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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 4  
THURSDAY, APRIL 4, 2019

PRESIDING OFFICER: SUSANNE MILLER

Reported by Robin J. Dostie, a Notary Public and  
court reporter in and for the State of Maine, on  
April 1, 2019, at the University of Maine at  
Farmington Campus, 111 South Street, Farmington,  
Maine, commencing at 8:30 a.m.

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## 1 TRANSCRIPT OF PROCEEDINGS

2 MS. MILLER: Okay. We're going to go ahead  
3 and get started right now. We're going to call this  
4 to order, so I now call to order the fourth daytime  
5 portion of the public hearing of the Maine Department  
6 of Environmental Protection and Land Use Land  
7 Planning Commission on the New England Clean Energy  
8 Connect project. As a reminder, this hearing is to  
9 hear evidence and evaluate the application submitted  
10 by Central Maine Power pursuant to the Department's  
11 requirements under the Natural Resources Protection  
12 Act and Site Location of Development Act as well as  
13 the Commission's Site Law Certification process.

14 Starting at 6 p.m. this evening we will hear  
15 additional testimony from the public on the  
16 Department's hearing topics. We have extra copies of  
17 today's agenda at the chair at the back of the room.  
18 Just as a reminder, I ask everyone to silence or turn  
19 off your phones and electronic devices so there  
20 aren't any interruptions. Again, with the  
21 microphones, just a reminder to turn them on and off  
22 when you're speaking, off when you're not so that the  
23 side conversations aren't heard and also so that  
24 there is no additional feedback.

25 So this morning we have Group 4 witnesses

1 and in the afternoon we have Group 8 witnesses, so  
2 I'm going to ask our Group 4 witnesses to stand and  
3 raise your right hand so I can swear you in. Do you  
4 swear or affirm that the testimony you are about to  
5 give is the whole truth and nothing but the truth?

6 (Witnesses affirm.)

7 MS. MILLER: Thank you. All right. So  
8 let's go ahead and get started with Group 4's direct  
9 testimony.

10 DAVID PUBLICOVER: All right. I've been  
11 elected to lead off here. My name is David  
12 Publicover. I'm a Senior Staff Scientist with the  
13 Appalachian Mountain Club.

14 The western Maine mountains is the heart of  
15 a globally significant forest region extending from  
16 northern New Hampshire to northern Maine that is  
17 notable for its natural forest composition, lack of  
18 permanent development and high level of ecological  
19 connectivity. The Maine Department of Inland  
20 Fisheries and Wildlife has stated, Northern Maine is  
21 unique, it's the largest area of undeveloped natural  
22 land in the eastern United States. And the Land Use  
23 Planning Commission stated, the forest of the  
24 jurisdiction are part of the largest contiguous block  
25 of undeveloped forest land east of the Mississippi.

1 It is one of the few areas in the eastern United  
2 States that is sufficiently intact and natural to  
3 maintain viable populations of almost all native  
4 species. The region's value has been recognized by a  
5 wide range of analyses and initiatives. Exhibit 1.  
6 It is one of the largest blocks of relatively intact  
7 tempered hardwood and mixed forests in the world.

8           Next slide, please. It is the largest  
9 globally significant important bird area in the  
10 continental United States identified by the National  
11 Audubon Society. Next slide, please. It is one of  
12 the largest areas in the eastern United States of  
13 above-average climate change resilience identified by  
14 The Nature Conservancy. And next slide please. It  
15 was identified as a priority ecological linkage by  
16 the Staying Connected Initiative, a regional  
17 partnership that includes Maine Department of Inland  
18 Fisheries and Wildlife and Maine Department of  
19 Transportation. These recognitions have been made  
20 with the full understanding that much of the region  
21 is managed timber land. However, despite the  
22 presence of ongoing harvesting, the area maintains a  
23 high level of ecological connectivity with a very  
24 small number of large permanent fragmenting features  
25 such as major roads spanning the region.

1           In contrast, the Applicant has completely  
2 failed to recognize the value of the area and  
3 consistently minimizes its value as merely  
4 intensively managed industrial forest. However, to a  
5 large degree -- I don't have any more slides, so you  
6 can take your time.

7           MS. PEASLEE: Okay.

8           DAVID PUBLICOVER: However, to a large  
9 degree, these forests are managed using natural  
10 regeneration and maintain a relatively natural  
11 species composition, although the age/class structure  
12 has been significantly altered towards a younger  
13 overall condition. The great majority of harvesting  
14 retains some level of overstory trees. The  
15 photographs included with the Applicant's Visual  
16 Impact Assessment show a dominantly forested  
17 landscape with harvest units as patches within a  
18 matrix of more continuous forest cover. This project  
19 would create a permanently non-forested 150 foot wide  
20 corridor across the entire region, one of the largest  
21 fragmenting features in this mostly undeveloped  
22 landscape.

