153:24,	far 34:22,	feasibility
174:11,	36:1, 49:21,	57:21,
238:21,	84:20,	352:21, 398:9
383:22	107:18,	feasible 59:15,
facts 84:12,	115:25,	59:23, 70:21,
84:13, 85:11,	119:4,	71:22, 97:25,
85:13	156:21,	241:21,
Factual 86:21,	163:3,	295:12,
86:23, 86:25	163:25,	347:16,
failed 59:18,	165:7,	364:22,
239:21, 448:9	177:24,	426:21,
failure 357:1	227:4,	426:23,
faint 69:3	254:24,	440:4,
fairly 80:13,	279:15,	450:20,
82:9, 103:15,	280:11,	451:16
109:10,	282:22,	feature 47:5,
163:4,	321:14,	147:6, 222:17
212:10,	335:13,	features 99:4,
212:17,	357:8, 362:7,	147:1,
224:4, 227:7,	366:14,	233:23,
371:19,	376:25,	234:3,
384:3, 457:21	382:6,	236:10,
Falcon 376:6	449:20,	236:14,
fall 144:23,	451:21,	238:1,
152:7, 273:1,	467:15,	238:16, 259:8
337:5,	468:22,	federal 15:20,
427:14,	486:19	272:9
465:15, 466:6	farm 23:22,	fee 82:2, 82:8,
falling 465:4,	38:21, 39:1	82:12,
466:14, 486:1	Farmington	340:16,
falls 99:24,	13:11, 16:10	383:19,

396:8,	492:21,	301:25,
396:12,	492:22, 496:2	494:18,
403:9, 432:22	filed 85:1,	494:24,
feel 116:5,	115:3,	495:3, 495:10
241:4, 304:2,	242:23,	fine 20:13,
382:25,	276:12,	65:17, 176:5,
438:20,	276:16,	186:15,
464:13	276:22,	268:7, 320:5,
feels 151:10	309:19,	363:10,
fell 28:10,	460:17,	490:13
289:6, 289:8	491:18,	fines 444:18
felled 312:10,	491:25, 492:4	finger 105:16
312:12,	files 491:22	fingertips
312:14	filing 247:4,	277:21
felling 233:2,	415:12,	finish 251:10,
289:12,	492:6, 492:8,	331:22
289:13	492:20,	finished 90:3,
felt 144:14,	496:24	459:22
162:20,	fill 316:20,	fir 237:8,
162:21,	319:1, 431:18	300:17
166:11	final 39:9,	fires 58:2
female 119:9,	130:21,	firm 153:15,
119:20,	199:1,	293:8, 410:1,
147:15,	302:11,	459:11
249:17,	364:10	firms 459:12
250:4,	finalized	firs 284:23
250:24, 251:3	179:22	fish 99:19,
fewer 319:21,	Finally 63:15,	100:4, 100:6,
476:17	121:19,	100:7, 367:19
field 26:11,	222:10	Fisheries
27:17, 28:3,	financial	26:14, 28:11,
28:4, 262:14,	58:20, 65:5,	74:1, 81:3,
426:8,	94:5, 94:20	95:14, 232:1,
450:17,	find 33:14,	234:14,
479:24,	68:24, 75:2,	270:4,
480:11	85:5, 86:21,	270:23,
fields 367:8	95:12, 95:21,	272:18,
fifth 376:25,	101:9,	280:15,
414:1	135:17,	281:17,
figure 67:15,	184:21,	309:21,
69:4, 99:6,	224:12,	309:25,
126:21, 362:8	274:23,	310:3, 325:7,
figures 98:7,	280:4, 313:1,	325:12
99:6	359:21,	fishery 81:5,
figuring 111:24	444:13,	81:21,
file 18:6,	444:15,	239:11,
224:22,	461:14,	309:22,
224:24,	481:23	324:11
247:7,	findings 206:7,	fishing 111:23
491:24,	301:1,	fit 352:16

fitness 39:20	Floor 6:37	169:16,
fits 434:7	flow 59:13	228:19,
fitting 125:14	flowing 369:2	296:18,
FITZGERALD 2:7	fly 133:4	297:8, 298:4,
Five 100:17,	focal 147:25	298:7,
121:2,	Focus 15:2,	315:10,
131:14,	21:8, 26:8,	319:23,
141:20,	96:5, 118:6,	330:17,
142:8,	119:2,	333:16,
152:15,	119:21,	361:13,
221:11,	123:20,	364:16,
264:5,	162:22,	364:20,
273:22,	228:21,	382:10,
341:19,	236:3,	433:9, 434:9,
349:5, 364:5,	236:24,	473:11
391:3,	237:2,	follow-ups
410:21,	237:16,	471:20
412:2, 418:9,	237:19,	followed 41:3,
432:23, 482:6	251:22,	42:11, 67:10,
Five. 273:22	263:17,	443:2
fix 62:5,	297:5, 297:6,	Following 28:5,
185:1, 418:3,	354:12,	64:4, 67:6,
418:19	358:19	232:21,
fixed 59:3,	focused 136:12,	314:15,
315:24,	183:15,	337:22,
315:25,	195:5, 234:2,	491:5, 491:8,
371:19,	260:24,	491:9, 495:24
371:24,	265:3, 345:4,	following-up
389:13	355:8, 421:19	54:15, 150:4,
fixes 63:25,	focuses 21:4,	167:2
79:21	346:22	follows 67:5,
flagged 96:4	focusing 156:8	114:3,
Flaherty 4:30,	foliage 23:2	234:17,
4:38, 6:11	foliar 246:21	236:6, 270:6,
flash 486:14	folks 17:18,	439:20
flashover	98:12,	footers 284:6
486:17,	158:14,	Footnote 19:11,
486:20	160:23,	20:16
flat 174:4,	163:6, 169:5,	footprint 23:8,
210:7, 326:1,	172:19,	346:5
405:20,	194:2, 282:1,	foraging 22:7,
407:11,	288:4, 384:15	22:17
407:23,	follow 105:3,	forbearance
452:23	106:1,	282:13
flaw 340:5	179:18,	forbid 466:21
flaws 61:4,	258:5, 283:22	forego 290:20,
62:5, 64:18,	follow-up	291:12
79:9	108:6, 141:6,	foregoing
flipping 23:20	141:14,	28:24, 498:4
flood 107:2	146:2, 168:2,	foreground

158:6, 200:4	forgot 178:18,	400:20,
foremost 144:11	290:16,	425:6,
Forested 21:5,	370:25,	434:16,
22:16, 22:19,	458:18	435:12,
24:9, 24:10,	Forks 4:6,	436:10,
27:7, 29:13,	30:11, 67:6,	436:14,
29:15, 33:12,	105:20,	437:15,
34:11, 34:12,	280:25,	438:14,
38:12, 38:20,	338:9,	441:22,
43:19, 61:13,	366:16,	442:4, 476:12
70:14, 216:5,	391:4, 403:11	forwarded
253:24,	form 112:13,	281:6, 309:10
266:17,	149:3,	found 23:7,
266:20,	149:10,	27:4, 32:14,
266:24,	176:25, 184:1	177:1, 211:4,
359:22, 428:8	formal 166:23	327:21,
forester	formally 247:8	447:20
270:18,	format 149:7,	Foundation
420:18	149:11,	6:21, 90:10,
Foresters	149:12, 247:8	126:15,
238:17,	formed 146:7	136:24,
262:20	former 67:23	173:21,
forestland	formula 24:15	233:14,
436:2	forth 175:18,	287:20,
Forestlands	205:6, 220:3,	288:3, 346:4,
238:6, 299:8	266:7,	346:6, 379:7,
Forestry 25:3,	275:25,	380:5,
50:4, 50:10,	327:20,	380:16,
50:15, 50:16,	327:25,	381:4, 381:6,
123:21,	328:10,	381:24,
127:9, 161:1,	328:16,	427:22,
202:14,	352:23,	449:13,
202:21,	382:2,	451:2, 451:9,
236:3,	425:14,	470:20
236:24,	426:3,	foundational
251:14,	426:20,	301:14,
262:8, 289:1,	427:11,	329:17
289:3, 289:7,	428:7, 428:16	foundations
289:13,	forward 76:22,	115:20,
297:11, 358:1	89:14, 109:7,	116:6,
forests 22:9,	137:21,	140:18,
32:17, 38:15,	138:24,	346:10,
129:4,	143:2,	374:20,
137:16,	179:25,	382:6, 428:1,
144:22,	207:24,	471:1, 471:10
236:2, 237:9,	360:16,	Four 114:10,
238:8, 267:3,	360:20,	125:17,
301:17	361:16,	132:24,
forever 436:18	361:18,	162:5, 198:7,
forgot 16:24	372:4,	201:6,

231:10,	310:19,	38:9, 73:20,
245:12,	311:14	107:10
256:1,	frequent	Fund 80:17
296:16,	305:12,	fundamentally
304:13,	306:11,	297:25
311:25,	310:12, 311:5	funds 442:2
337:5,	frequently	funnels 239:2,
337:10,	409:14	239:4
340:7,	friendly 83:14,	furthest 335:14
347:15,	132:17,	futile 134:16,
348:24,	171:25,	134:18, 248:3
372:22,	205:17,	future 25:4,
418:9,	290:6, 363:6	89:1, 89:14,
469:21,	Friends 3:27,	89:19, 96:4,
473:24,	31:2	106:25,
496:18,	frog 22:24,	137:22,
496:19	26:24	138:4,
four-and-a-half	frogs 23:1,	138:12,
364:11,	23:12, 24:1,	138:14,
424:25	24:11, 34:16,	138:18,
fourth 40:16	39:3, 44:4,	146:18,
FPL 99:19	44:11, 45:4,	208:20,
fragment 21:12,	45:13, 120:24	244:13,
146:23	front 67:13,	263:8,
fragmented	72:17, 91:24,	309:23,
85:19, 122:6,	98:8, 139:15,	339:13,
357:23	155:4,	422:2,
Fragmenting	159:16,	437:18,
36:6, 47:5,	187:3, 227:1,	472:19
47:12, 50:13,	274:8,	
62:11, 63:24,	305:19,	
64:8, 64:20,	335:12,	
79:20, 147:1,	370:9, 380:3,	< G >
147:6, 259:8	437:8, 487:25	gained 262:13
frame 149:5,	frozen 427:11	gaining 477:18
343:18	Fuller 254:15	gas 352:2,
framed 442:7	fully 114:5,	437:3
framework	140:19,	gathered 392:6
236:24	146:4,	gauge 306:18
framing 378:23	316:12,	gauged 244:24
frankly 149:14,	377:2,	gave 98:9,
278:15	377:10,	148:8, 490:1
free 304:2,	385:10,	gears 316:9,
382:25,	445:15	409:25
464:13	function 21:25,	generalist 45:4
frequencies	36:17	generalists
310:21,	functionally	103:22
310:24	297:14	generalizations
frequency	functions	254:1
305:6,	22:13, 25:21,	Generally
		106:14,

157:6,	288:8, 355:4,	268:25,
160:16,	364:7,	315:16,
168:3, 191:5,	369:11,	321:5, 347:8,
198:11,	431:9,	347:11,
227:5, 228:4,	431:14,	347:17,
229:15,	436:15	354:16,
235:23,	GILMORE 2:5,	354:17,
236:19,	218:1,	376:9,
243:15,	218:13,	408:22,
319:16,	218:21,	415:3,
320:24,	433:18,	426:10,
358:13,	433:21,	427:19,
395:23,	434:3, 435:2,	452:12,
407:10,	436:4,	456:24,
432:3, 463:5,	436:11,	465:18,
482:16,	437:2, 437:9,	469:14,
483:17	437:23,	476:4,
generated	438:19	488:17,
148:13,	GIS 149:9,	491:24
181:23,	309:8, 309:13	gives 31:11,
475:18	Giumarro	83:13,
generation	120:16,	147:13,
39:18	121:15,	246:4,
generations	246:10,	283:25,
42:4, 42:22,	256:25	443:13
163:21	Give 18:17,	glimpse 297:18
generator	31:25, 53:7,	global 152:14
441:1, 441:9	79:16, 89:9,	goal 236:22
generically	117:21,	Gold 71:25,
286:18,	179:17,	115:25,
322:16	209:1,	131:13,
genesis 441:8	230:22,	137:3, 137:4,
genetic 22:22,	250:16,	140:15,
33:16	250:19,	140:16,
geographic	251:10,	156:5,
275:24,	271:12,	156:25,
467:11	286:7, 305:4,	157:19,
geotech 399:24	317:5, 320:9,	170:5,
GERALD 1:26	335:6, 336:8,	225:12,
gets 193:20,	363:11,	242:24,
305:21,	367:19,	264:14,
322:5,	372:16,	268:17,
379:11,	459:5,	269:21,
426:5,	470:15,	269:23,
442:18, 491:7	476:20	272:13,
getting 101:8,	Given 14:24,	280:20,
107:4,	35:18,	284:13,
219:13,	134:24,	284:16,
227:16,	209:17,	285:16,
275:17,	236:8,	286:2, 286:3,

388:9,	118:14,	243:20,
392:25,	131:9,	280:23,
455:17	339:22,	283:23,
Google 68:3,	408:5, 445:6,	312:22,
68:24,	459:3, 491:2,	319:3,
108:22,	494:5	373:14,
110:10,	greater 28:21,	375:18,
110:17,	38:13, 62:24,	377:19,
357:25,	102:25,	414:4,
403:25, 494:2	116:12,	420:19,
Gore 105:21,	130:7,	427:11,
391:4, 413:15	154:15,	478:21,
Gorham 5:28	166:8,	486:10
Gotcha 388:16,	166:11,	Groups 9:12,
388:20	215:7,	19:12, 29:25,
gotten 46:17,	305:18,	30:10, 30:20,
76:23,	305:19,	74:10, 83:18,
101:14,	327:9,	108:9,
101:15, 464:8	327:12,	122:16,
government	355:9, 373:25	136:4,
339:10	greatest	171:24,
GPS 359:17	120:21, 168:4	245:25,
grade 41:18,	greatly 27:9	267:19,
213:11,	Green 23:25,	267:25,
316:16,	39:3, 45:4,	337:5,
318:8,	214:1, 347:7,	362:20,
373:25,	419:5, 419:8,	363:11,
374:1,	419:15,	364:5, 368:2,
375:12,	419:24	372:12
376:7,	greenfield	grow 73:15,
452:14, 453:3	67:8, 105:4,	177:22,
gradient 44:11	246:21,	177:23,
grading 405:9,	330:25,	210:6, 242:9,
405:23,	406:1,	242:11,
405:24	408:11,	243:12,
graduated 345:7	408:19,	244:8,
grain 443:10,	409:8,	271:20,
444:19	413:10,	286:5, 311:8,
graminoids 27:5	414:13, 415:4	313:12,
grant 117:3	Greenlaw 222:1	321:5, 455:15
granted 423:15	grew 465:23	growing 69:20,
graphic 155:2,	grid 338:18,	177:11,
161:10	338:22,	177:20,
graphics 155:1,	430:16,	235:6,
230:13	475:19	244:11,
gravel 96:15,	groomed 218:20	284:22,
96:21, 96:23,	ground 41:16,	311:12,
316:19	67:23, 173:1,	311:16,
Great 88:7,	173:6, 174:4,	313:14,
101:4,	174:5, 243:5,	321:6, 465:7

grows 311:6	< H >	332:10,
growth 118:10,	habitats 23:15,	332:12,
118:12,	24:2, 27:9,	467:14,
122:23,	28:19, 33:1,	477:10,
123:3,	33:7, 33:12,	491:16
123:14,	84:23, 84:24,	happened 89:12,
134:13,	102:17,	127:20,
177:7,	103:16,	208:14,
239:25,	239:21,	448:10, 460:8
240:4, 245:2,	241:8,	happening
245:17,	272:13,	50:24,
247:25,	313:14,	301:11, 322:2
248:9,	401:21	happens 33:11,
248:12,	Hale 8:11,	129:8,
311:6,	30:18	150:16, 482:9
312:15,	Half 33:24,	happy 119:1,
313:14,	33:25, 77:14,	257:22,
373:19,	97:3, 104:17,	351:17,
374:9,	121:2,	369:13,
435:19,	133:17,	369:14,
435:22,	133:23,	369:15
435:24,	207:25,	harbor 34:15
436:3, 436:6,	208:7,	harbored 237:9
436:9	260:17,	hard 23:7,
guarantee	261:4,	24:8, 41:21,
138:20	267:19,	129:24,
guessing	267:24,	152:17,
105:25,	268:1, 315:3,	408:13,
110:14,	367:16,	408:15,
469:15	416:18,	476:17
Guide 4:9,	447:17	harder 120:19
30:12, 236:4,	Hampshire	hardest 487:15
236:24,	57:24, 477:9	hardware
237:7,	hand 18:15,	378:23, 432:9
237:15,	91:10,	harmful 186:12
251:22,	117:20,	Harris 364:18,
376:18	121:25,	365:2, 413:16
guided 300:17	244:4, 271:7,	Harrison 254:16
guidelines	276:13,	harvest 118:20,
238:7,	289:5, 336:7,	119:14,
244:19,	467:19	125:12,
419:25	handed 125:25	125:22,
Guides 3:28,	handful 32:6,	125:23,
31:3	32:8, 37:23	127:7,
guiding 261:15	hands 439:5	148:24,
guy 16:17,	Hang 496:21	176:6, 236:8,
448:20	happen 53:6,	251:9
guys 360:23	97:3, 176:6,	harvested
	208:1, 208:2,	50:20, 103:1,
	321:11,	122:9,

125:16,	121:20,	373:10,
163:13,	389:12,	379:1, 419:7,
251:25,	453:7,	425:4
253:9,	461:24,	hearings 95:10,
253:18,	474:10	105:13,
254:4,	heads 104:15,	186:20
256:10,	104:21,	heat 426:18,
258:18,	104:23	442:17,
259:3, 259:12	headwaters	442:20, 468:3
Harvesting	106:4, 280:24	heaven 466:21
85:17,	health 22:22,	heavier 446:11,
102:23,	38:24, 39:18,	446:12,
103:8, 119:6,	44:25	446:13
122:2, 134:4,	healthy 33:8,	heavily 152:21,
146:15,	33:17, 44:19	163:13, 384:5
146:17,	hear 18:22,	heavy 233:1,
149:16,	20:24, 26:3,	233:3,
163:14,	41:21,	268:11,
228:5,	153:23,	268:20,
251:19,	166:3,	289:6, 289:7,
252:16,	173:14,	341:13,
252:21,	215:20,	431:22,
252:22,	219:25,	446:9,
253:2,	259:25,	446:23, 447:5
253:13,	260:1, 260:6,	heightened
254:17,	260:11,	201:15
266:16,	260:12,	held 14:20,
288:20,	260:15,	17:23
288:22,	260:16,	helicopters
288:23	260:19,	287:4, 329:7
harvests	269:12,	Hello 344:23,
118:24,	269:14,	351:6, 425:2
127:20	278:9, 333:3,	help 16:4,
hate 168:11	359:10,	17:10, 17:12,
haul 157:4,	359:19,	148:15,
194:23,	369:13, 371:7	248:15,
223:21,	heard 48:25,	248:22,
228:12	122:22,	271:15,
hailed 426:16	183:21,	303:9, 465:2
Hauling 425:14	216:16,	helped 49:14,
Hawk 4:10,	222:10,	144:7
30:13	260:3, 261:2,	helpful 15:14,
HDD 164:19,	262:5,	98:7, 140:23,
417:12,	269:14,	149:7,
417:14,	270:19,	149:21,
468:8,	278:5,	158:12,
468:11,	297:12,	217:5,
468:13,	307:6,	230:13,
482:8, 482:13	308:11,	284:10,
head 17:21,	369:24,	405:8, 449:9,