23           The effects of fragmentation on forests have  
24 been well documented and the continued loss and  
25 degradation of intact forests is one of the major

1 threats to biodiversity worldwide. Fragmentation has  
2 multiple adverse effects on forests in addition to  
3 the direct loss of habitat, the most significant  
4 include edge effects and the barriers to species  
5 movement. As noted by the Matlack and Litvaitis  
6 reference cited in my testimony, quote, recent  
7 investigations have described radical changes in  
8 community structure at edges suggesting serious  
9 problems from a biodiversity perspective, end quote.  
10 Edge effects include increased penetration of light  
11 and wind, increased temperatures, lower humidity and  
12 soil moisture, increased blowdown and increased  
13 growth of understory and early successional  
14 vegetation in the edge zone. These effects can  
15 extend hundreds of feet into the forest adjacent to  
16 the edge and in effect an area many times the size of  
17 the corridor footprint. The edge zone favors more  
18 common general species but reduces habitat for  
19 species dependent on interior forests, species which  
20 may be less common. The edge is created by most  
21 timber harvesting is fuzzy and is ameliorated by the  
22 partial retention of overstory vegetation. Clearcuts  
23 have similar effects but these edges are temporary,  
24 shift across the landscape and are quickly softened  
25 by the growth of the regenerated forest.

1           In contrast, the edge created by the  
2 corridor will be distinct and permanent and the  
3 linear configuration maximizes the amount of edge  
4 that's compared to a more compact shape. Utility  
5 corridors also create barriers to species movement.  
6 Not all species will be affected and many will cross  
7 the corridor without difficulty. However, the  
8 corridor will reduce the permeability of the  
9 landscape for species such as marten and many other  
10 species that require minimum levels of mature forest  
11 cover and avoid early successional habitat in  
12 non-forested openings. The vegetation that would be  
13 maintained in the corridor even in the stream buffers  
14 will not maintain connectivity or provide travel  
15 corridors for these species. Features such as coarse  
16 woody debris that can provide habitat refugia or  
17 bridges within early successional habitat will not be  
18 maintained in the corridor.

19           The Applicant's assessment of forest  
20 fragmentation is rudimentary and lacking in any  
21 analysis of impacts. It consists primarily of  
22 general statements that are contradicted by the  
23 literature and unsupported by any evidence in the  
24 application. Statements to the effect of some  
25 species will benefit while others will not are

1 followed by a discussion of the habitat benefits of  
2 utility corridors while avoiding any discussion of  
3 which species are adversely affected. In the end,  
4 the Applicant's argument amounts to little more than  
5 this landscape is already trashed and this is just  
6 another clearcut so there will be no impact. The  
7 Applicant has fallen far short of satisfying the  
8 burden of proof required by law of demonstrating no  
9 unreasonable impact on wildlife habitat.

10           The alternatives to the new corridor  
11 considered in the application are not realistic. The  
12 application contains no discussion of the alternative  
13 of burial along existing corridors, an approach  
14 considered by other projects in the region including  
15 Northern Pass. The increased cost of burial of 52  
16 miles of Northern Pass line along public roads  
17 proposed by Northern Pass was no impediment to this  
18 project's initial selection in the Massachusetts  
19 Clean Energy RFP process.

20           Finally, the Applicant has provided no  
21 compensation for the unavoidable or unmitigated  
22 impact that would result from this project. If  
23 compensated for things such as wetland impacts is  
24 required by law but provide no compensation for the  
25 major landscape level impacts. The small amount of

1 land proposed for conservation have no nexus to the  
2 fragmenting impacts created by the corridor and do  
3 not compensate for the reduction of the interior  
4 forest habitat or loss of connectivity created by the  
5 project. For these reasons the proposed project  
6 constitutes an unreasonable adverse effect on the  
7 natural environment and DEP should deny this permit.  
8 Thank you.

9 MS. MILLER: Thank you.

10 JEFF REARDON: Could you skip back to the  
11 first slide in the Group 4 presentation? Sorry, it's  
12 slide number 4. It's my first exhibit. Okay. And  
13 the second slide I'm going to show is two slides on  
14 from that.