489:25, 490:2	195:14,	456:11
helping 199:3	214:11,	Hobbins 7:27
helps 105:16,	216:22,	Hold 93:1,
480:15	227:19,	141:10,
Hence 352:15	227:20	172:4, 230:19
herbaceous	highway 337:24,	Hole 339:21,
29:9, 43:11,	338:3, 338:7,	343:12
358:4	342:7, 365:8,	holistically
herbicide	430:11	159:2
131:1,	Hill 5:34,	home 21:21,
289:24,	162:19,	22:19, 24:5,
290:2,	163:8,	24:24, 36:7,
292:19,	163:11,	37:18,
328:1, 328:3,	202:7,	119:23,
371:24	202:17,	119:24,
hereby 498:4	468:21,	120:4,
hesitant 53:7	468:22,	120:13,
hibernating	481:24	130:8,
22:17	Hinkel 2:10,	147:16,
higher 38:22,	431:7,	152:9,
38:23, 81:17,	432:13,	152:20,
137:7, 158:6,	496:10	237:10,
175:10,	hired 459:9	249:17,
175:17,	historically	250:4, 250:6,
192:22,	392:10	250:23, 251:2
193:5, 193:9,	history 21:16,	Honestly 382:4
193:12,	32:15,	hope 138:25,
210:2, 211:5,	125:11,	434:14,
213:21,	125:23, 251:9	436:12
215:1,	hit 33:12,	Hopefully
215:14,	312:21, 365:9	46:17, 74:19,
221:1,	hits 413:11,	118:9,
222:12,	439:20	129:12,
233:23,	hitting 176:19	138:10,
234:4, 288:9,	Hmm 124:6,	138:18,
315:18,	124:9,	138:19,
350:21,	175:22,	191:11,
455:19,	198:5, 260:7,	304:16,
463:25	368:4,	385:2, 401:6,
highest 144:20	373:17,	488:2
highlight 357:6	379:20,	hoping 263:15
highlighted	391:24,	Horizontal
155:3	394:15,	61:11, 78:24,
highlighting	394:23,	132:1,
38:10	395:19,	142:16,
highlights 70:4	396:2,	253:23,
Highly 61:21,	403:22,	300:19,
154:20,	451:19,	301:22,
156:13,	453:20,	302:1,
158:2,	455:13,	343:11,

343:16,	480:20	144:1, 263:7,
391:12,	hydraulic	323:24,
468:14,	343:13,	324:8,
472:14	344:10	403:24,
horizontally	Hydro-quebec	407:10,
78:13, 472:2	137:22,	407:21,
horse 313:22	338:18,	408:7, 432:5,
hot 442:19	339:4, 367:4	437:22
hour 360:16	hydroelectric	ideal 406:21
hours 18:8,	352:2	ideally 152:15
482:22	hydrologic	ideas 371:22,
House 7:29	22:10, 38:9	408:5
HOWE 7:17,	hydroperiod	identifies
9:23, 94:2,	40:20, 40:25,	92:15, 308:20
94:8, 94:16,	41:7, 41:14	identify 29:24,
94:19	hydropower	127:19,
hug 457:3	137:24,	129:13,
huge 486:18	437:24	131:8,
HUMPHREY 2:6	hypothetical	144:19,
hundred 409:18	78:6, 78:15,	248:17,
hundreds 21:11,	138:2,	307:1, 459:10
21:21, 24:17,	138:22,	identifying
37:23, 37:25,	139:5,	237:2
58:23,	166:12,	illustrate
327:13,	208:8,	190:1, 191:16
466:24,	208:24,	illustrations
470:9, 491:19	208:25,	209:17
Hunter 9:17,	209:5,	illustrative
22:25, 43:22	226:11,	212:1, 212:4,
hunting 194:2	326:1,	214:7
hut 218:10	416:21,	image 190:16,
HVDC 57:2,	416:22,	192:1, 192:4,
57:23, 58:14,	439:16	196:3, 198:6,
349:5, 349:6,	Hypothetically	200:3,
349:9,	89:25,	341:16,
349:11,	137:23,	342:14,
349:13,	138:8,	343:16,
349:15,	416:24, 417:9	458:14
349:18,		Imagery 118:23,
352:8,		118:24,
352:12,	< I >	125:8, 236:1,
352:20,	Iberdrola	403:25,
385:7,	397:16, 478:3	409:16,
412:24,	ice 317:2,	459:17
419:3,	466:22,	images 160:10,
419:16,	467:11,	189:14,
447:24,	467:13,	191:18
462:17,	467:23,	imagine 402:16,
463:19,	468:3, 468:4	428:5
472:23,	idea 53:2,	imaging 417:6

imbed 136:23	improved 346:7	276:19,
immature 118:19	improvement	291:7,
immediate 44:4	63:5	345:13,
immediately	improvements	357:7, 390:1,
23:1, 28:15,	228:22,	400:8, 412:1,
48:7, 48:13	318:3,	486:2
impacted 24:25,	318:12,	includes 24:12,
27:14, 34:4,	394:18	51:2, 57:12,
35:21, 36:10,	improvising	84:12, 92:21,
37:25, 85:25,	348:15	234:5, 236:3,
103:10,	in. 94:15,	244:3,
120:12,	117:17,	279:16,
120:14,	231:10,	291:8,
144:5, 152:21	431:20,	293:25,
impending 344:9	450:25,	294:12,
impetus 138:18	496:24	308:23,
implement	inaccurate	333:12,
293:25,	104:13,	333:18,
347:24	118:21	375:17
implementation	inadequate	including
235:7, 348:17	21:17, 22:3,	13:20, 15:11,
implemented	61:6, 63:25,	17:14, 22:8,
63:18,	79:21	24:23, 25:21,
294:18, 343:1	inadvertently	28:25, 29:10,
implication	332:1, 332:16	72:9, 93:7,
439:4	inappropriate	93:8, 114:4,
implications	33:10,	114:7,
385:7	149:19, 438:5	124:21,
implies 423:19	inappropriately	232:25,
imply 442:8	64:22	233:6, 259:6,
implying	inch 270:19	259:7,
246:23, 349:7	inches 73:11,	300:11,
importance	73:16,	325:6,
47:25	270:24,	333:25,
imported 356:9	271:21	371:21,
importing	incidences 24:2	371:23, 485:1
356:10	incidents	inclusion
imposed 442:9	476:25	117:1, 232:1
imposition	inclined 361:8,	inclusive
106:24	488:19	131:13
impossible	included 57:2,	income 59:6,
59:21, 338:8,	58:5, 71:4,	76:21
437:18, 449:5	71:5, 96:12,	incompatible
impracticable	101:17,	339:11,
442:10	116:7,	339:25, 349:9
impractical	116:25,	incomplete
244:18, 338:8	140:20,	86:11, 116:4,
improperly	187:8,	140:11
64:1, 79:22	233:18,	inconsistent
improve 277:23	243:6, 273:4,	27:15

incorporate	23:24,	132:20,
276:21,	344:18,	301:15,
347:21	345:21, 395:6	324:6,
Incorporated	increasing	324:10,
210:12,	63:17, 69:17,	489:7, 489:8,
276:24,	233:8,	495:21
282:6, 447:22	242:20,	indicates 62:3,
incorporates	245:5, 341:9	280:15
332:9	incremental	indicating
incorporating	115:12,	302:19, 338:1
71:17	234:15,	indication
incorrect	270:5,	248:13
349:13	287:17,	indications
incorrectly	295:24,	430:2
242:23	307:25,	indicator 27:22
increase 73:1,	308:14,	Indirect 23:18,
115:21,	322:18,	24:7, 24:22,
206:4,	322:23,	25:6, 25:22,
234:15,	323:10,	144:3
270:5,	323:19,	individual
320:15,	329:14,	27:8, 44:25,
322:21,	329:21,	215:11,
335:3,	330:7, 348:1,	244:8,
340:13,	348:5, 348:7,	244:23,
341:21,	348:18,	285:2, 311:6,
344:22,	350:21,	317:15, 446:2
345:25,	351:12,	individually
346:4, 374:8,	374:15,	244:22
374:10,	378:3, 380:6,	Industrial
374:12,	394:13,	205:19, 436:2
374:15,	394:16,	industry
463:12, 485:3	395:6,	350:11,
increased 24:2,	411:19,	485:23
63:20, 70:3,	412:16	Influence
189:7,	increments	135:20,
232:23,	287:11	135:22,
233:2,	incur 411:4,	254:17,
233:10,	411:9, 411:14	298:21,
268:20,	independent	300:12,
311:14,	57:7, 185:9	320:18
331:1,	INDEX 9:1	influenced
341:12,	Indian 104:13,	35:24
341:25,	104:15	inform 248:22,
343:7, 343:8,	indicate 79:13,	277:13
343:9, 344:2,	188:16,	infrastructure
344:3, 344:5,	234:22,	26:9, 292:3,
346:11,	237:15,	305:19,
393:18,	272:21,	312:18,
463:10	474:12	339:1,
increases	indicated	409:21,

412:20	427:7,	321:1, 321:5
infrequent	449:10,	instructions
305:4	456:13,	443:2
initial 144:1,	472:15,	insufficient
166:24,	477:10,	49:2, 50:1,
242:4, 273:6,	482:16,	342:12,
337:16,	487:19	487:18
484:22	installation	insulation
initially	268:12,	235:3
250:22,	288:3,	Insurance 1:22
484:19	317:15,	intact 22:15,
Initiative	323:16,	41:17, 70:14,
262:8, 297:11	342:5,	71:18, 71:21,
injecting	342:11,	71:24, 96:5,
376:24	342:13,	215:25, 438:2
injection 61:15	352:8, 445:10	integral 33:19
Inland 28:11,	installed	Integrated
232:1, 281:16	355:14,	38:12,
inner 413:5	440:22,	290:25,
input 235:1,	477:14,	291:1, 328:6
270:5,	477:19	Integrating
272:22,	installing	236:4, 236:25
273:1, 273:5,	322:21,	integrative
277:5, 279:1,	354:24,	244:2,
281:4,	385:7, 427:10	245:12,
324:15,	instance	272:7, 293:24
419:17,	100:24,	intend 180:3,
461:11,	101:3,	329:21,
494:23	168:14,	434:14
inputs 107:7,	201:5, 210:8,	intended 126:3,
234:16,	211:19,	130:25, 442:8
235:10,	216:21,	intense 226:13
323:25	222:23,	intensity
insecticides	223:3,	390:2,
291:17	225:12,	390:10,
insects 107:8	302:20,	390:15,
inside 97:1,	485:16	390:22, 391:1
436:24,	instead 110:19,	intensive
446:12, 448:2	197:25,	245:6,
insignificant	217:10,	245:15, 306:4
324:1, 324:2	292:17,	intent 185:17,
inspect 328:24	292:19,	291:18,
inspected	355:18,	293:7, 339:7
443:25	356:8,	intention
inspection	359:17,	75:22, 75:23
67:23,	381:5,	interchange
245:13,	386:15,	489:15
318:14, 329:1	408:4, 418:3	interconnection
install 322:20,	instructed	418:10
356:19,	320:25,	interest 396:8,

396:12,	interruption	inward 84:20
434:19	377:14	Irrelevant
interested	intersect	57:3, 77:2,
173:19	34:12, 36:9	77:3, 77:5,
Interesting	intersection	77:6, 118:11,
53:2, 156:18,	104:24, 156:1	389:15
160:21,	Intervenor	ISO 475:19
164:9, 210:1,	16:4, 60:19,	isolated 142:4
396:11	74:9, 89:12,	Issue 15:14,
interfering	108:9, 143:3	36:3, 50:9,
233:9	Intervenors	61:7, 84:4,
interior 24:7,	3:23, 4:2,	130:14,
120:20,	5:2, 6:2,	174:14,
120:23,	7:2, 8:2,	179:8,
122:3, 122:7,	30:15, 105:7,	209:13,
130:8,	116:11,	247:19,
132:14,	166:7, 337:1	280:9,
152:12,	intervention	290:14,
152:14,	306:5	298:10,
152:16, 153:1	introduce	298:11,
intermediate	14:15, 254:9,	298:18,
124:7,	293:7	300:10,
124:14,	introduced	324:15,
124:22,	46:12, 56:8,	346:21,
124:25,	186:22,	346:22,
125:14,	277:12	366:12,
237:8,	intrude 284:24	425:10,
237:12,	intruding 305:8	443:3, 469:7,
237:14,	intuitive	487:10,
239:25,	485:22	487:11,
481:25	intuitively	491:12
intermittent	306:2	issued 292:25
221:12,	inventory 91:4	issues 21:4,
331:4,	invertibrate	70:17,
331:10,	22:6, 39:5	121:20,
331:12,	invest 372:9	136:20,
453:23	investigation	209:8,
intermittently	392:10	272:20,
247:22	investment 59:6	296:12,
internal 238:24	involve 54:18,	365:10,
International	55:1	366:15,
4:21, 4:23	involved 66:13,	366:18,
interrupt	377:23,	384:15,
25:16,	389:3,	401:7, 482:3,
353:22,	391:15,	491:21
370:12,	400:5, 459:12	item 469:25
370:18	involvement	items 488:23
interrupting	460:8	itinerary
370:15,	involves 350:3,	179:17, 180:4
376:22	433:10	itself 117:5,

156:13,
 158:19,
 161:7,
 161:17,
 163:1, 164:5,
 168:5, 169:1,
 169:4, 176:2,
 211:12,
 214:11,
 214:25,
 216:25,
 222:7, 382:20
 IVM 293:20,
 293:21

< J >

J. 1:20, 6:35,
 7:27, 498:2,
 498:12
 jacking 386:21
 Jackman 66:11,
 66:22, 67:5,
 67:6, 67:9,
 104:4,
 104:14,
 105:2, 105:6,
 105:9,
 338:10,
 364:19,
 364:21,
 364:23,
 365:1, 365:7,
 366:3, 366:8,
 366:15,
 366:16,
 366:23, 403:5
 Jackson 403:4
 JAMES 1:28
 January 91:11,
 187:25,
 246:20,
 275:11,
 277:2, 279:2,
 281:5,
 309:17,
 313:8, 325:2,
 459:23
 Jay 15:17,
 15:18

jee 137:25
 Jeesh 90:12
 Jeffrey 5:32,
 6:10, 246:10
 jeffrey.reardon
 @tu.org 5:37
 Jerry 14:8
 Jim 14:10,
 93:3, 280:14,
 330:19,
 444:21,
 448:16,
 471:4, 496:8
 Joanna 7:9,
 20:2, 384:25
 job 59:11,
 76:1, 79:4,
 88:13,
 111:18, 204:6
 Joe 339:21,
 343:12
 Johnson 5:18,
 93:5, 169:12,
 216:11,
 223:4,
 280:18,
 403:11
 joined 14:14
 Joining 14:7
 Joint 13:3,
 13:17, 14:20,
 304:2,
 431:23,
 468:21, 488:6
 jointing
 342:15,
 482:17
 jointly 13:12,
 237:3
 Journal 43:24,
 45:20, 45:21,
 254:14,
 256:9,
 256:12,
 256:15,
 256:17,
 258:6, 258:7
 jtalbert@preti.
 com 6:16
 jtourangeau@dwm

law.com 7:15
 jump 180:18,
 190:10,
 287:3, 379:3,
 382:25
 June 447:17
 jurisdictional
 24:22, 29:5
 Justins 371:16
 Juvenile 22:21,
 22:25, 42:20,
 44:10, 45:5,
 48:5
 juveniles
 22:20, 22:24,
 26:24, 34:2

< K >

Kathy 8:9,
 30:17
 Keep 16:5,
 18:12, 33:16,
 98:13, 98:14,
 175:10,
 179:24,
 196:15,
 220:16,
 230:13,
 282:21,
 313:22,
 361:24,
 389:13,
 416:13
 keeping 17:12,
 243:24
 keeps 106:3,
 376:24
 Ken 66:1,
 382:25,
 460:9, 464:13
 kept 355:4,
 416:1, 449:4,
 463:21
 Key 23:16,
 32:14, 32:16,
 66:3, 122:11,
 300:25,
 301:25,
 347:2, 443:3

Kibby 430:9,		446:23,
440:18,	< L >	447:10
440:25, 441:8	lab 21:6, 39:19	lanes 212:9,
kicking 313:22	labeled 46:23,	342:10,
kill 244:7	155:4, 412:3	342:13,
kills 244:9,	labor 244:13,	342:21,
311:2	245:15,	487:17,
Kim 8:10, 30:17	469:16	487:18
KIRKLAND 55:16,	Lac 367:6	language 20:15,
65:16,	lack 53:19,	66:6, 312:24,
178:10,	86:3, 130:12,	321:2,
273:22,	425:22,	423:18, 424:2
357:17,	426:14	laptop 487:25
372:14,	lacking 64:21,	Large 26:8,
372:21,	85:5	37:3, 37:5,
383:17,	lacks 200:20	37:6, 38:8,
396:22,	laid 126:15,	70:24, 73:9,
422:25, 459:1	370:7	73:13,
Knowing 78:11,	Lake 479:2	128:23,
120:11,	lakes 116:13,	128:25,
154:1, 226:8,	154:16	234:12,
262:23,	land-based	234:15,
285:24	352:13	234:20,
knowledge	landfall 478:23	236:21,
37:22, 50:7,	landforms	237:9, 240:4,
199:5,	264:25, 265:3	270:5, 270:9,
262:13,	landowner 35:1,	271:24,
399:18, 404:1	176:8, 338:12	279:3,
knowledgeable	landowners	343:13,
103:19	199:12	384:4,
known 92:16,	Lands 66:16,	418:23,
102:14,	145:16,	420:16,
147:9,	145:18,	443:13,
200:20,	194:8,	444:16,
233:24,	200:12,	449:9,
276:2,	266:14,	450:12,
279:24,	340:15	458:18
279:25,	LANDSAT 118:22,	largely 58:1,
308:24,	119:2, 119:4,	109:6, 114:8,
309:22,	125:7,	114:17,
309:25, 385:1	127:21,	134:16,
kv 338:19,	297:19	236:7, 248:3
342:15,	landscapes	larger 39:4,
350:6,	25:12, 33:12,	63:7, 63:12,
467:24,	36:15, 85:20,	143:10,
467:25,	85:22, 134:22	147:6, 269:3,
472:23	lane 341:17,	289:6, 289:8,
KW 368:18,	342:21,	289:12,
368:19	353:10,	289:13,
	427:24,	304:20, 372:2

largest 346:10, 420:8	332:14, 332:23,	least 58:9, 99:14, 99:15,
lasted 100:7	333:5, 333:14	125:13,
Lastly 116:8, 164:17, 236:12, 289:22	Law 1:12, 4:15, 6:21, 8:15, 13:8, 15:9, 30:10, 88:6, 90:10, 173:22,	159:16, 163:19, 173:11, 197:18, 197:25, 198:1, 198:19, 198:24, 216:1, 238:12, 247:8,
Late 91:11, 279:2, 281:4, 325:2, 353:17, 360:21	312:4, 312:19, 327:22, 328:11	260:19, 277:24, 311:11, 322:16, 327:13, 336:1, 339:18, 349:19, 360:16, 362:3, 365:20, 369:11
Later 18:23, 69:21, 69:22, 207:23, 207:25, 208:18, 213:18, 287:7, 288:5, 315:11, 357:5, 405:6, 417:13, 418:3, 441:9, 475:13	laws 49:7, 49:11, 49:21, 49:25 lawyer 87:18, 87:24 lawyers 490:23 lay 33:14, 33:19, 299:3 laydown 194:23, 228:12 layer 96:23, 97:17, 106:20, 309:8, 356:4	leave 17:20, 45:14, 230:25, 231:1, 312:5, 312:7, 450:15, 454:1, 454:10, 454:24, 455:24, 456:12, 456:23
latest 68:24	layers 23:3, 355:4	leaves 244:7, 367:23, 396:25
latter 62:15, 472:18	laymen 387:6 layout 434:18 lays 127:19	leaving 42:20 led 464:21
launch 158:15, 158:25, 159:1, 160:12	lead 13:14, 287:4, 288:24, 441:1, 441:9	ledge 399:12, 399:15, 399:24, 400:2, 400:5
LAUREN 2:3, 11:4, 231:15, 231:16, 273:3, 273:18, 273:24, 274:6, 276:4, 276:9, 276:23, 277:7, 281:12, 281:19, 281:21, 282:8, 306:9, 307:21, 308:7, 308:13, 331:7, 331:15, 331:24,	leading 23:24, 461:22 leaf 48:3, 107:7, 402:19 leaf-off 108:19, 109:2, 109:4 leaf-on 109:15, 169:2 lean 465:10 learned 354:17, 356:3 learning 355:1, 355:2	left 14:8,

14:12, 17:21, 41:17, 69:15, 95:16, 122:8, 128:14, 137:3, 138:13, 236:13, 267:17, 273:21, 286:23, 316:11, 343:18, 360:17, 394:7, 396:21, 412:14, 412:16, 448:8	letter 45:24, 46:4, 47:8, 92:23 letting 306:7 Leuthold 146:5, 146:11, 157:14, 221:23 level 147:14, 191:10, 210:3, 239:24, 243:5, 243:20, 296:21, 386:25, 387:12, 388:20, 389:9, 389:14, 389:20, 403:17, 403:19, 421:16 leveling 427:13 Lewiston 4:22, 436:24 Lewiston/auburn 4:26 lgilbreath@pier ceatwood.com 3:20 licensed 154:23, 344:25, 346:14 LICENSING 1:28 lie 435:14 lieu 82:2, 82:8, 82:12, 340:16 life 21:16, 23:25, 32:15, 59:3, 89:23, 100:20, 358:4, 415:25, 422:4, 480:2, 480:5 lifespan 41:25	lifestyle 300:21 lift 55:25 light 77:12, 303:4, 310:2 lights 142:15 likelihood 466:14 Likely 23:5, 27:2, 73:10, 129:13, 135:15, 145:14, 180:1, 198:15, 198:18, 201:22, 207:23, 258:6, 259:16, 259:24, 260:5, 285:21, 304:14, 304:19, 310:14, 312:13, 318:10, 357:1, 420:21, 420:22, 469:3 likes 419:13 Likewise 339:20, 340:13 liking 456:16 limb 435:13 limit 63:12, 146:17, 227:6, 227:16, 354:10 limitation 427:21 limitations 146:15, 146:17, 322:14, 344:21 limiting 67:9,
LEGAL 2:3, 484:20 legally 396:11 legislative 49:4 Legislature 434:21 length 176:13, 176:24, 238:20, 241:10, 308:20, 317:10, 323:8, 334:12, 337:25, 375:13, 388:14, 389:17, 412:22, 415:19, 418:2, 418:6, 427:6, 445:4, 468:14, 494:23 lengths 446:3, 468:16 lengthy 418:7 Leroy 157:9, 194:9, 194:22 lesser 267:4, 267:6 lessons 84:8		

73:7, 233:6	16:21, 17:4	446:17
limits 49:5,	lived 438:8	Logger 237:5
69:5, 97:1,	Livesay 2:4,	logging 194:1,
97:14, 98:21,	429:1,	357:24,
98:22,	429:11,	409:22,
337:25,	429:16,	426:1,
338:3, 338:7,	429:19,	426:15,
344:7, 365:8	430:4,	447:8, 447:18
Lincoln 440:12	430:17,	logical 300:11
Linear 317:10,	430:21,	logically 193:6
322:1, 322:4,	430:25,	logistical
406:22,	431:2, 431:6,	61:24, 385:8,
409:9, 468:12	439:3	431:8
Link 23:15,	living 119:20	logistically
352:12,	LLC 6:36	449:3, 450:20
352:24,	LLP 4:30, 4:38,	logistics
356:24,	6:11	448:14, 485:2
478:10,	load 428:2,	logs 445:20,
479:9, 480:23	428:14,	446:11
linkage 261:12,	445:16,	long 61:6,
263:20, 265:1	445:17, 467:8	67:8, 76:16,
links 240:11	loaded 149:9,	97:18,
Lisa 3:14,	445:15	119:14,
122:19,	loading 344:11	141:5,
324:18, 425:3	loads 447:7	177:13,
list 19:22,	lobbying 58:25	208:24,
19:25, 30:15,	Local 4:24,	264:19,
71:10, 93:7,	385:24	280:11,
224:13,	locate 341:24,	282:23,
224:18,	418:2, 468:20	353:1,
225:1,	located 17:20,	388:13,
307:19,	19:7, 28:15,	438:9,
309:11,	64:1, 79:22,	439:18,
490:1, 497:3	147:19,	466:25,
listed 22:8,	156:16,	467:15,
245:23,	337:24,	482:18, 489:6
258:14,	349:3,	long-term
393:21	383:25,	40:24, 58:24,
listening 218:3	399:25,	97:2, 303:7,
listing 234:6	422:19,	342:2, 347:17
lists 419:8	453:21,	longer 28:18,
literature	471:23	341:13,
84:2, 236:2,	Locating	381:8, 388:3,
298:13,	338:10,	388:4, 388:7,
298:14,	439:22, 464:4	388:12,
298:22	Lodge 4:10,	432:19,
litter 48:3	30:13	466:13,
live 47:19,	log 445:15,	468:24,
197:12	445:21,	476:18
live-streaming	445:23,	longitudinal

342:10	75:7, 187:9,	mainly 175:17
looks 94:24,	187:16,	maintain 32:18,
140:4,	235:6,	62:8, 71:17,
145:20,	315:19,	71:21,
145:24,	322:7, 384:6,	135:10,
198:1,	415:19,	145:15,
213:22,	444:12	176:8,
282:21,	lowered 155:20	243:25,
330:15,	lowest 58:9,	253:13,
356:16,	89:13,	264:20,
388:9,	101:16,	312:25,
442:23,	174:7, 206:1,	319:2, 319:5,
458:15,	229:25,	319:7,
458:24, 495:8	351:4,	344:12,
lose 120:7,	373:14,	346:1,
120:8, 121:2	380:21,	396:18,
loss 24:5,	474:25,	416:10,
37:17, 48:6,	475:19	452:14
48:12, 120:2,	lucky 206:24	maintained
120:6, 120:8,	lumped 379:11	28:16, 29:18,
120:25, 235:1	lunch 178:12,	44:17, 64:13,
losses 24:21,	178:13,	73:5, 133:14,
37:7, 38:14,	178:15	213:5, 240:2,
106:21	Luncheon 178:22	243:11,
lost 27:12,	LUPC 2:1, 8:8,	264:3, 264:9,
206:19,	57:19, 58:11,	266:3,
467:23	59:22, 86:20,	266:12,
lots 33:8,	94:3, 139:16,	266:17,
33:9, 39:19,	179:9,	266:21,
85:17	179:13,	266:23,
loud 65:18	179:19,	266:25,
low 32:22,	205:8,	267:5, 304:4,
32:23, 38:25,	281:18,	314:23,
57:9, 57:11,	337:3,	317:22, 358:3
57:22, 89:11,	403:23,	Maintaining
193:3,	434:4, 488:6	40:18, 62:17,
196:15,	LURC 436:12	62:23, 63:5,
302:22,	Lyman 8:10,	63:15, 77:19,
312:15,	30:17	145:13,
402:15,		151:20,
408:4,		239:10,
457:21,	< M >	294:12,
458:2, 458:5,	ma'am 231:11	300:21,
458:10,	Main 1:22,	343:2,
463:22,	32:19, 56:12,	350:10,
466:16,	103:13,	422:10,
468:5, 486:9	357:5,	422:17
Lowelltown	402:12, 422:1	maintains
155:25	Maine/quebec	22:21, 48:2
lower 36:23,	338:22	major 62:11,

106:5,	104:9,	241:25,
275:13,	118:24,	253:15,
343:3, 348:2,	141:22,	296:2,
354:3,	147:16,	302:18,
401:18, 468:4	147:17,	302:22
majority 14:21,	155:2, 170:3,	marginally
28:1, 42:2,	170:20,	125:2,
119:13,	170:24,	237:20,
155:2, 235:5,	171:11,	247:21,
249:13,	211:14,	261:8,
253:2,	221:9,	295:18,
271:13,	248:23,	295:22
339:21,	286:9,	margins 73:2
393:20	453:22,	Maritimes
make-up 399:12	458:18	443:25,
Malcom 9:17	Maple 4:16,	444:21,
mammal 103:16	8:16	445:5,
mammals 22:8	mapped 102:13,	445:20,
manage 262:14,	102:14	479:14
304:20	mapping 26:16,	mark-up 276:15,
managed 178:4	27:17, 399:25	279:8
Manager 14:9,	Maps 34:11,	marked 39:15,
26:5, 26:7,	50:23, 71:4,	299:11
241:12,	119:6, 119:8,	marked-up
340:25,	127:19,	91:10,
345:1, 345:3,	127:22,	276:13, 309:9
345:11,	148:4,	market 137:23,
352:14	148:10,	378:11,
Managing	148:12,	383:19,
232:17,	148:16,	432:24, 448:9
237:2,	148:19,	marshes 47:17
288:17,	149:1, 149:5,	martens 121:6
306:15,	149:15,	mask 199:3
351:21	178:25,	masking 199:7
Manchester 5:35	179:5,	Mass 36:22,
Mandy 8:10,	285:15,	39:14, 388:21
30:17	403:24,	Massachusetts
manhole 342:9	489:7,	26:17, 56:17,
manner 268:23	489:12,	56:21, 89:17,
manually 244:25	491:7,	101:16,
manufactured	493:14,	351:15,
444:7	493:17	353:1,
manufacturer	March 275:14,	368:10,
356:1, 356:8,	276:17,	368:21,
442:25	276:22	410:11,
manufacturers	margin 73:18,	474:6,
352:18,	82:22, 97:15,	474:17,
353:18	442:2	475:23,
Map 98:10,	Marginal 7:11,	476:2, 476:7
104:3, 104:8,	7:19, 63:4,	masses 33:7,

33:9, 33:15,	140:4	115:18,
33:20, 36:22	Matthew 3:6	132:5,
Master 237:5,	matting 328:21,	136:18,
351:24	425:14,	137:20,
mat 356:17	427:12	138:3, 138:7,
match 316:16,	maturity 45:14	139:16,
408:2, 463:22	max 452:15,	140:15,
material 25:18,	452:21	140:23,
116:1,	maximum 144:12,	241:6,
244:13,	174:3, 174:4,	241:20,
288:2, 356:8,	175:1, 225:9,	241:25,
432:10,	225:24,	242:1,
444:8,	313:14,	248:15,
444:24,	315:11,	289:19,
444:25,	381:1, 444:2,	369:10,
447:9,	468:11, 482:8	415:24
495:16,	Mayfly 268:16	measuring 34:1,
496:16	Mcdonnell	468:16
materials	231:18	mechanical
190:18,	MDEP 337:2	244:3, 245:6,
316:20,	Meaning 36:23,	245:10,
316:25,	244:6, 323:1,	289:5,
317:3,	414:9	327:19,
333:10,	meaningful	328:1, 328:4,
467:19,	495:12	328:9, 328:15
491:23,	means 35:25,	median 33:24
492:4, 492:6	38:2, 57:11,	medium 443:13
math 288:12,	115:13,	meet 28:13,
315:9,	244:3,	57:15, 62:18,
394:24, 395:2	286:25,	63:10, 75:10,
matrix 64:15,	292:1, 301:5,	82:13, 351:2,
237:11,	338:2, 360:8,	418:15, 496:5
239:20, 240:1	387:2, 387:8,	meeting 432:18,
mats 268:12,	418:13,	432:21,
318:4,	443:9,	481:16
425:13,	443:12, 498:6	meets 22:1,
427:9,	meant 20:16,	82:6, 340:16,
427:10,	33:16, 304:6,	426:17
427:14	432:4	Megantic 367:6
Matt 8:10,	Measure 111:9,	megawatts
25:14, 30:17,	136:10,	447:25,
48:23, 74:21,	137:6, 241:2,	463:6, 475:17
108:5	262:11,	melding 209:10
MATTER 1:6,	262:25	member 434:4
14:3, 64:25,	measured 21:20,	Members 56:9,
104:12,	110:17	447:16, 496:2
140:3,	measurements	Memorial 4:31
277:21,	433:23	memorize 30:4
375:2, 375:8	measures 70:23,	memory 95:20,
matters 137:11,	115:4, 115:6,	444:6

mental 235:14	73:23,	227:2, 227:5,
mention 16:8,	283:10,	227:15,
163:23,	286:25,	227:18,
167:2, 448:21	291:4,	237:10,
mentioned	327:19,	264:19,
14:19, 18:19,	328:9,	327:8,
19:7, 106:13,	328:15,	334:13,
143:12,	386:10,	347:25,
151:22,	386:11	348:14,
152:13,	metrics 143:22	350:8, 353:1,
166:5,	MGR 1:28	413:23,
209:25,	mic 55:25,	414:1,
272:6, 299:5,	65:21, 81:7,	414:15,
347:15,	87:22, 90:25,	447:17
355:17,	172:23,	Mill 280:22
374:3,	257:17,	Millard 2:9,
404:25,	353:23	434:8
405:8, 420:6,	Microphone	million 60:2,
424:10,	17:3, 41:20,	89:17, 89:20,
426:24,	90:11, 95:19,	115:15,
432:8,	108:24,	288:10,
459:20,	141:10, 385:2	348:1, 348:4,
464:20,	microphones	348:5,
476:21,	16:6, 16:9,	348:18,
485:18,	16:11, 113:9	348:19,
486:15, 493:8	microtunneling	348:21,
mentions 93:17	386:12,	368:12,
merged 181:23	386:18	371:15,
merit 234:1	mid-ground	371:17,
merits 14:4	196:7	372:1, 372:7,
Merrill 3:8,	mid-june 179:10	372:9, 387:8,
3:16, 413:1	mid-span	387:9,
met 74:22,	243:16,	394:12,
253:19,	472:25	394:14,
254:5,	middle 28:10,	394:16,
258:20,	165:22,	394:20,
393:25	283:16,	395:7,
meta-analyses	364:25, 417:6	411:18,
84:6	migration	433:25
metamorphosis	21:19, 32:10,	millions 58:23
23:2	33:22, 43:13,	mind 46:22,
metapopulations	52:5	62:3, 143:16,
24:19, 36:19	Mike 4:11,	150:25,
meters 121:13	30:13	151:17,
method 84:1,	mile 57:21,	220:16,
139:24,	58:16, 67:8,	268:2,
244:12, 272:9	104:17,	359:17,
methodology	106:1,	389:13,
351:11	142:11,	474:20,
Methods 71:13,	142:15,	484:10

mine 118:6,	73:11,	134:17,
230:17,	173:22,	137:20,
353:14,	213:14,	143:21,
354:1,	216:1,	185:12,
435:25,	253:18,	196:1,
480:13	254:5,	196:11,
Mines 338:20,	270:23,	196:20,
367:3, 367:6	319:8,	196:25,
minimal 64:16,	378:24,	240:15
106:15,	390:23	mitigated 58:1,
157:11,	minor 19:9,	65:13,
161:8,	345:9, 380:4,	169:22,
161:18,	401:18	205:9, 370:8
163:19,	minus 314:24,	mitigating
165:2,	391:3	114:2, 184:23
177:12,	minute 46:11,	mixed 166:18
253:13,	168:1, 172:5,	mixer 428:11,
295:24	273:19,	428:16
minimally	362:6,	mixture 252:23,
164:5, 169:1,	363:21,	443:13
214:14	364:3,	mmanahan@pierce
minimization	383:17,	atwood.com
70:22, 140:2,	453:10,	3:12
144:11,	468:9,	Mmm 124:6,
151:16,	477:23,	124:9,
241:24,	491:23,	175:22,
289:19	492:4, 492:19	198:5, 260:7,
minimize 65:7,	mischaracterize	368:4,
71:18, 72:7,	185:17	373:17,
139:23,	misjudged	379:20,
144:12,	311:23	391:24,
145:7,	misleading	394:15,
157:20,	349:14	394:23,
173:1, 173:7,	misremembering	395:19,
175:1,	110:15	396:2,
185:23,	missed 185:21,	403:22,
187:10,	332:16,	451:19,
200:25,	335:21	453:20,
202:6,	missing 85:11,	455:13,
209:21,	85:13, 140:5,	456:11
210:21,	448:19	mobilization
240:15,	mission 51:11	400:9
323:7,	misunderstandin	mobilize
344:15,	g 33:6,	400:10,
464:16,	470:17	400:13
481:11	misunderstood	model 118:24,
minimized 72:3,	472:17	154:7,
130:23, 145:9	mitigate 62:12,	181:23,
minimum 25:10,	80:10, 114:5,	358:24,
62:18, 63:10,	114:8,	456:5, 475:2

Modeling 118:2	48:25, 65:23,	476:12
moderate 37:3,	74:21, 90:9,	moved 401:14,
82:23	141:4,	409:17
moderately	153:13,	movement 23:7,
214:14	154:22,	43:22, 86:2,
modified	178:25,	121:10,
204:21,	180:21,	130:3,
351:14,	183:18,	235:24,
351:16	297:12,	236:20, 241:9
moisture 32:18	298:5, 336:6,	movements
moment 321:3	364:17	32:10, 135:23
money 88:25,	mortality 24:3	moves 107:2
100:12,	mosaic 265:6	Moving 44:15,
100:17,	mostly 228:21,	157:2,
100:20,	282:19,	157:13,
102:5,	282:25,	158:20,
296:12,	415:8, 419:4,	160:18,
368:23,	458:2, 458:4	161:20,
369:10,	Mountains 3:27,	162:13,
432:19	6:33, 31:2,	282:21,
monitoring	50:21,	403:15, 442:4
344:10	121:24,	Moxie 99:22,
month 271:1,	122:4, 154:5,	99:24, 100:5,
368:19,	194:8, 426:22	100:6,
368:20,	mounted 244:5	105:21,
418:13	mouth 99:25,	164:22,
months 343:15	185:25,	164:25,
Moore 158:24,	204:20	165:9, 203:4,
160:11,	Move 21:14,	203:19,
160:17, 191:1	44:15, 90:25,	391:3,
Moose 71:6,	107:20,	413:15,
72:11, 99:8,	143:1,	456:20,
117:11,	145:22,	458:15,
156:5, 156:8,	153:10,	458:17,
156:22,	192:15,	458:19,
162:24,	234:10,	458:21,
165:14,	252:13,	458:24, 493:8
192:25,	256:3, 262:2,	MPRP 40:23,
209:21,	335:2,	41:1, 45:1,
263:24,	361:16,	51:23, 321:2,
280:19,	361:18,	321:4
308:24,	372:3,	muddy 179:11
309:1,	372:23,	multi-year
325:20,	400:19,	293:16
338:10, 456:8	401:5,	multiple 22:13,
morning 13:2,	401:18,	42:4, 42:22,
14:16, 20:23,	409:14,	64:25, 65:5,
21:1, 26:4,	428:22,	70:13, 71:11,
30:8, 30:19,	438:14,	92:22, 93:15,
39:23, 48:22,	438:24,	93:19,

106:20,	narrowed	114:1,
107:13,	184:16, 471:3	115:16,
107:15,	narrower 61:8,	151:10,
110:4,	112:25,	186:11,
128:23,	184:15	204:23,
192:13,	narrowness	206:22,
274:2,	159:23	210:13,
349:11,	nasty 432:4	238:15,
490:14	National	239:20,
multiples 433:8	299:19,	266:12,
municipal	300:9, 339:7,	283:5,
436:11	339:12,	297:14,
myself 55:21,	340:2,	306:7,
56:8	347:14,	406:22, 437:4
	396:4,	near 47:21,
	396:13,	61:14, 72:4,
< N >	424:17,	98:5, 115:6,
name 13:25,	439:12,	147:19,
14:16, 16:2,	440:9,	154:19,
26:4, 30:8,	440:19,	177:23,
48:23, 55:18,	467:10	202:8,
55:21, 60:8,	nationally	242:19,
65:23, 74:21,	464:14	242:20,
122:19,	native 22:21,	243:15,
130:18,	26:6, 316:12,	243:16,
153:13,	356:8, 444:24	317:3,
154:23,	Natural 1:10,	338:20,
231:15,	5:6, 5:12,	338:21,
235:16,	5:19, 13:6,	367:3,
241:11,	26:10, 27:23,	422:14,
275:19,	28:5, 28:8,	422:19
290:14,	34:7, 34:9,	nearby 70:4,
336:18,	40:13, 87:15,	244:17
340:23,	107:4, 112:3,	nearly 141:5,
344:25,	235:17,	348:4
346:13,	238:1, 238:3,	necessarily
351:19,	239:2,	123:14,
425:3,	264:25,	129:8, 177:4,
447:21,	265:3,	220:11,
448:21	313:13,	220:21,
named 125:10	352:2,	220:22,
namely 23:11	355:24,	359:24,
narrative	357:9, 397:3,	381:9, 407:21
470:13	437:3, 470:7	necessary
narratives	naturally	53:16, 65:9,
469:14	106:25	89:6, 108:11,
Narrow 82:19,	Nature 6:20,	167:13,
103:4, 163:4,	6:25, 14:24,	190:1, 234:2,
313:11,	113:21,	234:22,
313:16	113:24,	244:25,