15 MS. PEASLEE: It's 6, right?

16 JEFF REARDON: I think that's right. Right  
17 there. Thank you.

18 Good morning. My name is Jeff Reardon. I  
19 live in Manchester and I have worked for Trout  
20 Unlimited in Maine since 1999. Much of my work has  
21 been in the Kennebec watershed representing TU and  
22 the licensing of ten hydroelectric dams in Somerset  
23 County, including the Indian Pond Dam on the Kennebec  
24 and the Flagstaff Dam on the Dead River. In that  
25 role I have participated in multiple fishery studies



1 in the Kennebec and Dead River watersheds. For more  
2 than five years I've worked with the State of Maine  
3 on the Trust for Public Land on the state purchase of  
4 the 8,200 culturing forest parcel.

5 Through my participation in these projects,  
6 I'm deeply familiar with the fisheries values and the  
7 streams that will be crossed by the new 53 mile long  
8 corridor. I have also worked on two major or  
9 projects assessing riparian buffers to protect cold  
10 water fish, one for Atlantic salmon on the Sheepscot  
11 River and one for brook trout in high elevation  
12 streams in Western Maine. In both, a key finding was  
13 that mature intact trees in riparian zones are needed  
14 to provide shading, overhead cover and large woody  
15 debris inputs. That's fish speak for big dead trees  
16 that fall into the brook. All of these are critical  
17 elements for in-stream habitat and for cold water  
18 fish to depend on. My testimony represents my  
19 assessment of the impact of the NECEC project on  
20 brook trout and Atlantic salmon based on my  
21 understanding of how trout and salmon populations in  
22 impacted watersheds use habitat.

23 The National Fish Habitat Partnership, the  
24 slide in front of you, identified the region through  
25 which the proposed NECEC project will be completed is

1 the heart of the least impacted aquatic habitat in  
2 the northeast. The Eastern Brook Trout Joint Venture  
3 calls it -- go forward two slides, please. The  
4 Eastern Brook Trout Joint Venture -- there we go --  
5 calls it the last true stronghold for brook trout in  
6 the United States. This project will cut a new 53  
7 mile long by 150 foot wide corridor from Beattie  
8 Township to Moxie Gore. For comparison, Route 201  
9 from The Forks to the Canadian border is 42 miles  
10 long and its cleared corridor is about 55 feet wide  
11 measured on Google Earth. Route 6 and 15 from  
12 Jackman to Rockwood is 28 miles long and 55 feet  
13 wide. Those are the only two major paved roads in an  
14 area of almost 2,000 square miles that stretches from  
15 just west of Moosehead Lake to the Canadian border.  
16 The NECEC corridor is longer and wider and its  
17 fragmenting impacts will be similar to and additive  
18 to these existing disturbances. The Applicant has  
19 significantly understated the impacts of the project  
20 on brook trout and brook trout habitat. The primary  
21 impact will be the new clear corridor that will  
22 remove forested buffers that include large trees next  
23 to streams and replace them with vegetation no taller  
24 than 10 feet in the wire zone and no taller than 20  
25 feet anywhere within the 150 foot wide corridor.

1           The Applicant cites two studies as evidence  
2 to minimize the impact that loss of buffers will have  
3 for brook trout. The first of these is a 2008 study  
4 by N.C. Gleason examines streams 30 to 50 years after  
5 the riparian areas have been cleared and noted that  
6 the stream could likely recover from the initial  
7 disturbance but still concluded, and I quote, overall  
8 the elements show a decrease from ideal salmonid  
9 habitat conditions. That quote was not the quote  
10 used in CMP's application. The second, a 1993 study  
11 by A.M. Peterson examined 12 physical habitat  
12 parameters such as stream width, stream depth, bank  
13 vegetation, et cetera and found that of those  
14 parameters 8 of 12 investigated were statistically  
15 different under the transmission right of way than in  
16 adjacent forested stream reaches; in other words,  
17 cleared right of way have a profound impact on  
18 physical in-stream habitat.

19           The Applicant has calculated that its stream  
20 crossings represent 11.02 miles of forested  
21 conversion and riparian buffers where that impact  
22 will occur. And their compensation plan cites 12.02  
23 miles of streams on three preservation parcels on the  
24 Dead River as mitigation for these impacts.  
25 Compensation Plan Table 1-2 Page 6. The impacted

1 streams are primarily small, high elevation, cold  
2 headwater streams like Forest Brook, Cold Stream,  
3 Tomhegan Stream, the South Branch of the Moose River  
4 and literally dozens of others with fisheries  
5 populations that based on studies I've participated  
6 in consists of native brook trout, sculpins and a few  
7 native minnow species like blacknose dace. By  
8 contrast more than half of the mitigation miles, 7 of  
9 12, are on the Dead River, a large, low elevation,  
10 valley bottom, mainstem river is much warmer is  
11 severely impacted by non-native small mouth bass and  
12 has a brook trout population supported by annual  
13 stocking.