256:3,	NEL 352:13	230:16,
268:12,	Nest 4:10,	311:18,
268:13,	30:13	423:18
273:8,	net 475:11	Nongame 80:16,
374:20,	network 38:11	80:17
382:23,	Networks 21:13,	nonprofit
390:23,	22:11, 351:8,	437:13,
405:9,	421:18	437:21
405:24,	newly 365:3	noon 492:5
483:4, 483:19	news 479:8	Nope 226:19,
needed 58:20,	Nextera 7:6,	248:10
59:1, 90:1,	94:2, 99:20,	nor 73:8,
115:20,	372:17, 385:1	249:22,
170:15,	NH 4:17, 5:28,	347:16
173:20,	8:17	normal 310:16,
205:8, 269:1,	nice 448:20	319:24,
319:21,	niche 103:4	350:16
426:4, 427:21	Nicholas 2:4,	normally 233:4,
needs 32:10,	11:20	239:2, 330:5,
149:10,	Noah 8:11,	431:24
183:25,	30:18	North 32:8,
230:24,	noise 343:15	157:25,
230:25,	non-breeding	158:1, 158:3,
272:2,	23:16, 38:10	158:15,
338:18,	non-capable	158:22,
356:23,	67:25, 177:5,	160:12,
384:19,	244:12	163:12,
436:1,	non-forested	167:8, 191:2,
437:11,	28:20	198:7, 228:6,
443:9, 472:5	non-hearing	254:18,
Negative 154:2,	492:12	261:14,
185:13,	non-jurisdictio	366:3, 366:8,
186:23,	nal 24:17	366:13,
186:24,	non-linearly	366:15,
188:11,	120:6	456:23
206:4,	non-reflective	Northeast
206:13,	176:12	118:12,
232:21,	non-responsive	123:13,
338:12,	370:23	202:14,
463:19, 485:3	non-specular	352:12,
negatively	195:15, 221:5	444:1,
40:19	non-taller	479:14,
neglected	171:12	486:18
19:12, 19:19	non-tapering	Northern 97:15,
negotiate	231:23	118:10,
401:12	None 55:6,	122:25,
negotiations	63:22, 79:17,	237:8,
433:8	116:25,	268:17,
Neither 58:4,	122:17,	272:14,
481:1	166:1,	347:6, 462:5,

473:14,	440:6, 442:6,	255:24,
473:15,	488:9	256:4, 278:9,
473:20,	noticeable	278:11,
474:5, 475:7,	158:19,	358:9, 359:4
477:13, 479:7	159:18,	objections
northward	199:20	295:4
176:18	noticed 188:16	observation
northwest 167:9	notified 491:15	218:10
Notary 1:20,	noting 358:17	observations
498:3	notwithstanding	300:7
note 18:22,	134:14	observed 28:3
81:23,	NOVELLO 40:9,	observing
114:21,	90:5	227:12
115:17,	November	obstacle 440:9
132:6,	447:23,	obstructed
152:24,	459:25	311:20
156:18,	nowhere 236:12	obtained 479:1
157:25,	nrcm@nrcm.org	obvious 188:10,
158:10,	5:16, 5:23	189:18,
158:11,	NRPA 34:21	189:21,
165:8,	numbering	192:7, 204:2,
242:22,	295:4, 453:14	426:9,
273:3, 280:8,	numbers 27:13,	426:12,
347:5,	30:1, 33:24,	427:18
347:14,	36:23, 44:10,	Obviously
355:20,	76:2, 368:6,	137:7,
355:21	378:6, 378:7,	155:24,
noted 34:10,	387:12,	174:10,
120:16,	470:15,	183:15,
129:15,	490:10,	193:5,
147:9,	490:13	194:18,
161:12,	numerical	200:16,
161:14,	489:17	209:10,
191:4,	numerous 55:23,	215:10,
194:20,	56:4, 56:7,	223:18,
230:24,	61:23, 153:24	226:12,
242:23,	nutrient 22:9	271:12,
460:21	nutrients 32:19	271:14,
notes 22:10,		300:8,
67:19, 69:25,	< O >	315:18,
349:15	O&M 350:19,	351:17,
nothing 18:17,	475:4	404:8,
35:25, 45:2,	o'clock 178:19	432:18,
47:7, 54:11,	objecting	434:20,
76:3, 117:22,	139:4, 255:7,	435:24,
137:10,	255:9	450:23,
147:7,	Objection	460:19,
174:24,	108:8, 139:2,	462:8, 492:2
336:9,	139:3,	occupied 338:4
436:18,		occur 146:15,

209:6,	older 119:15	150:12,
349:21,	olive 419:2,	161:2,
460:25,	419:3, 419:9,	177:24,
461:21,	419:16	179:3, 456:4,
486:6,	omitted 19:17,	467:20
486:14,	332:1	opening 302:25
486:20	omitting 291:25	operated 480:1
occurred	on-corridor	operates 349:2
209:13, 228:6	317:16	operating
occurrence	on/off 16:11,	332:20,
305:12	16:14	473:18
occurs 47:23	Once 107:1,	operation
off-corridor	119:16,	50:16, 233:1,
317:16	123:12,	268:21, 342:1
off-load	299:12,	operational
445:25,	366:22,	344:6
447:11	376:7, 450:1,	operations
off-loaded	495:7, 496:25	27:14, 59:4,
447:9	one. 52:15,	161:1,
off-loading	54:4, 126:22,	202:14,
446:25	219:1, 219:5,	223:19,
off-road 431:25	419:22,	233:7,
offer 22:4,	428:25,	266:14,
64:4, 153:17,	438:19,	266:17,
166:15	484:11,	289:3,
offered 76:3,	488:20	350:16,
76:6	ones 16:12,	350:22, 420:2
offering 58:23,	33:17,	opinion 37:2,
264:1	103:14,	53:7, 63:22,
offers 303:14	103:20,	79:7, 79:17,
offhand 446:8	230:15,	88:12, 89:7,
Office 1:27,	388:1, 388:3,	100:10,
7:25, 7:28,	388:5, 388:7,	112:13,
14:2, 18:2,	420:14,	222:13,
18:8, 351:22,	456:16,	241:5,
497:1	458:18,	248:22,
Officer 1:18,	489:24	256:21,
14:2, 14:18	ongoing 361:15	261:21,
officially	onion 355:4,	303:5, 404:4,
497:7	356:4,	435:2
offset 97:21,	448:22,	opinions 438:13
114:11	448:24	opportunities
often 24:12,	Ontario 351:25	137:12,
34:14, 59:16,	Open 23:22,	145:21
236:13,	24:1, 33:1,	opportunity
238:12,	33:7, 39:1,	20:24, 21:2,
240:10,	66:9, 67:20,	63:20, 65:24,
304:17,	121:12,	96:8, 108:11,
304:22,	135:13,	119:17,
418:8, 448:9	150:8,	150:14,

198:21,	398:13,	279:16,
250:16,	416:2,	340:18,
293:15,	462:25,	347:5, 435:25
340:22,	464:5,	otherwise
351:5, 435:8,	469:11,	236:11,
435:9,	473:2, 490:9	238:14, 346:2
491:10,	oral 126:13	ourselves
494:17	orders 491:21	479:12
opposed 100:17,	organic 96:23	outage 418:13,
222:18,	organisms 48:6	476:21
289:5, 304:5,	organized 36:18	outages 233:8,
305:16,	orientation	342:1,
305:25,	162:14	476:15,
307:3,	original 56:16,	476:18
307:16,	64:19, 109:1,	outer 105:25,
334:17,	187:18,	227:16
374:21,	187:21,	outline 18:13
433:10,	189:18,	outlined 495:18
440:1,	189:23,	outside 15:1,
444:19,	191:18,	36:8, 43:1,
473:24, 484:8	192:5,	45:7, 97:1,
opposite 41:22,	203:25,	129:8, 214:5,
101:3	309:8,	283:21,
optimal 27:22,	316:16,	284:1,
143:7, 147:24	459:6,	314:12,
optimistic	459:20,	314:19,
448:7	460:4, 460:14	338:7,
option 58:10,	originally	342:13,
66:15, 66:23,	187:9, 273:4,	357:2,
70:12, 97:25,	309:13,	457:13,
114:2,	474:17	465:10
360:15,	originate	outstanding
360:20,	338:18	239:11
369:19,	originates	over-hanging
390:5,	104:15	235:6
404:11,	ornithologist	overall 24:18,
404:15,	152:6	155:2, 195:3,
404:21,	Orono 345:7	237:11,
405:13,	Others 27:10,	305:22,
415:9,	32:14, 84:5,	369:5, 475:5,
415:11,	102:20,	475:16
461:18, 473:8	241:18,	overcome 487:15
options 70:8,	252:12,	overheading
78:10,	259:16,	107:13,
117:14,	266:6,	107:17
172:20,	267:10,	overlap 131:10,
224:11,	269:7,	131:17,
398:4,	269:15,	131:21,
398:10,	270:19,	147:23,
398:12,	272:6,	365:19

overlaps 162:4		84:6
overlay 160:4	< P >	paperwork
overlooked	P-RR 15:1,	492:20
279:11	15:7, 15:11,	paradigm
overly 64:21	15:14,	305:16,
overruns 56:24	339:16,	305:17,
oversight	393:3, 395:6,	306:1, 306:4
289:17	433:5, 461:19	paragraph
oversized 469:6	p.m. 497:10	46:22,
overstatement	Pachios 4:30,	300:24,
135:14	4:38, 6:11	411:19,
overview	pack 448:11	484:16
346:19,	package 60:22,	parallel
347:2, 348:6	461:6	168:18,
own 55:22,	pad 383:9,	174:17, 215:9
65:12, 71:23,	449:10,	parallels
75:13, 138:1,	450:3, 450:4,	162:19,
255:14,	450:12,	163:10,
337:22,	450:21,	163:11, 441:1
350:5, 396:7,	450:22	parameters
437:10,	pads 449:22,	302:14
490:23	450:18	paraphrase
owned 159:14,	Pages 254:14,	385:12
194:1,	256:1, 275:4,	paraphrasing
200:13,	276:8,	406:21
209:23,	464:25,	Parcel 66:7,
228:15,	470:9, 488:2,	111:25,
262:3, 440:24	491:19	151:17,
owner 384:13,	paid 89:17	162:16,
395:13,	Palmer 222:12,	162:20,
395:17,	222:13	163:12, 365:4
395:18,	Panels 153:23,	parcels 80:6,
395:22,	173:14,	80:23,
395:24,	174:15,	150:24,
406:13,	218:11, 220:1	337:11,
409:17	paper 254:14,	340:8,
Owners 237:6,	254:19,	340:21,
409:14,	254:23,	365:4, 384:3,
409:19,	255:2,	435:4,
441:3, 441:11	255:15,	435:19,
ownership	255:21,	435:22
98:21,	256:7,	Pardon 423:23
129:12,	256:21,	Park 110:4,
143:13,	256:24,	339:7,
339:1, 403:7,	257:2, 257:4,	339:12,
403:24	257:10,	340:2,
owns 208:13,	258:4,	347:14,
403:6,	258:13,	360:5, 396:4,
414:10, 416:6	350:18	396:13,
	papers 21:8,	396:19,

423:15,	particle 443:14	125:7,
424:5,	particles	254:11,
424:17,	444:17	347:7, 462:5,
429:13,	particular	473:15,
429:15,	118:13,	473:20,
429:23,	145:22,	474:5, 475:7,
431:3,	155:15,	477:13,
439:12,	168:22,	479:7, 494:4
440:9, 440:19	172:25,	passed 20:6,
PARKER 2:3	173:6,	133:9
parking 164:7	174:21,	passing 46:16
Parks 200:12	190:10,	past 118:20,
Parlin 116:20,	196:12,	249:3,
116:24,	197:1, 215:4,	251:19,
160:20,	285:25,	251:25,
161:24,	300:12,	258:4,
168:21,	301:20,	397:10,
201:1, 201:5,	386:16,	465:8, 478:2
201:13,	443:2, 443:8,	patch 97:9,
216:21,	443:12,	118:16,
216:24,	453:22,	223:19
219:1, 219:6	473:14,	patches 102:19,
Partial 50:9,	489:14, 493:7	102:25,
119:13,	Particularly	103:1, 122:8,
119:14,	48:6, 157:24,	127:16,
125:15,	161:4,	127:17,
125:22,	284:21,	128:23,
127:7,	291:19,	129:13,
133:12,	341:15,	135:20,
252:16,	344:8,	135:21,
252:21,	392:24,	135:22,
253:2,	397:20,	143:10,
253:13,	409:11,	237:9, 238:2,
253:16,	409:13,	238:18,
256:10, 260:4	409:21,	239:1, 240:2,
partially	445:10,	240:20, 241:5
122:9,	461:19	path 285:3,
125:16,	partly 470:2	312:11,
253:18,	partner 336:19	312:12,
254:4,	Partners	317:13,
258:18,	336:20,	422:7, 465:11
259:3,	337:14,	paths 318:2,
259:12, 479:2	404:23, 459:8	318:10
participants	parts 246:24,	pathway 338:2
262:12	392:12	patterns 23:7,
participate	party 14:24,	102:24,
21:2	20:17, 66:15,	103:8, 134:4,
participation	281:8	236:9, 298:3
492:16,	Pass 27:6,	paved 344:6
494:13	46:4, 46:19,	pay 368:21,

476:8	421:4,	262:11,
paying 476:1	433:17,	262:25
PDF 149:10	463:8,	performed 60:4,
PE 353:14,	463:13,	268:23
353:16,	476:25,	performing
354:2,	477:4, 477:6	42:12, 53:22
479:25,	percent 28:8,	Perhaps 74:4,
480:1, 480:4	28:12, 28:18,	131:18,
Peaslee 17:9	28:20, 28:21,	133:23,
peeling 355:3,	28:22, 120:8,	135:16,
448:24	120:9,	169:24,
peer 22:23	125:21,	176:7, 184:1,
peer-reviewed	125:22,	217:6,
26:23, 45:19	237:12,	258:22,
Peggy 1:27,	253:9,	282:4,
14:12, 179:7	259:23,	292:22,
penetration	350:2,	319:20,
77:12	350:21,	385:23,
peninsulas	387:3,	389:11
239:3	387:13,	perimeter 448:2
people 32:6,	388:2, 388:7,	period 41:1,
32:8, 38:23,	388:8, 388:9,	42:3, 177:13,
161:5, 185:9,	388:10,	259:20,
194:22,	389:1,	305:5, 358:23
218:16,	389:18,	periodically
219:25,	389:20,	107:15, 161:2
228:11,	394:25,	permanence
269:18,	395:2, 395:8,	239:6
271:7,	418:12	permanent
282:13,	percentage	37:11, 61:11,
299:1, 299:3,	45:13, 133:9,	236:10,
395:25,	387:20,	238:16,
407:14,	387:25,	247:11,
408:5,	478:19,	346:4, 358:3,
436:21,	478:20	422:2, 422:17
438:4, 438:6,	percentages	permanently
438:8, 461:9	261:18	106:18
Per 115:7,	perennial 98:4,	permeable
115:10,	234:19,	43:12, 52:5
157:6,	239:13,	permissible
257:25,	246:22,	435:23
271:17,	280:16,	permissions
279:22,	330:24,	179:23
311:7,	331:10,	permit 27:19,
320:16,	453:23	58:12, 65:14,
354:11,	perennials	76:23, 101:8,
368:18,	221:11	101:14,
368:19,	Perfect 56:3,	101:24,
383:20,	494:1	138:23,
384:4, 421:3,	Performance	313:11,

321:4, 436:5,	194:14,	161:14,
471:12,	204:3,	199:25,
483:14	204:18,	226:25
permits 13:6,	204:21,	photographs
340:21, 479:1	232:19,	111:16,
permitted	368:12,	112:7,
57:14, 60:1,	370:6,	112:12,
75:9, 179:14,	371:25,	181:21,
179:16,	372:3, 407:7,	182:10,
313:12,	417:5,	191:1,
422:21,	432:12,	261:17, 263:4
450:18	462:25,	photography
Permitting	464:12,	118:23,
26:12, 43:6,	464:17,	248:21
45:8, 53:23,	484:20	photos 68:3,
75:25,	pertains 14:22,	96:11,
241:12,	15:11	108:21,
282:23,	pesticide	252:20,
337:18,	130:24,	297:23
341:2, 382:5,	291:25	Photosimulation
483:8	pesticides	108:18,
perpendicular	291:9,	108:21,
168:18,	291:13,	155:19,
214:10, 215:6	291:16,	167:10,
perpetual	333:18,	188:17,
403:13	333:22,	188:19,
perpetually	333:23,	188:25,
121:25	333:24	189:19,
perpetuity	PGP 339:22	192:5,
107:14,	Phd 118:3	203:16,
237:25	Phone 3:11,	203:17,
persist 120:3,	3:19, 3:36,	211:15,
121:7, 252:9,	4:18, 4:34,	211:23,
266:11	4:42, 5:15,	213:20,
person 218:2,	5:22, 5:29,	220:9, 226:16
227:11,	5:36, 6:15,	photosimulation
332:6, 407:7	6:29, 6:40,	s 108:15,
personal 111:23	7:14, 7:22,	117:2,
personally	7:31, 8:18,	166:20,
450:15	17:14	170:8,
personnel	photo 68:8,	170:11,
233:7, 459:12	68:14, 68:18,	181:24,
persons 18:14	68:24, 69:22,	203:18,
perspective	109:2, 109:5,	216:9, 216:17
22:14, 86:6,	109:8, 110:2,	phrase 249:7
119:9, 130:5,	167:6,	phrased 186:16
130:12,	188:15,	physical 338:25
148:8, 152:7,	189:14,	physically
154:1,	219:8, 220:5	466:23
173:11,	photograph	pick 449:25

picked 89:13, 475:1	479:20	365:20,
picture 109:22, 109:25, 140:8, 344:10, 453:7	pipeline 352:2, 444:1, 445:13, 479:14	384:7, 398:2, 399:13, 439:9, 496:9
piece 208:15, 253:22, 303:9, 312:6, 409:21, 410:13	pit 468:13	plans 122:16, 166:1, 266:2, 293:21, 313:2, 340:8, 360:23, 437:20
pieces 252:14, 303:12, 446:2	place 62:8, 64:1, 79:22, 105:5, 143:11, 145:7, 146:8, 214:24, 224:14, 277:18, 293:20, 316:11, 401:13, 401:14, 407:22, 438:1	plant 428:13 Plantation 4:6, 30:11, 403:11
Piel 71:7, 93:19, 280:22	platform 218:10	plants 29:9, 244:6
Pierce 3:7, 3:15	play 138:4, 352:16, 352:17, 440:12	platform 218:10
Pilsbury 4:11, 30:13	placed 422:13	play 138:4, 352:16, 352:17, 440:12
Pine 103:9, 114:15, 128:19, 134:16, 137:8, 157:3, 236:6, 236:16, 236:18, 236:23, 237:7, 237:11, 237:19, 237:21, 239:22, 240:24, 248:4, 263:17, 284:22, 296:23, 300:11, 300:16, 358:19, 359:23, 359:25, 360:6	places 33:10, 33:18, 33:19, 102:21, 167:3, 179:18, 179:23, 195:7, 264:8, 265:12, 265:16, 265:17, 274:2, 405:16, 406:7, 406:8, 443:13, 445:1, 479:21	Please 16:2, 17:2, 17:13, 18:11, 41:10, 68:1, 68:5, 68:14, 81:7, 104:10, 172:23, 177:15, 275:16, 278:10, 284:14, 336:6, 368:7, 377:12, 404:13, 423:9, 438:6, 440:22, 460:5, 462:13, 469:23, 470:14, 474:22, 484:15
pioneers 33:15	placing 66:8, 125:18, 125:20, 270:21	PLLC 4:15, 8:15
Pipe 386:20, 444:3, 445:17, 445:24, 445:25, 446:1, 446:3,	planet 33:14 planned 318:6, 477:16 Planning 1:4, 13:5, 14:14, 18:14, 30:15, 55:23, 96:4, 111:22, 111:23, 235:18, 318:6, 341:1,	plow 361:5, 361:6, 362:3, 362:14 plowing 361:1 PLS-CADD 456:5 Plum 406:14 Plumb 384:11

plus 23:13, 44:22, 100:7, 242:16, 283:24, 314:20, 314:21, 314:22, 379:1, 391:3, 456:21, 457:18	39:5, 48:4, 48:5, 50:11	351:21
point. 209:11, 301:7, 306:19, 362:9, 371:2, 377:24	poolscapes 36:15	pose 258:10, 417:7
pointed 15:15, 98:20, 300:8	poor 62:5, 64:1, 79:23, 407:10	posed 208:20, 414:9
pointing 26:23, 49:14, 307:9, 307:16	pop 158:6, 159:9, 160:14, 196:7, 198:14	poses 403:1
pointless 485:14	population 22:22, 23:16, 135:3	position 16:15, 65:10, 298:18, 308:13, 311:24, 429:6
points 33:3, 56:11, 61:15, 66:4, 116:22, 117:4, 172:21, 174:22, 215:14, 338:22, 347:3, 357:5, 360:3, 408:3, 425:24, 480:20	populations 21:14, 23:4, 23:13, 25:1, 27:1, 27:11, 36:18, 48:5, 119:22, 134:21, 144:22	positions 173:6, 395:25
policies 51:17	porpoise 353:7	positive 154:2, 463:19
Policy 21:5, 51:15, 113:21, 113:23, 342:8	Porpoising 353:5	possibility 491:13
politics 35:25	portion 17:4, 18:13, 29:15, 74:2, 75:23, 142:18, 200:10, 238:23, 248:5, 252:10, 252:11, 260:4, 283:14, 283:16, 350:3, 366:3, 366:4	possibly 135:18, 311:21, 429:20
polygons 335:15	portions 14:24, 25:20, 25:24, 26:1, 61:12, 77:24, 197:19, 284:12, 364:18	post-constructi on 246:19, 266:1, 317:23
ponds 23:23, 39:1, 116:13, 154:17, 175:17	Portland 3:10, 3:18, 4:41, 6:14, 7:13, 7:21, 231:18,	post-hearing 495:16
pool-breeders 37:4		posted 179:24
pool-breeding 27:1, 32:11, 37:20, 38:7,		Potentially 78:14, 82:22, 117:6, 121:7, 131:20, 137:17, 160:25, 186:24, 188:11, 223:16, 224:5, 224:6, 260:8, 260:17, 260:18, 261:6, 466:6

pounds 446:21

pour 379:15,
428:14

pouring 140:18

practicability
485:1

practicable

57:6, 57:15,

58:14, 58:22,

59:23, 75:10,	292:13,	358:25,
76:1, 100:14,	292:21,	360:22
100:22,	314:6,	preferred
100:25,	346:19,	60:17,
101:5,	346:20,	153:21,
101:19,	348:9,	181:1,
102:4,	348:16,	182:19,
115:17,	350:12,	200:24,
144:13,	489:20	202:24,
341:6, 343:5,	precast 428:1	231:25,
343:25,	precedent	242:1, 252:4,
347:9, 348:23	138:10,	252:6,
practicableness	138:17	307:12,
57:20	precisely 151:6	307:14,
practicably	predated 441:6	307:19,
346:25,	predation 43:18	360:6,
350:25	predators 23:24	405:25,
practical	predatory 39:4	406:6, 494:23
316:16	predicated	preferredly
practically	236:18	240:2
136:16	predict 37:3,	preferring
practice	437:19	298:24
239:17,	predictor	preliminary
244:9,	118:14	387:23
311:15,	predominant	premise 208:4
316:22,	377:18	prepare 356:2,
375:10	predominantly	494:24
practices 25:3,	118:19	prepared 44:1,
50:10, 64:11,	prefer 114:13,	60:23, 79:1,
232:9,	234:6, 237:7,	190:18,
234:18,	239:24,	392:22
235:8, 244:2,	360:25,	preparing
272:4, 272:5,	439:13	262:18,
272:23,	preferable	282:1, 447:19
294:7, 294:11	67:12,	presence 63:7,
praise 72:1	107:18,	120:17,
pre-filed	114:2,	121:14,
26:21, 64:19,	114:23,	202:13,
65:24,	116:9,	277:2,
121:21,	139:24,	277:16,
144:1,	154:14,	281:3, 338:1
192:20,	166:6,	present 29:17,
194:7,	232:12,	45:6, 65:5,
235:21,	258:23,	94:16, 100:3,
243:7, 247:2,	308:6, 318:9,	125:2, 133:5,
258:15,	409:4	135:5, 152:4,
273:16,	preference	232:15,
274:3, 275:1,	23:2, 44:5,	232:21,
277:6,	239:23,	232:23,
292:11,	308:1,	237:20,

247:22,	294:5, 333:20	243:11,
248:13,	pressurized	289:4,
248:16,	244:4	297:17,
249:11,	presumably	349:3, 352:7,
259:12,	195:21,	357:12,
261:8,	205:10	383:24,
263:17,	Preti 4:30,	425:9, 478:22
278:25,	4:38, 6:11	primary 23:23,
298:23,	pretty 86:14,	24:10, 39:2,
299:10,	109:5, 110:1,	70:9, 83:25,
302:21,	192:7,	84:3, 103:21,
385:18,	282:21,	118:5, 147:3,
475:11	314:3,	298:6
presentation	448:17,	prime 22:5
26:20, 154:6,	459:24,	principle
155:1,	459:25,	300:18,
230:16,	466:16	319:18,
230:18,	preventing	322:16
344:24,	77:16	printouts
447:20,	prevents 311:1	458:16
447:22,	previous 14:20,	Prior 15:25,
491:19	95:10, 214:1,	40:25, 68:5,
presented	220:19,	98:13,
64:17, 65:3,	392:11	134:11,
76:20, 253:7,	previously	157:14,
257:1,	14:23, 115:3,	188:20,
259:19,	141:18,	191:7, 243:3,
298:22	165:3, 240:3,	395:22,
presenting 16:1	272:7, 277:4,	404:19,
preservation	488:24,	406:13,
80:6, 82:2,	491:22	410:3, 410:4,
150:23,	prey 45:5	410:6, 466:8,
151:11,	price 56:23,	491:24
164:12	59:19, 330:5,	priorities
Preserve 146:5,	341:22,	114:1
146:11,	371:19,	prioritize
154:18,	371:24,	144:10
157:14,	378:24,	priority
221:23	383:19, 474:4	116:16,
preserved	priced 415:16	131:8,
156:11,	prices 58:18,	132:10,
164:21,	59:20,	145:23,
164:25, 230:1	378:10,	147:25,
preserving	469:16	150:22, 151:8
162:25	pricing 378:9	pristine 428:6
President 351:7	Primarily	private 157:9,
Presiding 1:18,	29:13, 38:7,	194:1, 194:8,
14:2, 14:18	103:7,	409:13
press 292:25,	115:22,	privately
293:2, 293:6,	118:6, 156:7,	194:1, 228:15

privy 392:14	13:1, 15:17,	projection
probability	16:24, 56:19,	220:17
359:1, 359:2,	57:4, 281:15,	projector 17:10
444:13, 468:4	498:5	projects 57:24,
problem 204:24,	process 15:20,	59:12, 59:14,
204:25,	21:2, 27:19,	62:10, 95:13,
217:6, 358:2,	43:7, 45:8,	95:16,
366:10,	101:22,	346:17,
417:3, 417:7,	144:18,	347:12,
431:11,	148:15,	347:15,
454:19	155:17,	349:15,
problematic	231:6,	352:1, 352:2,
365:5	317:20,	352:3,
problems 307:2,	337:18,	352:11,
307:9,	418:7,	352:13,
402:21,	427:16,	392:11,
402:24,	459:21,	397:22,
403:1, 431:9	460:1, 474:6,	397:24,
Procedural	474:17,	399:21,
13:17, 13:18,	483:8, 495:22	462:4,
70:17, 126:6,	produced 190:16	462:13,
126:12,	produces 337:21	463:1, 463:5,
153:18,	productive	463:21,
181:2, 182:4,	39:3, 44:19	479:10,
186:14,	productivity	479:12
190:22,	23:23, 39:2,	prominent
231:21,	47:18, 240:10	285:9, 285:12
235:22,	Professional	promoted 272:8
241:15,	37:2, 112:6,	promoting
241:18,	346:14	353:19
295:10,	professionally	pronounce
345:17,	26:16	275:18
350:13,	Professor 21:3,	pronunciation
469:9,	118:1	290:14
469:21,	profit 442:2	proper 39:11,
491:21	profitable	62:8, 253:23,
Procedure	350:10	275:14
17:24, 257:25	Program 27:19,	properly 61:21,
procedures	28:7, 29:1,	62:6
20:3, 266:7	106:17,	properties
proceed 35:17,	237:5,	376:9, 442:15
127:1, 360:15	262:12,	property 21:23,
proceeding	340:14, 465:9	59:5, 88:6,
14:18,	progress 435:12	403:24,
122:21,	prohibited	437:7,
147:11,	425:11	437:21, 475:4
394:21,	prohibitive	proponent
404:20,	102:3, 102:5	437:24
410:6, 410:7	prohibits 342:8	propose 331:14,
PROCEEDINGS	projected 89:1	347:7,

402:21, 416:17	237:3	put 19:12, 41:19, 59:24, 102:8, 102:9, 109:20, 113:3, 173:6, 185:24, 204:19, 220:1, 323:9, 359:16, 369:23, 381:25, 417:13, 417:21, 422:11, 437:15, 441:4, 464:20, 468:1, 487:25
proposes 105:22	publications 44:1	puts 362:10
proposing 72:2, 81:3, 131:20, 310:6, 310:8, 347:13, 416:1, 427:18	publicly 18:4, 200:13, 209:23, 350:18, 474:9	putting 387:5, 407:19, 409:20, 455:6, 481:12
proprietary 490:22	published 21:8, 32:9, 43:23, 45:20, 148:7, 148:10, 148:11, 256:8, 350:18	< Q >
protect 70:14, 72:6, 80:10, 342:24	Pull 55:19, 92:2, 98:6, 287:4, 344:11, 353:23, 354:9, 461:2	qualifications 32:7, 336:22
protected 59:21, 313:13	pulled 108:22, 316:21	qualified 28:9, 287:14
protecting 49:22, 240:18	punchline 21:10	qualify 128:15
Protection 1:2, 1:10, 13:4, 13:7, 14:6, 80:5, 81:21, 100:1, 154:12, 321:16, 356:21, 496:8	purchase 58:19, 59:8, 59:19, 88:19, 94:12, 434:11	qualifying 137:1
protocol 27:21	purchased 435:3	quality 23:15, 48:2, 302:22, 383:23
prove 39:16	purchasing 432:21	quantitative 305:4
provides 48:1, 48:4, 65:12, 236:24, 238:6, 348:9	purpose 57:10, 57:16, 62:16, 75:6, 75:11, 75:14, 76:12, 101:15, 101:20, 185:11, 351:2, 365:20, 442:7, 464:22, 475:15, 475:16, 476:7	Quebec 337:8, 338:17, 338:19, 339:1, 351:3, 436:24, 475:18
providing 58:25, 80:24, 107:7, 174:19, 195:25, 199:6, 204:12, 235:20, 271:24, 352:6, 376:23	purposely 464:15	Quebec-hydro 94:12
proximal 249:6	purposes 212:2, 295:5, 384:7, 394:24, 427:13	questionable 295:24
proximally 176:17	pursuant 17:24	questioned 448:23
proximity 155:12, 447:19	pushing 482:1	
proxy 120:18, 205:24		
publication		

questioning	333:12,	44:12, 243:12
18:9, 35:4,	394:4, 422:1,	rant 278:14
35:10, 46:25,	461:14	rare 239:12
47:3, 60:20,	quoting 49:1,	rarely 468:1
95:10, 140:7,	251:14	rate 59:4,
215:17,		476:22,
259:23,		477:2, 477:4
288:7,	< R >	rated 160:1,
302:11,	R. 4:37	161:25, 165:9
329:11	radial 364:25	ratepayers
quick 108:6,	radius 249:16,	56:22, 89:18,
337:21,	449:24,	351:4,
357:16,	450:8, 472:6	475:20,
357:20,	rage 237:10	475:23,
452:19,	railroad 447:6,	475:25,
455:10,	448:4	476:2, 476:7
487:23	raise 18:15,	rates 436:6
quicker 276:8	117:20,	Rather 61:11,
quickly 53:12,	145:4,	65:7, 75:3,
67:24,	188:10,	96:6, 105:11,
108:13,	193:4,	118:14,
111:14,	195:24,	175:14,
314:3, 317:4,	221:14,	244:10,
418:17, 487:1	336:6, 454:2,	245:11,
Quite 20:13,	457:7, 471:5	255:12,
36:25, 81:17,	raised 60:16,	312:5, 338:1,
97:18, 109:9,	67:3, 114:6,	340:5, 432:4,
135:18,	142:15,	484:4
136:11,	186:20,	ratio 82:2,
155:21,	337:2,	477:2
158:21,	340:10, 345:6	rational
179:11,	raising 137:12,	308:21,
280:15,	141:21,	405:13
283:18,	205:9,	ratios 144:6
449:9,	215:24,	ravine 381:8
457:19,	284:11	ravines 313:11
464:4,	ramp 17:21	rborowski@preti
468:23, 469:3	random 360:1	.com 4:43
quote 29:7,	Rangelands	RCPCM 434:22
64:9, 64:13,	238:6	re-engineered
66:6, 67:19,	ranges 21:22,	189:20
75:8, 93:2,	22:20, 24:5,	re-engineering
93:4, 153:19,	24:24, 36:7,	189:2
166:5, 193:8,	102:24,	re-established
200:19,	123:11,	96:22
203:3, 270:3,	130:8,	re-evaluate
270:7,	152:10,	336:14
270:10,	315:21	re-routing
329:14,	ranging 27:8,	13:21
330:22,	33:24, 33:25,	re-value 55:23

re-valued 56:4, 56:6	486:16	494:9, 495:7
reach 53:18, 73:16, 119:16, 177:12	reasonable 57:6, 58:14, 58:21, 76:2, 76:4, 76:17, 129:18, 169:18, 241:9, 341:6, 343:6, 343:25, 346:24, 348:23, 350:25, 385:13, 407:4	received 181:22, 287:23, 296:20, 309:12, 309:13, 324:5, 496:3
reached 73:6, 86:7, 87:1, 87:4, 427:21	reasonableness 57:20	receiving 89:22, 483:13
reaches 81:16, 92:20	reasonably 484:23, 484:24	recent 109:8, 133:16, 263:8, 383:25, 480:20, 480:22
reaching 84:1, 308:9	reasons 96:14, 245:13, 324:7, 350:24, 355:11, 400:19, 449:3, 483:24, 484:3, 484:25, 485:9, 487:14	recently 251:15, 257:4, 257:20, 371:23, 404:18, 477:17
readily 59:16, 258:5, 380:9, 392:13, 432:10	rebar 451:8	recite 25:20
reading 46:22, 47:9, 251:10, 278:2, 278:4, 461:16	rebuild 409:17, 431:23	recognized 240:9, 464:14
ready 55:14, 55:15, 55:16, 231:14, 432:12, 487:24, 494:21	rebuilt 409:20	recognizes 15:4
reaffirm 209:19	recall 99:15, 155:16, 213:5, 260:22, 275:15, 324:3, 324:9, 329:10, 401:8, 446:2, 446:7, 488:16	recognizing 464:12
real 60:4, 219:24, 357:20, 378:11, 408:12, 438:4, 452:19	recapture 42:9, 42:17, 42:19, 42:21	recollection 394:6
realignment 68:6	recaptured 39:15	recommend 25:7, 35:14, 303:3
realistically 455:8	receive 102:25, 309:16,	recommendation 173:8, 173:12, 233:17
reality 128:24		recommendations 143:6, 143:22, 188:5, 203:24, 204:5, 232:2, 272:12
realize 166:23		recommended 27:22, 273:8
reason 146:6, 201:14, 261:24, 310:25, 321:10, 321:13, 322:12, 373:18, 417:2, 485:15,		recommending 172:21, 172:24
		reconstruction

68:16	153:3, 153:4,	258:14,
recontouring	230:7, 230:8,	318:19,
316:15	324:17,	369:15,
reconvene 113:8	330:12,	369:22,
recorded 15:21	330:13,	373:11,
records 95:21,	370:19,	411:17,
349:24,	482:20,	425:4,
421:16	488:9,	467:23,
Recreational	488:10,	473:13
8:8, 202:7,	488:13,	referencing
202:13,	488:21,	148:5, 289:3,
339:16,	488:25	309:15
339:23,	reduce 32:25,	referred
343:23	52:20, 63:13,	123:13,
Recross 55:5,	70:2, 71:24,	270:25,
330:14,	72:21, 83:3,	480:20
334:6,	100:1, 104:5,	referring
335:20,	114:16,	132:1, 151:3,
487:22,	117:6,	273:25,
488:12,	117:10,	281:7, 282:9,
488:23,	169:13,	282:10,
488:25, 489:2	219:11,	296:1,
recruit 106:25	219:22,	308:18,
recruited	220:8, 223:8,	313:7, 316:5,
39:17, 73:17,	241:7, 272:9	327:5,
97:17	reduced 65:8,	331:11,
recruitment	166:21,	391:9,
63:8, 63:12,	188:1, 291:9,	391:10,
73:9, 107:5	305:20	429:12,
red 69:5,	reducing 77:11,	430:6, 430:7,
104:20,	77:12,	461:16,
211:16,	155:10,	465:25,
212:9,	244:13	475:24,
212:16,	reduction	477:12, 481:8
212:21,	184:14, 188:4	refers 463:18
212:25	reductions	reflect 116:2,
red-backed	228:23, 342:2	277:5, 281:4
120:25	reel 344:11,	reflected
redacted 57:7	446:6, 446:8	278:24
redesign	reels 469:6,	reflection
155:16,	485:20	221:2
187:25, 192:6	refer 154:25,	reflective
redesigned	275:20,	176:20
187:8	276:9, 309:9,	reforestation
Redirect 53:11,	353:4,	163:21
54:2, 87:10,	440:18,	refused 440:20
107:20,	484:14	refuses 440:9
107:23,	reference	REG 2:10, 57:13
107:25,	221:17,	regard 74:13,
108:11,	250:24,	116:5,

130:10,	237:25,	286:25, 436:6
140:10,	259:6, 265:7,	related 21:4,
141:6, 170:9,	280:14,	29:5, 47:4,
296:19,	280:16,	47:11, 62:7,
298:17,	280:24,	76:21,
300:13,	299:20,	121:20,
302:15,	300:16,	129:11,
302:17,	324:11,	179:6,
325:6,	485:16	349:14,
364:17,	Regional 1:28,	351:18,
366:8,	14:1, 151:18,	357:12,
366:18,	151:19	391:13,
392:6, 427:16	regions 259:5,	422:6, 437:6,
Regarding 66:5,	400:10	488:20
67:14, 67:16,	regular 18:8,	relates 46:25
69:23, 72:12,	304:4, 304:7,	relating 75:25,
240:18,	304:8,	241:16
272:21,	304:17,	relation 176:1,
277:2,	322:22,	261:13,
278:24,	323:16,	493:13
306:11,	323:17	relations 51:2
325:17,	regularity	relationship
328:19,	409:15	122:10,
401:8,	regulated 43:2,	183:12,
479:24,	199:9	384:17
480:11	regulates	relative
regardless	34:21, 48:2	206:10,
202:19,	regulation 54:6	239:6,
315:23, 331:9	regulations	244:24,
regards 231:22,	24:16, 26:18,	251:9,
274:19,	34:20, 49:7,	311:24,
389:8, 460:6	49:11, 49:21,	393:13,
regenerated	49:25, 51:11,	394:17
260:10	53:15, 54:14,	relatively
regenerating	54:18, 55:1	68:17, 105:8,
119:16, 122:9	regulators	349:18,
regeneration	370:9	401:24,
251:17,	regulatory	404:17,
251:20	28:13, 41:3,	405:20,
Region 24:20,	42:12, 370:4,	468:5, 468:6
37:11, 50:21,	462:9, 483:3,	release 292:25,
61:9, 85:18,	483:22,	293:2, 293:6,
144:17,	484:5, 484:8,	294:6, 333:21
144:20,	484:21	relevance 102:2
146:18,	reintroduce	relevant 15:5,
151:9,	55:21	18:12, 36:25,
151:14,	rejected 323:24	85:4, 143:14,
236:9,	rejects 65:10	208:11,
236:17,	relate 47:1,	236:2, 242:8,
236:20,	122:9,	301:9, 391:18

Reliability	444:1,	179:12
27:19, 28:7,	474:11,	repair 316:25,
29:1, 232:14,	482:23	341:24,
232:22,	remembered	344:7, 418:6,
233:5,	482:7	431:16,
306:11, 308:8	remembering	431:20,
reliable 94:5,	80:14, 80:15	466:14,
94:20, 245:9,	remind 15:2,	466:25,
476:14,	19:4	476:22
476:16	reminder 16:17,	repairing
reliance 84:4	113:8	466:12
relied 248:19,	remote 61:23,	repairs 431:10,
297:19,	344:9, 400:10	432:3, 468:6
298:21	remoteness	repeat 107:1,
relieve 74:18	354:16,	177:15,
relocated 68:21	425:21,	185:20,
Relocating	426:14,	210:17,
339:2	485:19	215:22,
relocation	removal 23:8,	404:12,
70:1, 340:4	38:18, 63:11,	407:1, 423:8
remain 29:8,	232:24,	repeats 65:1
36:19, 61:13,	234:23,	rephrase 41:9,
62:20, 64:18,	244:25,	77:23,
129:13,	245:1, 245:6,	278:19,
150:8,	245:14	278:20,
150:12,	remove 69:15,	309:24,
237:24,	96:20, 96:22,	329:23,
313:15	119:24,	377:16
remainder 73:4,	245:16,	replace 107:10
180:11,	268:21,	replaced 379:19
242:17,	312:7,	replacements
372:16,	312:13,	467:17
414:5, 414:20	435:21	replacing
remained 223:5	removed 68:20,	115:11,
remaining	69:8, 69:12,	133:15,
122:23,	73:6, 81:16,	133:16,
143:10,	243:5,	233:12,
242:6,	243:21,	260:9,
283:25,	245:1,	287:18,
331:1, 333:13	268:25,	323:11,
remains 69:8,	305:11,	323:14,
118:10	316:12,	329:15,
remember 17:3,	365:1, 383:6,	378:4,
98:19,	436:9, 444:9	381:13,
112:20,	render 256:21	400:21
186:9,	renders 134:15,	replant 96:21
203:20,	248:2	reply 494:19,
324:25,	renewably	495:4, 495:10
371:11,	475:18	report 42:14,
434:10,	reopening	52:3, 52:7,