14           Based on extensive studies of radio tagged  
15 brook trout in the Kennebec and Dead Rivers conducted  
16 during the licensing of the Indian Pond Dam, we know  
17 that although brook trout occupy the mainstem of the  
18 Kennebec and Dead Rivers seasonally there is  
19 virtually no brook trout spawning or juvenile habitat  
20 in the mainstem of these rivers. Adult brook trout  
21 migrate well upstream into smaller tributaries for  
22 spawning and rearing. CMP's proposed mitigation  
23 parcels therefore protect only seasonal habitat for  
24 brook trout not the cold spawning and juvenile  
25 habitat that is critical to maintain the native brook

1 trout fishery for which the region is famous.  
2 Protecting these low elevation parcels will do  
3 nothing to offset the NECEC's impact on headwater  
4 brook trout streams.

5           Finally, the application has considered and  
6 adopted alternatives to cleared riparian corridors to  
7 protect other resources. On Gold Brook and Mountain  
8 Brook taller structures were used to maintain a crown  
9 closed forest canopy to protect Roaring Brook Mayfly  
10 and Northern Spotted Salamander. Why won't CMP do  
11 this for brook trout as well? CMP's own expert,  
12 Lauren Johnston, in her rebuttal testimony to Group 4  
13 witness Todd Towle noted that the measures at Gold  
14 Brook, quote, will also protect brook trout and other  
15 cold water fishery species by avoiding and minimizing  
16 secondary impacts within the riparian buffer. CMP  
17 clearly understands that its lack of buffers impact  
18 brook trout habitat that maintaining buffers in the  
19 two places where they've done so provide substantial  
20 benefits to brook trout populations, but they have  
21 chosen not to implement or even consider these  
22 measures at the other brook trout streams they are  
23 crossing other than those two.

24           The failure to consider options to avoid and  
25 minimize impacts to brook trout, the inadequate

1 compensation for brook trout impacts that could have  
2 been avoided or minimized require me to make a  
3 finding that the Applicant has failed to consider all  
4 reasonable alternatives to its proposed action and  
5 that the project as proposed would have unreasonable  
6 adverse impacts on brook trout habitat. Thank you.

7 MS. MILLER: Thank you.

8 JEFF REARDON: Can we just get a quick time  
9 check for the folks behind me?

10 MS. KIRKLAND: 21 minutes 22 seconds.

11 MR. MANAHAN: Could I just ask is that how  
12 much they've used or how much is left?

13 MS. KIRKLAND: Left.

14 MR. MANAHAN: How much time did they have  
15 for their summary presentations?

16 MS. KIRKLAND: It was 30 minutes.

17 MR. MANAHAN: Okay. Thanks.

18 RON JOSEPH: Good morning. My name is Ron  
19 Joseph and I live in Sidney, Maine. I earned my  
20 Bachelor's of Science degree in Wildlife Management  
21 at the University of New Hampshire in 1974. I earned  
22 a Master's degree in Zoology at Brigham Young  
23 University in 1977. From 1978 to 2010, I worked as a  
24 wildlife biologist for the Maine Department of Inland  
25 Fisheries and Wildlife and the U.S. Fish and Wildlife

1 service. In 1978, I began my career as a deer yard  
2 biologist for the Maine Department of Inland  
3 Fisheries and Wildlife in Ashland. From 1988 through  
4 1990, I worked as the state's Regional Wildlife  
5 Biologist in Greenville. My assistant and I spent 90  
6 percent of our time documenting deer yards in the  
7 Moosehead Lake region and in western Maine. Our data  
8 was submitted to the Land Use Regulation Commission  
9 which then zoned each deer yard as a P-FW on LURC  
10 maps. Now retired after a 33 year career, I can  
11 truthfully say that fighting to protect deer yards  
12 was the single most controversial program I ever  
13 worked on.

14           Ninety-six percent of Maine is considered  
15 deer habitat, but only 5 percent is suitable as  
16 winter deer habitat and much of that has been  
17 destroyed. Simply stated, the deer yard or deer  
18 wintering area is habitat mainly stands of mature  
19 spruce, fir and cedar where deer seek shelter from  
20 cold winds and deep snows, which are often half the  
21 depth that you find in hardwood stands. In short,  
22 deer yards are critical because they help deer  
23 conserve energy during Maine's long winters when food  
24 quality and abundance is limited.

25           According to CMP's compensation plan

1 submitted to DEP, the proposed transmission line  
2 would cross 22 deer yards. Of those, CMP's proposal  
3 would increase deer fragmentation in 11 deer yards by  
4 clearing multiple acres of trees.