57:7, 57:18,	364:8, 481:17	244:23, 377:8
89:12, 300:7,	requesting	rereading 293:4
300:23	410:24	Research 21:4,
Reported 1:20	requests 242:3,	21:7, 42:15,
Reporter 1:21,	494:25	53:22, 84:3,
15:24,	require 41:4,	84:4, 118:1,
257:17, 498:2	52:19, 59:13,	118:22,
Reporter/notary	61:8, 63:11,	119:2,
498:13	63:16, 85:20,	261:23,
Reporting 15:24	86:15,	262:13,
represent 16:4,	101:13,	262:24,
48:23,	120:15,	263:9, 303:7,
122:20,	179:11,	385:6, 447:20
159:6,	221:15,	researchers
160:10,	275:25,	42:15, 256:8,
198:10,	287:11,	258:17,
212:20,	307:15,	302:21
212:21,	310:12,	reseeded 316:13
267:10,	338:5, 339:3,	reserve 108:10
300:6, 425:3,	341:9,	reserved
488:1	343:13,	396:15,
representative	346:2, 346:3,	423:16,
179:16	386:10,	423:19
represented	425:13,	resident 336:19
286:8	483:12	residential
REPRESENTING	requirement	339:19
1:25, 2:1,	82:13, 369:1,	Residents 8:8
30:10, 40:12,	418:12,	residual
74:22, 83:18,	418:16	144:13,
87:14, 160:6,	requirements	367:18
205:19,	27:22, 53:24,	residue 428:18
206:21,	54:7, 63:11,	resistance
212:20,	82:2, 82:7,	238:12
336:20,	84:21,	resistivity
367:12,	233:14,	426:18
368:1, 397:3,	287:20,	resource 26:10,
437:14	329:17,	165:10,
represents	340:16,	193:22,
160:5, 261:13	342:3, 355:2,	194:15,
reptiles 22:7	463:10,	194:16,
request 181:8,	463:24,	221:16,
247:7,	465:3, 469:7	233:15,
292:23,	requires 306:4,	337:17,
349:10,	341:11,	339:16,
492:9, 492:13	341:23,	339:23,
requested 15:9,	342:21,	357:9,
60:11, 181:3,	346:1, 463:25	386:16,
183:6, 247:9,	requiring	459:16, 470:7
351:10,	78:13,	respect 35:8,
362:17,	143:20,	51:22, 70:16,

81:9, 91:23,	256:2,	retired 66:19
114:18,	372:12,	retracting
116:8, 121:4,	412:21,	49:20
121:8,	415:5,	return 42:21,
136:17,	415:17,	59:6, 259:18,
141:24,	467:20	475:4
182:4,	restate 461:13	Revaluations
182:23,	resting 22:6	88:5
192:19,	restoration	revalue 88:5
235:3,	111:23,	revealed 28:4
272:25,	112:1,	revegetate
311:23,	316:15,	67:24, 97:15
334:10,	328:19	revegetated
358:17,	restore 317:4	316:17
487:11	restoring 96:6,	revegetation
respond 32:1,	317:21	108:16,
54:12, 120:5,	restricted	109:17
126:9, 139:7,	199:13	revenue 89:3,
150:9, 182:3,	restriction	89:4, 89:15,
186:3, 242:2,	444:15	94:14,
243:22,	restrictions	368:25, 369:1
255:24,	24:16, 385:23	revenues 59:21,
491:5, 492:2,	restricts	89:1
492:3, 492:12	342:10	reversed 80:19
responded	restrooms 17:20	review 18:7,
53:14, 183:6,	result 29:4,	22:4, 26:1,
262:23,	49:4, 50:4,	39:10, 59:12,
337:2, 401:7	61:13,	59:17, 59:21,
responding	114:14,	76:5, 84:15,
182:25,	166:19,	85:1, 86:18,
487:10	188:4,	92:23, 112:7,
responds 241:14	222:11,	116:1, 155:5,
responses	234:15,	234:3, 234:5,
150:15,	239:21,	255:5, 271:5,
241:18,	245:7, 270:4,	272:3,
337:5,	305:14,	299:12,
338:14,	337:3,	330:22,
489:12	345:25,	333:6,
responsibility	348:17,	403:17,
56:25, 434:5	348:20, 476:4	403:20,
responsible	resulted 233:16	460:23,
56:22,	results 23:3,	460:24,
153:15,	26:25, 27:16,	461:20, 492:2
341:1, 407:8	28:25, 304:7	reviewed 22:23,
responsive	resume 336:21	26:23, 43:21,
350:13,	retain 114:9,	44:1, 46:2,
370:18, 486:4	270:17	51:23, 90:16,
rest 16:14,	retained 382:13	90:21, 90:22,
90:7, 177:3,	retains 14:6	91:2, 92:18,
247:13,	retention 63:8	123:16,

134:8,	Rip 159:22	221:10,
155:19,	Rips 158:23,	221:24,
158:2, 236:2,	165:18	222:4, 222:7,
248:19,	rises 405:17	226:15,
248:20,	risk 232:23,	341:21,
257:3,	233:8,	344:20,
257:20,	236:11,	453:15
258:9, 272:5,	245:8, 305:8,	rodenticides
276:25,	306:12,	291:17
299:15	306:14,	Roger 447:21,
Reviewing	341:25,	448:7,
34:10, 84:12,	344:6,	448:17,
84:13, 182:2,	387:15,	448:20,
203:25,	409:22,	448:23, 449:5
338:25,	480:7, 486:1	rogue 465:22
461:18	risks 308:3,	role 13:14,
revised 281:2	387:23,	14:3, 15:6,
revisiting 96:9	390:23, 465:1	352:16,
RFP 56:17,	rivaling 47:17	434:4, 459:6,
351:15,	Rivers 6:33,	460:3, 460:9
368:10,	117:10,	room 17:20,
388:22,	229:13	18:5, 19:8,
410:20,	roadbed 96:16	487:18
474:6, 474:17	roadbeds 96:17	root 420:11,
ribbons 159:6	roadside 33:9,	420:17,
richness 238:25	365:7	420:20
ridge 196:8,	roadway 341:17,	roots 244:7,
200:16	448:4, 464:10	420:6, 448:12
rig 343:13,	roadways 67:22,	Rosengqvist
343:17	341:16	447:21
rights 29:3,	Roaring 268:16	rots 107:1
284:11,	Robert 2:8,	rough 144:5,
311:17,	391:2	144:15
338:6,	robert.wood@tnc	roughly 105:15,
384:18,	.org 6:30	115:7, 119:6,
396:14,	Robin 1:20,	142:11,
396:15,	15:25, 17:11,	365:22,
396:19,	498:2, 498:12	377:20,
423:16,	robust 340:14	395:2,
423:17,	Rock 157:16,	480:16,
423:19,	157:21,	486:19
423:20,	157:25,	round 184:9,
424:3, 424:4,	158:13,	394:24,
424:20,	165:17,	424:13
429:15,	169:14,	routed 338:9
429:25,	176:14,	routes 21:20,
437:16,	176:16,	22:20, 24:3,
439:8,	176:17,	87:6, 240:1,
440:16,	177:1, 196:9,	341:7,
441:8, 479:19	220:5,	352:22,

407:3, 459:7,
 459:10, 460:5
 routine 233:4
 routing 26:9,
 398:4
 rugged 468:1
 rule 166:10,
 306:7
 Rules 27:24,
 35:7, 257:24,
 435:5, 436:12
 run 236:11,
 408:6,
 408:10, 467:4
 running 376:15,
 407:12,
 412:17,
 442:18, 471:7
 runs 215:5,
 366:13,
 412:10
 Russo 347:5,
 349:7, 349:13

< S >

saddles 238:13
 safe 280:23,
 288:20,
 342:22
 Safety 174:6,
 230:1,
 232:14,
 232:22,
 232:24,
 232:25,
 244:9,
 244:24,
 268:22,
 284:25,
 288:17,
 288:25,
 305:9,
 306:14,
 308:8, 311:9,
 313:16,
 321:6,
 427:13,
 467:10
 sag 174:3,

174:4,
 174:17,
 193:3,
 229:25,
 243:14,
 315:19,
 319:6, 322:8,
 323:8,
 452:11,
 452:13,
 452:15,
 452:17,
 452:24,
 453:18,
 486:10
 sags 373:15
 sake 436:12
 Salamander
 42:1, 42:5,
 45:13,
 120:24,
 120:25,
 268:17,
 272:15
 salamanders
 23:12, 24:12,
 42:9, 42:20,
 42:23
 salesman 449:6
 salmon 71:14
 salt 47:17
 salvage 63:25,
 79:21
 samples 360:2,
 483:9
 sand 356:5,
 356:9,
 356:10,
 356:12,
 356:19,
 386:1,
 425:10,
 425:15,
 426:16,
 426:17,
 442:15,
 442:17,
 442:19,
 442:23,
 442:24,

443:7, 443:8,
 443:12,
 444:5, 444:8,
 444:10,
 444:14,
 444:16,
 444:17,
 444:20,
 447:7, 485:20
 sapling 118:20
 satellite
 118:22,
 118:23,
 125:7, 359:18
 satisfaction
 273:9
 satisfied
 81:24, 325:5,
 333:8
 satisfies 79:5
 satisfy 60:16,
 79:3, 79:14,
 345:21
 save 373:4,
 418:20,
 481:13
 saves 418:22
 savings 305:15
 saw 39:13,
 39:14, 39:15,
 39:18,
 166:18,
 298:15,
 318:19,
 409:16
 says 75:8,
 76:3, 134:10,
 135:7,
 137:25,
 200:3, 251:1,
 262:12,
 277:9, 278:5,
 291:12,
 292:17,
 293:14,
 298:9,
 298:12,
 323:5, 323:6,
 330:22,
 333:21,

361:5, 361:6,	282:22,	se. 157:6
391:1,	282:24,	Sean 6:24,
396:13,	360:14,	90:9, 334:8
411:12,	360:17, 362:7	season 40:22,
424:3,	scheduled	99:17
447:24,	14:21, 108:2,	secondary 47:22
458:14,	243:4, 243:19	secondly 175:7
469:22	School 118:2	seconds 178:10,
scale 21:25,	Science 262:14,	357:18,
104:12,	345:8	372:21,
119:11,	scientific	383:17, 482:6
121:3,	26:12, 45:20,	Section 47:8,
151:19,	45:21	57:21, 58:17,
212:10,	Scientist 26:8,	67:8, 105:11,
212:17,	51:14, 51:18,	161:15,
236:21	53:3, 60:8,	169:12,
scales 22:13	83:20, 83:22,	170:16,
scan 133:16	86:5, 86:6	270:14,
scattered 63:4	Scientists	313:17,
scenario 451:4	204:11,	330:25,
scenarios	231:17	390:25,
174:21	scope 13:16,	399:10,
Scenic 3:33,	18:13, 45:7,	413:10,
62:13, 154:2,	184:8,	413:16,
155:9, 157:5,	358:10,	421:25,
157:8,	359:5, 404:22	424:18,
157:12,	scratch 352:20,	449:17,
160:1,	440:6	449:18,
161:25,	screen 92:3,	450:1,
162:1,	98:15, 222:1,	451:12,
164:20,	281:8, 285:14	473:21, 477:4
165:9,	screened 191:5,	sections 58:18,
175:16,	200:4, 200:8,	61:6, 61:16,
175:21,	200:11	115:24,
176:21,	screening 200:8	314:4,
182:11,	Scribner 5:34	334:13,
183:12,	scroll 108:22,	466:22
183:14,	190:11, 488:3	secured 347:16,
193:19,	scrolling 98:14	459:24
193:22,	scrub/shrub	seed 443:11
194:15,	28:17, 64:16,	seeded 316:11
194:19,	85:14, 135:8,	seedling
217:4,	243:25,	118:20,
221:16,	244:1,	251:18,
221:24,	265:22,	251:20
222:8,	311:4,	Seeing 55:6,
223:20,	314:24,	215:4, 224:3,
464:14,	320:21,	298:25,
487:11	358:4,	457:23
schedule	373:16, 374:6	seek 283:8

seeking 65:7, 137:23	460:24	sent 46:14, 81:22, 95:22, 274:3, 309:10, 325:4, 325:8, 330:20, 496:7
seem 135:22, 148:5, 296:22, 306:2, 306:6, 307:15, 323:4, 324:9, 468:23	select 403:18, 445:5	sentence 20:16, 251:7, 330:22, 385:4, 484:17
seemed 192:6, 358:19, 406:24	selected 14:23, 62:2, 243:20, 254:14, 338:23	sentences 67:21
seems 128:13, 135:20, 149:19, 174:21, 298:5, 298:7, 306:3, 307:19, 322:19, 433:3, 466:16	selecting 62:6	separate 36:16, 175:6, 179:16, 441:11
Seen 79:12, 147:17, 157:21, 192:17, 195:16, 207:6, 207:15, 215:6, 216:2, 216:14, 223:21, 223:24, 224:1, 228:22, 249:22, 249:23, 250:10, 254:25, 255:2, 255:11, 255:17, 266:1, 356:15, 418:9, 442:22, 492:8, 492:10	selection 337:7, 338:16, 351:17	separately 36:17
	selective 244:4, 266:10, 268:23, 306:22	separation 319:8
	selectively 242:6, 242:18, 244:16, 284:24, 305:11	September 187:22, 292:8
	self-maintainin g 107:5	septic 101:7, 101:8, 101:10
	self-supporting 381:4	sequencing 451:4
	self-weathering 197:7, 220:23	sequencing-wise 451:14
	sell 449:7	sequential 263:3
	send 179:16, 180:3	series 148:19, 258:25, 405:5, 407:24, 408:1, 486:1
	Senior 60:8, 231:17	seriously 66:10, 66:22, 66:24
	sense 156:23, 306:2, 320:19, 370:10, 398:12, 459:6, 466:9	serve 22:10, 422:14
	sensitive 23:10, 60:15, 241:7, 344:19, 401:21, 401:23, 402:1, 402:2, 402:5	serves 120:18
	sensitivity 70:5, 460:12	Service 15:24, 73:13, 270:21, 299:20, 299:22, 299:25, 309:11, 339:8, 339:12, 340:3,
segments 239:12, 287:11, 388:15,		

347:17,	426:11,	share 67:11
368:17,	427:19,	shared 392:15
396:4,	449:20,	sharp 444:16
396:13,	462:23	sharply 44:11,
396:19,	seven 69:21,	121:14
418:11,	267:21,	Sheepscot 71:9
423:15,	341:19, 496:1	sheet 470:8
424:5,	seven-and-a-hal	sheets 469:23,
424:17,	f 68:22	490:13,
429:13,	Seventh 13:17	490:20,
429:15,	several 21:20,	490:21, 493:3
429:23,	25:19, 36:22,	shelter 238:13
431:3,	53:14, 69:24,	Sherbrooke
439:13,	70:2, 71:2,	338:21
440:9,	71:4, 71:21,	Sherman 8:9,
440:19,	72:9, 87:3,	30:16
475:8, 497:3	91:12,	shift 102:24
Services 4:9,	116:15,	Shifting
30:13, 55:22,	117:2, 157:4,	114:24, 316:9
343:2	239:8,	ship 449:17
sessions 400:22	279:16,	shock 356:7
set 70:7,	343:15,	shore 159:10,
90:13, 97:8,	349:7,	198:9
152:20,	383:22,	short 22:11,
152:23,	398:4,	23:12, 58:24,
163:3, 168:1,	401:15,	61:6, 61:12,
249:4,	401:24,	87:17, 105:8,
321:23,	402:16,	141:22,
321:24,	409:18,	205:22,
324:8,	442:13,	312:18,
327:20,	453:23,	351:9, 361:19
328:10,	487:14	short-term
328:16,	severe 22:2,	107:3
343:14,	71:16	shortage 122:3
373:23,	severely 27:12	shortcomings
382:2,	SFI 262:11,	49:15
389:15,	262:25	shorten 323:7
451:9,	shade 48:1,	Shorter 63:9,
454:20,	73:1, 73:19,	243:15,
470:20,	107:6, 402:18	244:17,
471:7, 471:8,	shaded 22:15,	285:18,
472:12,	38:21	304:12,
496:13	shading 73:8,	304:15,
sets 327:25	235:3, 235:6,	311:10,
setting 37:2,	235:10	319:7, 322:7,
138:17,	shall 262:13	323:8,
357:22,	shallow 341:21,	342:17,
382:20,	344:20,	388:1, 388:5,
425:18,	420:21	465:21
426:10,	shame 437:25	shortest

225:14, 226:2	333:8	Simons- 113:14
shortly 491:18	shrouding 245:4	simple 122:1,
shoulder 158:5,	shrub 43:10	358:18,
161:21, 448:4	shrub/scrub	371:13,
shouldn't 38:5,	43:17, 265:20	432:22
76:22,	shrubby 27:3	simplifying
255:20,	shrubs 29:9,	236:25
470:14	29:10	simplistic
show 69:4,	shrugging.	318:25
76:7, 84:18,	286:10	simply 59:25,
85:22, 86:2,	shut 16:18	179:20,
98:11, 98:15,	sic 87:11,	194:13,
99:5, 105:14,	87:17, 474:2	244:10,
108:16,	sides 145:18,	245:16,
117:9,	145:25,	254:19,
148:16,	146:3,	307:9,
189:15,	202:17,	307:19,
190:3, 192:8,	307:17,	312:4,
200:1,	307:20	439:14,
211:23,	signed 498:8	481:16
212:6,	signed-off	simulation
212:23,	332:10	116:21
266:2, 292:24	significance	simulations
showed 22:25,	49:4, 132:9	117:9, 224:23
44:4, 108:18,	significantly	single 26:23,
189:19,	63:17, 74:20,	38:6, 238:19,
189:20,	169:22,	239:16,
196:2,	244:13,	273:13,
285:16,	245:15,	313:17,
351:11	340:12,	402:8,
showing 211:20	341:22,	444:19,
shown 132:13,	344:19,	447:12,
216:10,	344:21,	463:22,
289:16,	404:5,	470:10
341:16,	463:25,	Sir 132:22,
344:10,	468:24,	256:12,
348:15,	475:9, 476:5	263:12,
413:21,	silence 17:13	271:6, 301:3
432:18,	silhouetted	sit 79:1,
493:18	197:8, 224:4	106:10,
shows 85:23,	similarities	106:11,
109:17,	462:7, 462:12	434:24
110:11,	Similarly	site-specific
167:7,	66:17,	385:7,
190:23,	116:18,	385:15, 392:6
190:25,	212:5, 494:8	sited 409:2
198:8, 219:1,	Simonds-legard	sites 71:4,
227:25,	147:8	71:5, 71:15,
251:19,	Simons 113:16,	71:21, 72:1,
314:6, 314:7,	259:18, 261:4	72:2, 72:9,

96:1, 96:2,	skidding 268:12	384:3
96:3	Skinner 93:15	Smart 280:21
siting 26:10,	skip 52:14,	snags 302:3
336:23,	336:21	snow 432:6
337:15,	skipped 270:7	snowmobile
337:16,	skipping 67:21	68:10, 68:11,
370:11,	Skowhegan 3:35	68:12, 69:2,
407:8, 408:8,	sky 197:8,	163:7, 218:7,
459:6, 459:9,	223:24	218:19,
459:21,	Slash 312:4,	349:24,
460:4, 460:7	312:19	349:25,
sits 122:10	Slide 68:14,	350:2, 350:9
sitting 15:25,	68:23,	snowmobiling
31:15,	108:23,	349:21
225:17, 429:1	109:3, 222:5,	social 338:24,
situation	227:24,	408:20,
164:1,	342:14	408:22,
164:10,	slightly	462:10
208:15,	159:18,	soft 29:8,
431:11,	161:16,	408:13,
440:21,	162:6,	408:14,
451:10	167:15,	408:16
situations	167:16	softer 130:4
149:16,	SLODA 390:25,	softwoods
223:23,	391:5	243:11
481:23	slope 219:21,	Soil 268:11,
Six 69:22,	405:22, 406:7	376:9,
136:4, 347:2,	slow 315:9	385:18,
349:21,	Small 21:18,	390:2,
410:21,	29:10, 37:3,	390:15,
418:14	73:17, 99:25,	390:24,
size 80:20,	128:25,	391:1, 391:2,
82:24, 97:18,	141:19,	391:17,
118:15,	142:18,	392:9,
129:1, 251:2,	162:9,	398:16,
444:2,	176:14,	398:17,
444:20,	224:4, 237:5,	398:22,
445:5,	239:3,	399:1,
445:11,	320:19,	482:25,
450:21,	401:24,	483:17
450:22,	402:20,	soils 316:12,
457:3, 481:12	403:2,	392:4, 483:11
sized 322:22	443:14,	solar 218:11,
sizes 443:10,	448:11,	352:3
443:14,	458:18	solely 47:1,
444:19	Smaller 58:17,	179:3
sketched 249:1	130:7,	solicit 370:19
skidded 445:20	152:10,	Soltan 6:36
skidder 426:1,	234:16,	solution 61:7
426:15	270:6, 381:4,	solutions 347:8

somebody 98:19,	South 71:6,	418:2,
264:12,	72:10, 99:8,	418:16,
384:10,	104:6,	418:21,
462:6, 464:6,	117:11,	473:24,
469:12	146:5,	477:10,
somehow 349:8,	146:11,	477:14
492:18	156:4, 156:8,	sparse 67:22,
someone 53:17,	156:22,	69:10
193:6, 204:6,	157:9,	spawn 100:5
271:2, 357:2	162:23,	spawned 42:23
sometimes	165:14,	spawning 42:10,
150:16	169:11,	99:17
somewhat 27:15,	192:25,	speaking 17:2,
134:22,	209:21,	36:14, 36:15,
245:9, 261:6,	216:11,	149:18,
311:20,	223:4,	164:1, 168:3,
315:14,	223:18,	172:5,
383:22,	280:25,	214:23,
384:6, 389:14	308:23,	257:24,
somewhere	308:25,	413:8,
104:16,	325:20,	416:24,
104:21,	456:7, 456:22	483:17
113:2,	southern	speaks 117:12
123:11,	338:19,	spec 444:1,
133:17,	412:25	444:2
156:16,	space 177:24,	special 15:7,
161:12,	338:3,	26:14, 60:15,
253:8, 325:1,	342:12,	320:8,
388:2,	342:22,	402:21,
389:10,	448:11	426:17,
468:10,	spaced 268:14,	442:17,
471:12, 472:6	311:20	442:24
soon 68:17,	spaces 35:24	specialist
73:6, 179:25,	spacing 245:2,	32:21
491:14	457:2	specialists
sorts 469:16	span 314:20,	22:6, 23:11,
sound 17:3	323:7, 323:8,	23:22, 38:25,
sounded 439:3	355:17,	45:5, 85:24
Sounds 80:21,	355:22,	specialized
270:12,	420:17,	32:24
322:2, 395:9,	427:4, 469:1	specifics 78:4,
440:19,	spanned 313:17,	78:11,
490:17	406:9	326:14,
source 349:17,	spans 42:4,	434:24
366:19,	317:17,	specified
443:18,	376:3, 381:7,	150:12,
443:19	452:21	150:13,
sourced 443:16	spare 400:23,	150:15
sources 298:23,	400:25,	specifies 237:7
437:3	417:21,	specify 363:7

specimens	spoken 424:16,	Staff 17:8,
244:8,	424:19, 464:7	17:19, 56:9,
244:10,	Spokesperson	60:8, 92:3,
244:20,	3:31, 4:13,	95:4, 153:5,
244:21,	4:28, 5:10,	179:13,
289:6, 289:8,	6:9, 6:23,	179:19,
289:12,	6:34, 7:8,	336:18
289:14	7:26, 8:13,	stage 251:18,
spelled 13:17	257:25, 258:1	318:6
Spencer 72:20,	spots 408:4,	stages 23:25,
74:5, 114:7,	442:19, 445:5	124:1,
146:20,	Spotted 24:11,	179:21,
147:4,	42:1, 42:4,	237:13,
157:14,	45:13,	239:19,
158:23,	120:24,	357:24
159:22,	268:17	stand 18:15,
160:19,	sprayers 244:5	82:24,
160:20,	spread 276:13,	117:20,
160:23,	420:11	123:25,
165:18,	spreadsheet	133:15,
176:6,	276:14,	177:6,
221:20,	276:15, 279:7	177:10,
337:7,	spreadsheets	222:16,
337:14,	469:15,	237:13,
338:11,	469:24,	239:19,
395:12,	490:9,	249:7,
398:23,	490:11,	249:12,
406:16,	490:14	251:20,
407:13,	Spring 27:18,	260:9,
412:4,	47:19,	312:21,
412:10,	109:14,	336:6,
412:18,	272:14	373:15,
414:10,	spruce 177:6,	373:18
414:19,	177:10,	Standard 22:2,
415:16	177:16,	125:18,
spend 147:21,	237:8,	125:20,
259:5, 360:8,	284:23,	171:10,
369:9,	300:17,	171:14,
369:10,	420:19	173:22,
372:6, 407:3	square 407:6,	174:8,
spent 369:9,	450:3, 470:10	238:19,
404:8	squirrel 359:8,	239:16,
splice 356:21,	359:12,	240:12,
356:25,	359:16,	245:11,
446:7,	359:21,	262:12,
468:17,	359:25, 360:2	263:1,
468:20,	squirrels	304:13,
471:22	359:21	379:8, 380:8,
splicing 447:4,	stabilization	432:9, 454:5
468:21, 469:5	73:20	standards 41:4,

42:12, 43:1,	352:20,	246:20,
73:12, 73:13,	385:3, 440:6,	291:8,
270:21,	496:14	339:10,
271:5, 308:3,	starts 120:10,	423:19, 462:5
327:25	123:10,	static 452:4
standing 15:19,	278:16,	Station 7:29,
193:16	364:10,	225:22,
standpoint	368:19	364:19,
185:10,	stated 37:10,	391:4, 413:2
306:1, 308:8,	58:7, 64:19,	stations 391:14
408:8,	66:6, 67:4,	statistically
408:21,	79:7, 85:6,	358:24
409:3,	131:4,	statistics
432:11,	157:13,	349:14,
439:18,	180:21,	476:18
462:23,	191:7,	status 26:14,
462:24	192:20,	129:12,
stands 65:21,	194:12,	143:13,
222:17,	200:18,	434:15,
237:24,	200:23,	435:24, 436:7
250:7,	247:19,	stay 158:11,
253:18,	259:23,	179:3,
254:4,	290:19,	311:18, 381:5
258:19,	295:12,	stayed 379:18
259:3,	310:5, 325:5,	Staying 43:8,
259:12,	333:19,	381:19, 412:2
277:7, 302:9,	339:9,	steam 477:18
302:24	432:24,	steel 197:7,
started 20:21,	468:10	220:23,
111:21,	statement	378:10,
112:5,	25:24, 49:20,	378:22,
113:13,	75:13, 75:22,	379:8, 379:9,
113:19,	182:8,	380:7, 380:8,
178:19,	293:19,	380:9
231:9,	294:5,	steeply 405:17
231:14,	329:13,	stems 311:6,
278:14,	329:20,	311:20,
336:15,	432:23	381:16
354:19,	statements	stenograph
354:25,	31:22, 67:18,	498:6
362:13,	88:17,	step 16:22,
435:4,	261:10,	113:9,
459:23,	261:13,	120:14,
461:23,	336:25,	148:25,
494:12	395:23,	435:18,
Starting 19:18,	489:4, 496:3	453:1, 453:9,
31:5, 40:16,	States 57:13,	467:9
76:10, 114:1,	64:9, 64:13,	stepping 22:18
180:10,	70:8, 115:10,	steps 314:9,
272:2,	116:9, 193:8,	314:13

stick 282:24, 327:15, 416:7	6:26, 6:37, 8:16	44:2, 44:9, 45:17, 45:19,
sticking 216:6	stress 21:13, 134:25	84:22, 99:18, 188:23,
stiff 177:11	stressed 25:1, 39:7, 134:22	214:18, 269:24,
stockpile 317:3	stressor 25:4	352:21, 359:21,
stone 444:2	stressors 135:5	390:7, 390:22,
stones 22:18	stretch 105:8, 141:19, 141:22,	398:9, 403:18, 409:3
stop 179:19, 414:3, 438:6	163:20, 354:11	stuff 17:10, 43:3, 432:10
stopped 148:23, 496:20	stricken 25:18, 495:19	stump 311:1
stops 180:4	striking 117:4	subcontracted
store 100:15, 100:21	string 321:23, 472:11	459:16
storm 317:2, 466:22, 467:23, 468:3, 468:4	strip 223:20, 417:6	subdistrict
story 281:1	strips 272:18	15:8, 15:11, 339:16, 339:19, 339:22,
STP 459:17	stronger 152:18	343:24, 393:3
straddles 160:19	strongly 65:10, 114:12, 302:8	subdistricts
stragglers 282:20	struck 121:22	15:2, 395:6, 461:19
straight 354:5, 376:12, 407:10, 407:23, 408:1, 409:13, 432:20, 437:24, 472:3	structural 302:7	subdivision
straightforward 19:15	structurally 64:14	408:23, 409:6, 409:9
strategies 61:1	struggling 269:12, 274:23	subdivisions
Stratton 93:3, 275:3, 276:19, 280:14, 309:10, 324:20, 330:19, 440:24, 441:2, 441:4	strung 286:21	59:12, 409:1
straw 205:22	stub 245:3	subject 35:5, 131:9, 269:24
streaming 402:9	studied 118:4, 225:10	subjects 233:16
Street 1:23, 3:9, 3:17, 3:34, 4:16, 5:13, 5:20,	studies 26:11, 39:15, 40:24, 41:8, 42:9, 42:19, 43:1, 43:16, 44:25, 45:3, 45:12, 53:13, 53:14, 53:17, 84:8, 84:18, 86:1, 358:22, 399:1	submarine
	study 22:23, 23:6, 26:23, 39:15, 41:11, 42:17, 43:4,	341:3, 352:25, 478:22
		submission
		224:20, 495:2
		submissions
		66:3
		submit 148:20, 149:1, 149:5, 149:17, 150:15, 188:24, 275:10, 281:13, 292:4, 489:8,

489:9,	417:19,	121:17,
491:10,	463:11	263:20,
494:18,	substantiated	264:19,
494:24, 495:4	254:24	298:9,
submittal	substantiates	298:19,
150:13	261:22	419:25, 484:5
submitted	substantly	sufficiently
91:11,	277:14	181:9,
147:10,	substation	238:22,
187:21,	338:21,	260:10
187:25,	367:1, 367:3,	suggest 70:11,
188:20,	441:2	105:6,
190:20,	substations	115:20,
275:10,	338:19	303:6, 305:24
279:23,	substitute	suggested
280:13,	62:6, 64:2,	269:15,
281:10,	79:23	269:16,
281:15,	subsurface	269:18, 273:7
281:17,	392:10	suggesting
291:11,	successful	26:25, 173:5,
333:7, 352:9,	39:1, 39:8,	282:4,
368:9,	436:14,	435:10,
391:11,	437:10	480:3, 480:8
421:13,	successional	suggestion
461:5,	28:17, 43:10,	176:7, 284:10
494:16,	52:3, 62:20,	suggestions
495:17,	85:19,	419:23
496:16	103:23,	suggests 23:4,
suboptimal	124:4,	115:8, 269:3,
152:24	129:19,	269:20,
subscribe	129:22,	419:20
238:10	130:10,	suitable 91:5,
subsequent	130:11,	236:9, 238:2,
116:14	130:13,	240:20,
subsequently	130:15,	248:18,
276:16,	252:17	248:24,
330:20,	sudden 101:9	260:5,
333:7, 487:6	Sue 5:11,	260:18, 261:6
subset 21:18,	40:12, 87:14,	Suite 6:27,
333:23	206:20,	7:12, 7:20
substantial	219:12, 397:2	suited 288:4
72:13,	suffer 37:11,	sum 154:9
341:23,	37:15	summarize
342:19,	sufficiency	63:22, 65:24,
342:23,	302:17	79:17,
356:18,	sufficient	113:18,
475:12	49:16, 51:17,	113:25,
substantially	85:10, 85:15,	231:19,
72:21,	88:13, 104:3,	237:23,
341:11,	106:14,	346:9, 357:20

summarized	65:11, 85:9,	390:15,
276:18	260:13	390:24,
summarizing	supporting	391:1,
234:5, 354:12	24:19, 59:7,	391:17,
Summary 9:4,	296:23	459:18
9:13, 10:3,	supports 109:16	surveys 26:11,
10:13, 11:3,	suppose 106:19,	27:17, 27:20,
11:17, 16:1,	106:22	27:25, 28:4,
84:6, 85:7,	supposed 446:20	29:2, 39:18,
126:3, 126:8,	suppressed	41:4, 42:12,
133:3,	177:6, 177:10	44:22, 53:23,
231:13,	Sur-rebuttal	337:17, 390:2
235:13,	9:13, 65:25,	survived 45:14
235:20,	66:1, 68:2,	Susanne 1:18,
300:25,	74:25, 80:4,	13:25, 14:19
336:13,	91:17, 91:18,	susceptible
337:12,	352:7,	48:6
338:15,	353:15,	suspension
339:5, 352:6,	355:9, 426:8,	376:11,
357:16,	479:22,	377:17,
469:23, 470:8	480:19,	377:20,
summer 24:11,	484:15	378:18,
68:25,	surface 405:20	378:25,
109:19,	surprise	379:3,
109:23, 169:1	110:20,	379:23,
summering 34:16	354:15, 356:3	379:24,
summit 161:21,	surprised	381:3,
200:11,	111:4, 483:5,	449:23, 452:2
214:3, 214:9,	483:23,	sustain 55:2,
216:9, 218:9	483:25	358:14
sun 176:18	surprising 62:1	Sustainable
sunny 35:24	surrogate	262:8, 297:11
SUPERVISOR 2:10	236:18,	swam 99:16
supplement	236:20	swath 383:1
154:8	surrounded	swear 18:16,
supplies 418:19	29:13, 158:24	117:17,
supply 490:20	surrounding	117:20,
support 29:20,	22:9, 48:7,	335:25, 336:7
38:9, 44:19,	48:13, 54:7,	swimming 353:7
53:23, 59:7,	63:16,	switch 380:4,
64:17, 65:2,	119:18,	409:24,
109:22,	157:7, 194:8,	418:23
109:25,	239:20,	switched 418:17
114:12,	297:2, 407:11	switches 16:11,
122:4, 140:9,	Survey 27:23,	16:15
144:22,	28:3, 28:25,	Switching 468:8
298:14,	29:18, 39:13,	sworn 17:25,
343:17,	40:23, 43:1,	18:23, 19:2,
449:10, 473:6	45:1, 318:14,	231:10, 336:5
supported	328:25,	synopsise 56:10

system 101:7,	talks 302:3,	target 389:12
101:8,	398:16,	targeted 145:14
101:10,	399:11,	targeting
102:8, 107:4,	407:5, 434:21	244:16
294:2,	tall 128:14,	task 174:19,
341:23,	141:10,	204:13,
342:19,	170:17,	236:25
342:20,	206:1,	tasked 337:15
350:3,	242:19,	tax 59:6, 88:6,
368:22,	242:20,	403:24,
400:15,	242:25,	437:13,
400:17,	243:1,	437:17
409:20,	244:20,	taxes 59:5,
420:21,	267:7,	475:4
463:20,	270:17,	Taylor 8:11,
468:1, 480:15	284:18,	30:18
systemic 244:6,	284:21,	TDI 347:7,
311:2	285:19,	462:5
systems 453:14	315:23,	teach 88:6
	449:11,	team 204:10,
	450:5,	352:5, 356:7,
< T >	450:13,	370:1, 382:5,
t-line 378:8,	451:21,	384:12,
466:1	454:1,	459:14,
T. 7:17	456:23,	459:16, 475:2
tables 148:9,	457:24,	technical 65:5,
275:5, 275:6	482:1, 486:14	462:8,
tagged 100:4,	tallest 170:15,	462:11,
100:5	270:13	462:22,
tags 100:7	Tangent 354:4,	462:24,
tailored 287:12	376:11,	462:25
Talbert 6:10	377:17,	Technically
talked 59:2,	377:20,	70:21,
95:25,	378:17,	241:21,
217:14,	378:25,	295:12,
229:12,	379:3,	396:11,
263:7,	379:19,	417:17
279:15,	379:22,	technicians
290:24,	379:23,	418:19
295:7,	379:24,	technique 62:3,
295:10,	381:3,	63:2, 63:18,
301:25,	381:13,	78:22,
345:22,	449:23, 452:2	236:21,
366:2,	tangents 408:1	353:6, 482:12
371:21,	tangible 296:3	techniques
400:21,	taper 207:10,	60:12, 60:18,
429:2,	233:21,	60:21, 61:3,
469:10,	242:19,	61:19, 63:23,
494:15	270:14	65:4, 78:19,
talker 408:14	tapped 369:8	79:3, 79:8,

79:13, 79:18,	231:21,	Thanks 111:10,
142:3,	235:22,	275:12,
142:22,	241:15,	317:8, 431:6,
182:19,	295:10,	432:13, 459:3
297:9, 417:1,	345:17, 469:9	theirs 57:25
482:16	term 124:20,	theme 119:2
technologies	291:16	themselves
462:15,	terminates	14:15,
462:16	354:8	220:22,
Technology	termination	319:5, 481:12
62:7, 164:19,	391:4, 391:14	theoretically
197:14,	terminology	288:9, 481:18
197:15,	291:16,	theory 167:18
262:14,	316:3, 353:3	thermal 356:5,
345:9, 347:4,	terminus 413:1	356:9,
349:6, 349:8,	terrain 313:10,	356:10,
349:18,	354:16,	356:19,
349:20,	374:16,	386:1,
353:14,	409:12,	425:10,
353:15,	452:23, 453:3	425:15,
353:16,	Terrance	426:16,
353:17,	153:11,	426:17,
353:18,	154:24	442:15,
448:6, 480:12	terrestrial	443:7,
teeter 427:14	21:21, 22:16,	444:10,
telemetry	28:19, 28:23,	444:14,
358:21	29:16, 32:9,	444:17,
temperature	48:4, 352:14,	485:20
48:2, 109:20	353:19,	Thetford
temporary	398:8, 448:18	338:20,
316:10,	territories	367:3, 367:6
316:20,	152:10,	They'll 102:25,
318:3,	152:15	135:12,
318:11,	territory	194:25,
328:20,	121:2,	449:24
393:21	152:16,	they've 94:11
ten 149:14	152:23,	thick 27:5
tend 119:21,	413:24	thin 227:7
227:7,	test 293:13,	thinking 38:20,
407:24,	443:11,	112:1,
407:25,	444:20	160:22,
409:14	testify 18:15,	284:11,
tends 168:4,	40:17,	286:19,
479:24	122:22,	303:11,
Tenth 13:18,	185:25,	437:2, 437:6,
70:17,	480:19	438:13
153:18,	testifying	thinner 212:11
181:2, 182:3,	88:8, 133:20,	third 133:10,
186:14,	136:8	133:17,
190:21,	testing 444:18	215:18,