5           There are numerous examples of the  
6 detrimental effects of forest conversions and  
7 fragmentation in and around deer yards. The Chub  
8 Pond deer yard, a few miles south of Whipple Pond  
9 where the transmission line would pass, has undergone  
10 numerous timber harvests within and adjacent to the  
11 deer yard. We do not know if the deer died or moved  
12 elsewhere, but we do know that the deer yard no  
13 longer supports wintering deer. The Mud Pond deer  
14 yard in Parkman serves as a stark reminder of their  
15 critical importance. Timber harvest within and  
16 adjacent to the Mud Pond deer yard during the winter  
17 of 1979-80 killed between 90 and 100 deer according  
18 to the Maine Warden Service. Surrounded by deep  
19 snows and clearcuts the stranded deer died of  
20 starvation.

21           My point in mentioning these is to stress  
22 that the loss of deer wintering areas and the  
23 fragmentation and the loss of habitat connectivity  
24 between deer wintering areas and the surrounding  
25 forest land are the major limiting factors for deer



1 populations in northern, western and eastern Maine.  
2 CMP's proposed project further contributes to deer  
3 yard degradation and fragmentation. The continued  
4 loss of our remaining deer yards is a significant  
5 economic impact on traditional Maine sporting lodges  
6 in rural communities that depend on income from deer  
7 hunters.

8           For example, Claybrook Mountain Lodge  
9 located in Highland Plantation in western Maine  
10 opened in the mid-1970s. For 20 years, the owners,  
11 Pat and Greg Drummond, earned the bulk of their  
12 yearly income from deer hunters. By the mid-1990's  
13 as deer populations plummeted following a series of  
14 hard winters combined with a loss of deer yards, deer  
15 hunting stopped -- deer hunters stopped coming to the  
16 lodge. To survive economically, the couple had to  
17 reinvent themselves by transitioning from a hunting  
18 lodge to a cross-country skiing, moose watching and  
19 bird watching lodge. Cobb's Camps on Pierce Pond,  
20 one of Maine's most renown sporting lodges located  
21 across the river from The Forks is no longer open in  
22 November due to the lack of deer following  
23 significant loss of deer yards.

24           CMP's transmission line would further  
25 contribute to the economic decline of rural Mainers

1 dependent on nature-based businesses. CMP's impacts  
2 to the deer yard near The Forks called the Upper  
3 Kennebec deer wintering yard would be especially  
4 significant because it would occur in a region of  
5 Maine already suffering from low deer densities due  
6 to difficult winters and the dearth of deer yard. In  
7 fact, this deer yard is the only remaining  
8 substantial deer yard in the entire length of CMP's  
9 proposed new stretch of corridor. That makes it  
10 incredibly important to the remaining guides and  
11 sporting camps that count on these deer as an  
12 economic resource. The lack of deer yards has forced  
13 residents of The Forks to operate emergency feeding  
14 stations to help the deer survive during the winter.

15 A recent University of Maine study found  
16 that forest fragmentation in deer yards breaks up  
17 habitat connectivity to the surrounding landscape and  
18 the loss of mature conifer forest is a major limiting  
19 factor on the efforts to increase deer numbers in  
20 western, northern and eastern Maine.

21 According to CMP's Compensation Plan, 39.2  
22 acres of tree clearing would occur in the Upper  
23 Kennebec deer wintering area. In June 2017, a letter  
24 from IF&W to Lauren Johnston of Burns and McDonnell  
25 IF&W wrote, and I quote, any clearing within the

1 project area corridor would severely limit deer's  
2 ability to get across the right of way to the other  
3 side of the deer wintering area and could be a  
4 complete barrier during significant snow. CMP's  
5 transmission line proposal does not avoid or minimize  
6 impacts of the Kennebec River deer wintering area.  
7 The transmission line would fragment the forest  
8 running right through the deer yard instead of  
9 avoiding it and will act as a deep snow barrier for  
10 deer accessing the entire soft wood cover. It would  
11 also create a wind tunnel that would result in  
12 blowdowns further degrading the deer yard. The  
13 company proposes to mitigate impacts to the Kennebec  
14 River deer wintering area by preserving the remainder  
15 of the deer yard and implementing eight deer travel  
16 corridors in the proposed right of way. However,  
17 these corridor -- these travel corridors will not  
18 have older stands of softwood trees because CMP will  
19 cut all of the trees that encroach on the overhead  
20 line stating that its management of tree height will  
21 vary based on the height of the power line. There is  
22 no guarantee that these travel corridors will  
23 function as replacements for the deer yards that  
24 would be destroyed or allow deer sufficient movement  
25 to the intact deer yard.