254:20,	102:18,	383:24
260:17, 261:4	136:11,	timing 475:6
third-party	138:8,	tiny 417:6
357:1	139:17,	tipping 441:19
Thornton 474:2	146:14,	title 434:18
thorough	252:10,	Toby 158:23,
337:19,	259:5, 259:6,	159:5,
385:6,	265:7, 294:2,	159:13,
403:18,	349:22,	197:19,
460:23	369:18, 374:2	198:4, 198:9
thoroughly	throw 360:14,	together
61:20	360:21	107:17,
though 39:5,	thrush 120:22,	125:20,
76:15,	121:1,	318:22,
109:13,	152:13,	319:6,
156:18,	152:19	319:11,
164:5,	thrust 305:22	340:6,
167:22,	thumb 67:16,	369:23,
219:25,	98:9, 432:15	408:2, 481:6
232:12,	Thursday 1:15,	Tomhegan 69:23,
260:14,	489:10,	70:2, 70:7,
301:16,	491:5, 491:8	70:9, 71:8,
316:19,	tie 38:1,	72:11, 99:11,
349:17,	42:20, 66:11,	99:13, 99:17,
423:22,	66:22, 67:5,	104:5,
423:25,	104:4,	105:15,
451:1, 480:10	104:14,	106:2,
thoughtful	364:21,	162:18,
370:7	364:23,	162:22,
thoughts 361:15	365:1, 403:4,	165:14,
thousand	403:5, 413:5	210:13,
355:18,	tied 103:4,	280:21,
376:3, 379:2,	439:6	325:20,
439:23, 440:1	tier 271:17	340:19,
threading	tiers 284:3	401:8,
382:21	tight 177:23	401:10,
threat 58:2,	Timber 64:23,	401:20,
229:19	85:17, 103:7,	401:25,
threatened	118:20,	402:23,
200:20,	118:24,	457:17,
239:12	119:6, 127:4,	458:14,
Three. 267:18	236:4,	458:23, 493:8
threshold	236:25,	tone 410:21
376:8,	238:9,	Tony 8:11,
463:12,	254:17,	30:18
476:11	266:14,	took 181:21,
thresholds 49:3	266:16,	182:5, 191:1,
Throughout	268:11,	308:10,
16:23, 29:12,	383:23	337:19,
40:24,	timberland	404:2, 459:21

tool 112:4, 238:3	312:24, 318:8, 319:18, 320:17, 322:15, 381:10, 426:13, 485:19	223:4, 227:16, 236:22, 242:9
tools 49:6		towers 63:16
top 116:23, 116:24, 167:8, 200:3, 211:24, 218:6, 228:8, 228:11, 311:18, 315:22, 321:16, 321:18, 389:12, 405:19, 417:14, 451:21, 452:7, 461:24, 474:10	tops 205:5, 244:23	Town 4:7, 30:11, 275:24, 353:10, 403:12
topic 14:22, 14:24, 35:5, 35:9, 35:12, 47:2, 52:14, 90:6, 118:5, 293:7, 434:21	total 73:16, 121:10, 142:6, 147:15, 267:21, 314:15, 348:5, 348:20, 375:13, 415:18, 473:23, 474:3	towns 55:24, 56:5, 88:6
topics 337:4, 492:12, 492:23	totaling 327:7	Township 93:16, 105:20, 384:5
topographic 238:12	totaling 348:4	Townships 93:5, 280:18
topography 137:11, 156:19, 174:11, 200:5, 200:15, 210:3, 210:9, 210:24, 212:19, 213:10, 213:16, 222:4, 225:17, 225:21, 229:10, 229:11, 229:23, 243:14, 286:16,	totally 149:15, 149:17, 255:16, 255:22, 301:10, 410:25	toxic 291:23
	touch 486:5, 486:13	track 16:5
	touched 467:3	tract 383:22, 384:5
	touches 358:12	trade-offs 269:14, 269:15
	tough 151:13, 174:22, 481:24	traffic 341:14, 342:23, 342:25, 426:3
	tourism 350:10	Trail 218:8, 228:10, 337:9, 339:6, 339:12, 340:1, 340:2, 340:4, 343:4, 343:10, 343:14, 343:20, 350:2, 396:4, 423:6, 423:11, 424:14, 424:16, 429:4, 430:1, 439:19, 439:24, 441:6
	Tournageau 385:1	trailer 344:11, 344:12, 447:4
	toward 144:21, 187:6, 242:11, 335:2, 335:3, 335:17	trails 163:7, 194:21, 218:20, 228:16, 349:24, 349:25,
	towards 17:22, 35:11, 144:25, 169:12, 198:7, 216:11,	

350:9, 426:1	137:15,	339:14, 396:5
transcribed	161:3,	truck 109:19,
15:22	353:12,	428:10,
TRANSCRIPT	428:9, 455:12	432:3,
13:1, 15:22,	traverse 374:18	445:15,
15:23,	traversing	445:16,
260:23,	481:24	445:21, 447:8
394:6, 488:4,	TRC 40:22,	trucks 346:8,
494:21,	42:8, 43:16,	356:11,
495:1, 495:8,	44:24, 45:3,	418:19,
496:14,	45:17	425:15,
496:19, 498:5	treated 174:25,	426:3,
transcriptionis	331:4	427:25,
t 16:5	treatment	428:3,
transcriptions	252:24,	445:11,
17:5	311:1, 311:2	445:23,
transfer	treatments	446:17
437:20,	241:6	true 35:19,
463:9,	tremendous	38:24, 41:5,
463:21,	130:5	74:13, 74:14,
463:24,	trench 355:13,	75:12,
473:19	355:18,	210:11,
transferred	386:15,	212:10,
437:12	405:18,	358:13,
transition	417:14,	360:6,
231:6,	444:9, 448:2	443:24,
335:17,	trenched 386:5,	473:5, 483:1,
335:22	417:12,	483:18,
transitional	482:15	483:24, 498:4
122:1	Trenching 61:5,	truly 140:17,
transitioning	72:13, 78:23,	438:7, 456:5
320:12	114:21,	Trust 66:16
transitions	341:8, 482:15	truth 18:17,
284:5	Trial 441:5	117:22, 336:9
translated	tributaries	try 16:22,
119:7	71:7, 92:22,	79:2, 104:3,
translates	93:19	180:19,
120:1	tributary 98:4,	185:12,
transport	98:17, 98:18,	312:6,
115:22	106:2, 106:5	362:13,
Transportation	Tricks 173:4	373:4, 377:3,
342:7, 485:1,	tried 307:5,	408:2, 457:3,
485:20,	358:18,	483:16
487:16	443:18	Tumbledown
transporting	tries 58:3	157:10,
485:20	trimming 328:1	194:9,
trapping 299:1	trips 111:23	194:21,
traps 299:3	trouble 261:11,	222:6,
traveled 356:23	390:20	227:25,
traveling	Troutdale	228:3, 228:4,

228:6, 228:8,	288:25,	435:14
228:9, 228:11	289:3, 314:7,	unclear 261:18,
tune 20:13	315:20,	281:24, 493:5
turn 16:16,	316:22,	uncleared
17:13, 46:21,	323:12,	283:14
52:11, 95:1,	323:14,	uncut 24:6,
95:2, 95:5,	329:15,	236:13,
154:21,	378:4,	237:24
179:7,	378:25,	undefined 60:24
186:23,	379:3, 398:3,	undeniably
213:19,	450:4, 450:5,	339:9
267:14,	451:20,	undergrounded
273:10,	452:2,	184:17
351:12,	452:10,	underneath
455:22	452:11,	173:7,
turned 113:10	468:11	306:15,
Turning 77:7,	typically	373:20,
472:6	34:14, 47:19,	374:9, 440:2,
turns 413:16	71:1, 124:4,	465:8,
Twelve 267:22	124:8, 144:6,	468:20,
two-and-a-half	234:13,	472:16, 473:6
373:1	242:14,	Understood
two-thirds	314:9, 317:2,	20:14,
300:25	317:14,	311:11,
two. 181:14,	318:1,	375:4,
226:20,	328:21,	385:10, 387:6
264:23, 407:6	335:13,	understory
types 32:17,	399:23, 450:2	23:3, 27:5
154:7,	typicals	undertake 307:5
173:20,	451:18, 453:5	undertaken
242:7,	typo 131:1	307:15
270:13,		undesirable
330:3, 354:2,		395:13
354:3,	< U >	undeveloped
358:22,	ultimate 14:3	61:9, 61:23,
392:5,	Ultimately	408:19,
398:17,	106:4,	408:24,
399:22,	291:10,	408:25,
427:23,	368:10,	409:3, 409:8
463:1,	464:21	undisturbed
470:20,	umbrella	408:10
483:9,	120:17,	undue 21:13
483:11,	144:23,	unemployed
483:20	152:8,	448:8
typical 115:11,	239:22,	unequivocally
191:8,	240:22	66:14
233:12,	unable 411:9	unfair 102:8,
243:5,	unbroken 195:16	255:1, 358:7
287:18,	uncertain 25:4	Unfortunately
288:21,	uncertainties	490:21

unfragmented	untapered	usual 182:16
22:19, 23:14	207:12	Utility 22:12,
uniform 443:10	until 66:13,	56:6, 342:8
unique 22:4,	311:11,	utilize 85:19,
352:4,	430:2, 449:4,	103:22,
422:18, 429:3	458:6, 491:7,	266:7,
Unit 235:19,	491:10,	349:19, 448:5
469:16	496:17	utilized
United 339:10	unwanted 16:25	133:18,
universe 36:13	up-close 72:7	133:24,
University	update 247:8,	208:1,
21:3, 84:22,	332:17	259:14,
118:3, 151:5,	updated 247:1,	260:11,
254:16,	276:11,	333:20, 445:9
256:8, 257:6,	276:14,	utilizes 294:17
258:17,	277:12,	utilizing
262:24,	279:5,	347:4,
263:9, 345:7,	281:25,	348:11,
351:23,	309:19,	446:16
351:24	332:3, 435:5	
unless 317:14,	updating 332:8	< V >
320:24,	upgraded 426:2	Valley 72:4,
357:1,	uphold 256:4	229:12,
407:10,	upland 32:15	263:24,
407:21,	uplands 427:11	320:19
465:22,	Upper 243:9,	valleys 313:12,
476:10	263:19,	313:16
unlike 23:22,	263:22,	valuable 47:16,
311:14	263:23,	49:6, 102:19,
unlikely 61:21	272:17,	295:18,
Unlimited 5:8,	322:10,	295:22
5:33, 40:14,	347:23,	value 47:15,
87:16,	460:12	59:15, 62:24,
206:22, 397:4	Upstate 477:20	63:13, 100:1,
unquote 29:8	upwards 225:19	129:25,
unreasonable	urban 349:4	138:16,
22:1, 29:4,	useful 30:4,	144:20,
59:23, 60:3,	78:22, 480:2	146:10,
64:12, 232:4,	useless 57:19	234:4, 324:6,
232:9,	user 214:18,	432:24,
234:25,	216:3	432:25,
235:11,	Users 8:8,	438:4, 475:12
307:23, 348:7	202:7,	valued 233:23
unreasonableness	202:13, 340:3	values 22:4,
s 58:6	uses 265:7,	70:5, 378:11,
unrelated	328:24,	434:10
301:10	359:8,	van 179:17
unsuitable	359:12,	vantage 116:22,
248:24, 252:1	434:6, 435:8	117:4,
unsure 261:15	USGS 399:25	

168:22,	vehicle 218:18	487:5, 487:13
169:18,	vehicular 426:3	Vice 351:7
172:20,	vendors 349:11,	vicinity 50:17,
174:22,	378:10	73:10,
306:19	venture 294:21	104:18,
Variable 327:8,	verbally 350:14	113:1, 113:2,
327:9	Vermont 57:24,	157:4,
varied 484:25	347:7, 462:5,	349:22, 428:9
varies 112:24,	478:25	viewed 80:24,
319:17, 403:7	version 91:10,	116:13,
variety 181:21,	281:25,	154:16
259:5, 259:6,	309:9, 458:12	viewer 176:1,
260:24,	versus 101:6,	214:18,
264:25, 352:1	107:14,	214:22,
various 13:22,	149:9,	216:3, 227:13
30:14, 80:9,	153:20,	viewpoint
121:20,	181:17,	161:9,
181:24,	216:5,	168:21,
224:11,	231:23,	169:23,
252:24,	231:24,	214:10,
295:7,	248:24,	222:11,
352:22,	288:21,	223:2, 224:3,
357:24,	297:21,	226:25
384:15,	307:13,	viewpoints
480:20,	308:2, 354:2,	116:14,
491:21	412:16,	116:17,
vary 271:14,	422:7,	154:17,
327:4, 383:21	446:24,	168:4, 175:7,
vast 21:24,	447:8,	175:10,
182:9, 393:20	462:24,	175:14,
vault 356:21,	466:12	175:21,
356:22	vertical	175:24
vaults 356:20,	253:23,	views 156:21,
431:23,	300:20,	158:3,
469:5, 471:22	301:22,	158:23,
Veatch 340:25,	472:14	159:15,
345:1, 345:12	vetting 339:3	160:10,
veery 120:23	VHB 351:20	161:2, 162:2,
vegetated 29:8,	VIA 166:24,	198:21,
97:9, 110:2,	224:15	210:21,
223:5	viability	222:7, 311:19
vegetations	349:12,	viewshed 464:16
164:25	411:5, 411:15	Vile 391:2
Vegetative	viable 70:22,	villages 338:9
112:14,	71:23,	violation
159:24,	241:21,	418:14
266:22,	295:13,	virtually
290:25,	405:13,	69:15, 338:8
291:23,	415:9,	virtue 184:16
292:18	415:11,	visibility

63:18, 72:7,	< W >	107:2,
155:11,	W. 4:29	234:14,
161:19,	Wade 5:13, 5:20	234:19,
166:12,	wading 146:9	239:11,
167:14,	Wagner 6:7,	270:4, 270:8,
187:10,	8:10, 30:17	270:22,
205:4,	Wait 172:5,	272:18,
214:20,	177:14,	309:22,
219:12,	178:17, 480:3	309:25,
219:23,	waiting 429:2,	310:3, 479:3
220:8,	433:18, 480:8	waterbodies
222:12,	walk 19:10,	146:13,
222:14,	68:4, 135:19,	154:5, 199:9,
228:20,	368:5	200:21,
244:23	walked 314:2,	205:5,
visit 109:23,	444:22	235:12,
112:13,	Walker 8:11,	239:12,
179:10,	30:18	272:15,
369:16,	walking 156:21	308:25,
447:17,	wall 43:15	309:24
491:14	Walmart 100:15,	waterbody
visited 110:3,	100:20, 102:9	273:14,
304:19	wanted 17:7,	273:25,
visiting 306:12	18:21, 20:14,	309:4, 309:19
visually	54:7, 88:16,	waterfowl 146:9
112:19, 117:4	157:25,	watersheds 91:4
vital 36:19	163:23,	ways 25:11,
vitality 23:17	184:8, 207:5,	27:4, 29:11,
voice 65:18,	225:8,	29:19, 44:17,
408:13	245:24,	65:7, 137:17,
voices 408:16	283:8,	145:6, 370:8,
void 443:1	283:12,	428:10
voltage 341:2,	334:9, 357:6,	weakest 356:24
341:23,	360:14,	weather 432:2,
349:17,	362:21,	468:2
472:22,	374:8, 405:6,	website 18:4,
473:13,	409:25, 423:4	494:3
473:18,	warbler 120:23	week 95:10,
480:2,	warm 24:1,	179:3, 179:4,
480:16,	442:18	489:9,
486:12,	warrant 492:11	489:11,
486:21	warranty 443:1	489:22,
volted-source	wash 428:15	490:20,
349:6, 349:8	waste 485:12	490:25,
VSC 349:15,	water 33:1,	491:4, 491:8,
462:16	33:13, 48:2,	491:9,
vulnerable	73:25, 80:11,	491:18,
43:18	81:3, 81:4,	492:3,
	81:21, 82:3,	493:16,
	82:9, 95:14,	494:9, 494:10

weeks 418:8, 418:9, 429:5, 461:22, 492:5, 496:18, 496:19, 496:22	100:18, 203:4, 239:6, 427:8	165:18
weigh 60:2, 205:10	Wetlands 21:5, 22:17, 24:9, 24:10, 26:13, 34:11, 34:13, 38:6, 38:11, 38:15, 70:4, 99:3, 165:6, 318:5, 341:21, 343:13, 344:20, 355:13, 355:22, 357:10, 386:6, 406:9, 408:3, 425:14, 426:19, 426:25, 459:17	white 155:3, 156:9, 162:10
weighing 89:21, 308:15		whoever 205:22, 283:7
weight 209:1, 346:7, 385:23, 428:2, 445:10, 445:15, 446:7, 446:14		whole 18:17, 36:12, 112:4, 114:12, 117:22, 156:7, 159:3, 159:4, 166:25, 223:7, 224:19, 230:16, 254:19, 257:10, 336:9, 418:2, 467:25
welcome 381:21, 383:15, 434:2, 466:20	wetted 110:25	widely 63:3
well-established 238:3	Weyerhaeuser 262:3, 262:7, 262:20, 262:23, 384:12, 384:15, 406:15	wider 112:25, 113:1, 213:1, 331:13, 331:15, 417:20
well-suited 62:4		widespread 245:5, 318:17
West 4:6, 30:11, 67:5, 71:6, 71:9, 104:16, 105:20, 106:3, 123:15, 145:22, 160:23, 221:10, 338:9, 391:4, 403:10, 439:20, 453:15, 456:9, 457:19	whack-a-mole 185:1	widest 327:7
Western 6:33, 50:21, 102:18, 121:24, 122:4, 351:25, 426:22	Wharf 3:8, 3:16	width-wise 212:24
Wetland 21:3, 100:16, 100:17,	whatever 209:1, 305:6, 319:3, 430:13, 432:1, 440:25	widths 241:9, 314:9, 314:10, 327:9
	wheelhouse 417:23	Wild 80:17, 280:16
	whereas 114:17, 306:5	Wilderness 3:28, 31:2
	whichever 16:3, 125:15	willing 290:19, 339:25, 372:6
	Whipple 158:23, 158:24, 159:14, 159:19, 159:25, 160:3, 160:9,	willingness 132:20
		Wilson 162:19, 163:8, 163:11, 202:7, 202:17
		win 89:6
		Wind 77:12, 137:15, 430:9, 441:9
		window 496:4

winds 157:15	284:7, 284:8,	32:17, 48:3,
winning 56:25,	465:19	63:8, 63:12,
90:1	wish 434:13,	70:25, 73:9,
winter 162:3,	438:1	106:16,
243:10,	withdraw 256:3,	106:23,
327:5, 344:8,	257:11,	106:24,
431:14	257:13	234:12,
wintering	withheld 356:6	234:16,
142:17,	Without 37:11,	234:20,
239:9, 243:9,	42:19, 60:3,	235:1,
263:19,	63:19, 78:11,	235:10,
263:22,	78:13, 94:19,	244:12,
322:3,	258:11,	270:5, 270:9,
322:10,	263:20,	271:24,
326:22,	281:22,	272:21,
327:2,	411:5,	273:1, 273:5,
334:11,	411:14,	302:3,
334:21,	418:24,	323:25,
335:4, 428:5,	454:13	324:15
455:7, 455:11	withstand	WORCESTER 2:2,
wintertime	467:12	14:16, 14:17,
219:9,	Witnesses 16:7,	95:2, 217:24,
223:13, 432:6	17:25, 18:9,	303:21,
wire 81:12,	18:10, 18:18,	428:25
81:14,	19:20, 19:22,	word 76:10,
176:13,	55:7, 61:25,	322:5, 324:1,
177:20,	64:6, 64:25,	324:4,
177:25,	71:23, 91:13,	371:12, 488:2
242:5,	153:8,	wording 75:18,
242:15,	185:25,	396:12
242:19,	241:18, 470:1	words 25:11,
283:21,	WMRC 299:11,	100:15,
283:22,	303:14	124:15,
284:1,	won 56:19,	184:25,
286:21,	57:1, 88:24,	185:24,
314:12,	94:11	204:19,
314:15,	wonderful 51:9	270:7,
314:17,	wondering	398:14,
314:22,	106:15,	437:15
315:17,	211:14,	worked 66:18,
315:23,	304:6, 361:9,	86:16,
316:3, 316:6,	407:15,	197:14,
320:23,	431:12	352:11,
325:21,	Woodland 32:24,	355:25,
382:21,	237:6	378:8, 398:8,
452:5, 465:22	woods 97:9,	399:21,
wires 131:15,	445:14	400:16,
137:14,	Woodsum 7:10,	425:5,
137:16,	7:18	425:23,
242:16,	woody 29:9,	426:2,

444:22,	360:18	477:20,
448:17,	wrapped 459:25	477:24,
459:13,	wrestle 385:2	477:25
478:1,	write 43:10,	yourself
478:10,	44:16,	300:24, 301:2
479:14,	130:25,	
480:21, 481:2	363:24,	
worker 232:24	406:19	< Z >
Workers 4:24,	writing 464:8,	zero 124:4
342:25	490:1, 495:7,	Zoology 351:24
Working 60:5,	496:25, 497:2	
165:4, 176:7,	Written 73:21,	
187:25,	110:14,	
188:7, 210:4,	150:15,	
210:10,	187:4,	
210:24,	495:20,	
213:16,	495:22, 496:6	
233:1,	wrote 281:23	
334:14,		
334:19,		
340:6,	< Y >	
342:22,	yards 105:23,	
352:1,	119:9,	
352:18,	334:21, 438:8	
354:18,	year 47:21,	
356:1,	50:21, 59:3,	
381:10,	89:23, 100:6,	
397:21,	115:7,	
398:24,	115:10,	
448:25,	149:14,	
449:6,	208:12,	
449:24,	245:11,	
479:10,	258:6,	
479:20,	259:20,	
485:22	311:7, 421:3,	
works 173:4	432:6,	
worksite 115:23	461:25,	
world 349:17,	462:1,	
409:11	476:25,	
worry 438:3,	477:5, 477:6	
438:6	yell 257:19	
worse 425:18,	yellow 69:4,	
425:20	157:19,	
worst 285:23	159:5,	
worth 358:17	198:10,	
worthwhile	212:20,	
177:2, 442:4	213:25, 214:6	
wrap 93:23,	York 347:6,	
121:20,	462:5,	
282:24,	477:10,	