1           In all 11 deer yards where CMP plans to  
2 clear trees they are proposing to revegetate  
3 disturbed soils with a wildlife seed mix. CMP failed  
4 to recognize that its wildlife seed mix will be  
5 buried in open areas beneath 3 to 4 feet of snow  
6 during Maine's long winters and thus provide no  
7 benefit to deer. In the summer when CMP's seed mix  
8 will be available to deer natural food is not a  
9 limiting factor. CMP downplays the deer yard impacts  
10 in sections of its proposed corridor that it widens  
11 claiming that, quote, corridor construction will only  
12 widen the existing non-forested transmission line  
13 corridors and conclude by saying that, quote, it will  
14 not significantly affect habitat functional  
15 attributes of the deer intersected by the project and  
16 that after construction deer yards, quote, will  
17 function similarly to the way they currently do.  
18 This claim is simply preposterous.

19           We know from the University of Maine  
20 research and my own deer yard work that loss of deer  
21 yard and loss of connectivity between deer yards and  
22 surrounding habitat are detrimental to deer survival.  
23 Wide non-forested strips in deer yards are barriers  
24 to deer and the additional width of 75 feet would  
25 make them an even greater barrier. Deer can't walk

1 or bound through deep snows without burning precious  
2 fat reserves needed to survive until snow depths  
3 decrease in April.

4           In summary, as IF&W's regional wildlife  
5 biologist in Greenville from 1988 to 1989 -- 1990,  
6 excuse me, I'm well aquatinted with the habitat  
7 requirements of deer in CMP's proposed transmission  
8 line corridor. The greatest threat to deer in  
9 western Maine continues to be the fragmentation and  
10 cumulative loss of deer yards from timber harvesting  
11 and utility rights of way. Unlike timber harvesting,  
12 the fragmentation and the loss of deer yard habitat  
13 from the utility line corridors is essentially  
14 permanent. This project, if approved, would be  
15 significant and a permanent additional burden to the  
16 struggling deer population in Western Maine. It  
17 could cause negative impacts to deer wintering areas.  
18 Without strong proof of substantial offsetting  
19 environmental benefit such as significant reduction  
20 in greenhouse gases, I do not believe this project  
21 meets the standard of no unreasonable adverse impacts  
22 to fisheries and wildlife in the State Site Law and  
23 rules.

24           MS. MILLER: Thank you.

25           TODD TOWLE: Good morning. My name is Todd

1 Towle, King Fish and River Guides. I have worked and  
2 recreated in the region proposed --

3 MS. MILLER: Can you -- can you pull the mic  
4 a little closer to you?

5 TODD TOWLE: Closer?

6 MS. MILLER: Yeah, thank you.

7 TODD TOWLE: I have worked and recreated in  
8 the region proposed by this project for over 20  
9 years. The region crosses the new corridor from  
10 Beattie Pond to the Kennebec River is a special and  
11 remote place for both my clients and myself. The  
12 scenic value combined with a diverse recreational  
13 fishery for wild brook trout in a remote setting is  
14 very important to my business. My clients seek out a  
15 much different experience that isn't available in  
16 some of Maine's destination fishery areas.

17 My fishing and guiding depends on cold water  
18 and good habitat. Without them, my -- the brook  
19 trout in my business will suffer. I know wild brook  
20 trout populations are already stretched, they seek  
21 cold water refuge for most of the summer. Spawning  
22 areas are very limited in some areas. Warm and dry  
23 summers mean a high death mortality and reduced  
24 populations. I see this in my season to season  
25 fishing and guiding. Intact canopy and cover and

1 clean cold water provide the best protection  
2 available against this. The project will remove that  
3 from places that I know to be important such as Horse  
4 Brook is a prime example. During lengthy and extreme  
5 droughts brook trout use that habitat for survival.  
6 Compromising these habitats degrades the fish, the  
7 experience and future generations of Mainers and  
8 visitors like of this country's best stronghold for  
9 wild native brook trout. Thank you.

10 MS. MILLER: Thank you. So we'll start with  
11 the cross-examination of the Group 4 panel and we'll  
12 start with the Applicant.

13 MR. MANAHAN: Good morning. My name is Matt  
14 Manahan. I'm representing Central Maine Power. Why  
15 don't we start with Mr. Reardon. First, Mr. Reardon,  
16 I heard you just mention you referenced the Peterson  
17 study and I think that if I heard you correctly you  
18 said that it shows statistical differences and I'm  
19 wondering did he conclude that those statistical  
20 differences were significant?

21 JEFF REARDON: Which ones? And to be clear,  
22 I was referencing Table 2 on Page 583 of the Peterson  
23 study, which was attached to my rebuttal testimony.  
24 Some of them were significant and some weren't and  
25 they were significant at different levels of

1 significance.

2 MR. MANAHAN: Okay. So it's your testimony  
3 that there were some that in your view were  
4 significant?

5 JEFF REARDON: There were some that he  
6 determined based on a P value of less than .05 were  
7 significant, 8 of the 12 as having habitat  
8 parameters.

9 MR. MANAHAN: Got it. Okay. On Page 7 of  
10 your direct testimony you wrote that you are  
11 concerned that the NECEC corridor will become a  
12 pathway for motorized vehicles including ATVs. Do  
13 you want to find that? It's on Page 7. And this  
14 increased motorized use around Beattie Pond will  
15 substantially increase the risk that invasive fish  
16 species become established in Beattie Pond, a  
17 designated state heritage fish water for brook trout.  
18 Are you aware that CMP corridor in Lowelltown  
19 Township is subject to existing access restrictions  
20 and a gate agreement limiting vehicular access near  
21 Beattie Pond?

22 JEFF REARDON: I -- I have seen that in the  
23 rebuttal testimony to my direct testimony, yes. May  
24 I elaborate a little bit?

25 MR. MANAHAN: Yes, or course.



1           JEFF REARDON: I am deeply familiar in the  
2 north Maine woods with the gates around remote ponds  
3 and with how frequently they are breached. I  
4 frequently fish several ponds that have gates that  
5 are the required half mile that routinely are  
6 established in the spring and are moved by mid-May to  
7 early June by somebody who goes with a truck and a  
8 come-along and either breaks the gate or moves the  
9 boulders that are blocking them. There's those --  
10 those gates, and I don't know the particular gate on  
11 Beattie Pond either today or in the future, but I do  
12 not see those gates as an effective barrier,  
13 particularly as we heard in testimony from some folks  
14 earlier in the week this becomes a motorized  
15 corridor, ATVs are traveling the corridor, find that  
16 gate a half a mile away, it is very easy to get  
17 around the gate with an ATV.

18           MR. MANAHAN: Have you reviewed Exhibit CMP  
19 7.1-A?

20           JEFF REARDON: No, but do you have a copy I  
21 could review?

22           MR. MANAHAN: No, I don't. It's the gate  
23 agreement that we just talked about.

24           JEFF REARDON: Okay.

25           MR. MANAHAN: Have you reviewed the gate

1 agreement?

2 JEFF REARDON: I have not.

3 MR. MANAHAN: Okay. So you don't know what  
4 it says about the obligation to ensure that the gate  
5 does limit vehicular access to Beattie Pond?

6 JEFF REARDON: I don't. I'm testifying  
7 about my experience with physical gates with in the  
8 north Maine woods.

9 MR. MANAHAN: You say on Page 6 of your  
10 direct testimony that CMP has failed to adequately  
11 mitigate the impacts of the NECEC project on brook  
12 trout habitat?

13 JEFF REARDON: I do.

14 MR. MANAHAN: Yup. Are you aware that CMP  
15 addressed the recommendations of IF&W by  
16 incorporating additional minimization and  
17 compensation recommendations for brook trout habitat  
18 and cold water fisheries generally into the project  
19 application materials, vegetation management plans  
20 and the comprehension plan?

21 JEFF REARDON: I am aware that you had that  
22 consultation with IF&W. I addressed at some length  
23 in both my -- my initial testimony, my pre-filed  
24 testimony and my rebuttal testimony that my  
25 professional opinion is those measures are inadequate

1 and in particular with respect to the mitigation  
2 parcels that are not in-kind. You're essentially  
3 replacing wild brook trout habitat with stock brook  
4 trout habitat. Those values on the Dead River --  
5 those parcels on the Dead River have many values,  
6 but -- but high value habitat for brook trout  
7 production is not one of them.

8 MR. MANAHAN: Are you aware that CMP is  
9 proposing to avoid all in-stream work proposing only  
10 temporary crossings that completely span the  
11 resources for the purpose of constructing the  
12 transmission line?

13 JEFF REARDON: I do. The impact I'm  
14 referring to are the lack of riparian buffers in all  
15 of your stream crossings. That's not -- I did not  
16 allege that you were putting structures in the middle  
17 of a stream. I'm pretty sure you wouldn't have done  
18 so.

19 MR. MANAHAN: Okay. Well, are you aware  
20 that CMP has expanded the riparian buffers to 100  
21 feet for cold water fisheries habitat?

22 JEFF REARDON: Yes. And as I've testified  
23 in both my pre-filed and rebuttal testimony, I  
24 honestly do not believe the width of the buffer is  
25 particularly important if the buffer does not include

1 the closed canopy trees that provide the buffer  
2 functions that will be missing both immediately after  
3 construction and permanently for the life of the  
4 corridor.

5 MR. MANAHAN: Okay. Let's talk about the  
6 comprehension plan for just a minute. You're aware  
7 that it includes habitat enhancement measures  
8 including a culvert replacement program, preservation  
9 of lands that contain cold water fishery habitat and  
10 monetary compensation to the Maine Endangered and  
11 Nongame Wildlife Fund to be used at the discretion of  
12 IF&W for cold water fisheries habitat protection.  
13 Are you aware of that?

14 JEFF REARDON: I am. Let me take those one  
15 at a time, if I may.

16 MR. MANAHAN: Please.

17 JEFF REARDON: With respect to the  
18 compensation parcels and I've addressed this pretty  
19 extensively and I did earlier today, but in those  
20 compensation parcels the vast majority of the stream  
21 miles that are protected are either on the Dead River  
22 or immediately adjacent to the Dead River and they  
23 are different in habitat, type, kind and quality from  
24 the impacted resources. I do not believe there is  
25 very much value there. In particular, the mainstem

1 Dead River gets extremely warm because it's coming  
2 out of warm, shallow, large Flagstaff Lake and is  
3 heavily impacted by an illegal introduction of small  
4 mouth bass about 40 years ago. It is not a place one  
5 goes to look for brook trout in mid-summer. It's a  
6 pretty good place to go bass fishing in mid-summer  
7 when the brook trout have fled to the upstream  
8 tributaries that will be crossed by the corridor.

9           With respect to the two funds that are  
10 created, and please correct me if I'm wrong,  
11 Mr. Manahan, there is a \$200,000 fund for work on  
12 culverts?

13           MR. MANAHAN: Right.

14           JEFF REARDON: My experience, I've done  
15 multiple culvert projects. I have not done many of  
16 them in this county. One of them might have been in  
17 midcoast Maine, but a typical culvert project on  
18 paved road is going to cost \$100,000 or more, so  
19 you're talking about the ability to conduct one, two  
20 or maybe if you pick your project right three or four  
21 culvert replacement projects. In my experience, that  
22 will not regain you access to 12 miles of high  
23 quality streams. And even if so, it's not addressing  
24 the direct impacts on the streams that may now be  
25 better accessible. On -- the costs may be somewhat

1 lower if what you're addressing are impacts on forest  
2 roads, but still 25 to \$50,000 per project is what is  
3 typically in the range for say a waste block bridge  
4 or similar appropriate crossing structure for those  
5 sites and so maybe you're doing six or eight of them,  
6 but this is not going to result in a significant  
7 amount of mitigation.

8           The other funds for \$180,000, I don't know  
9 to what use it might be put. I know there was some  
10 early talk about large, woody debris additions, which  
11 may or may not, but they no longer -- may or may not  
12 have addressed the issues depending on where they  
13 went. That's no longer part of your proposal. I  
14 have no idea what those \$180,000 will be spent on, so  
15 I can't speak to what they would do, but, again, in  
16 my experience with large, wood habitat restoration  
17 projects on streams like Cold Stream, which will be  
18 affected by this, where we worked with licensee then  
19 NextEra, now -- well, then FPL maybe NextEra and now  
20 Brookfield on a large habitat restoration project,  
21 the cost of that single project was over \$200,000,  
22 that was one project that addressed about a quarter  
23 mile of the stream.

24           MR. MANAHAN: Thank you. I'm going to hand  
25 you what's been marked already as Exhibit CMP 4.1-A

1 and I am going to ask you to just read a couple  
2 sections from it. If anybody -- if folks need this  
3 it's in the record.

4 MS. BENSINGER: Mr. Manahan, is this an  
5 Applicant's exhibit or is it from Mr. Reardon's  
6 exhibits?

7 MR. MANAHAN: Applicant's exhibits.

8 MS. MILLER: It's a rebuttal exhibit too  
9 just for clarification.

10 MR. MANAHAN: Correct. Mr. Reardon, I'm  
11 sure you had a chance to take a brief look at this.  
12 This is an email exchange from IF&W -- between IF&W  
13 and CMP from March. It's attached to Ms. Johnston's  
14 rebuttal testimony marked as Exhibit 4.1-A. If I  
15 could ask you to turn to Page 2 of this exhibit and  
16 if you could just turn to the bottom of Page 2 and  
17 ask you to read the two sentences in the last full  
18 paragraph on Page 2 starting with the December 7  
19 comprehension plan. If you look at the last full  
20 paragraph under Dear Gerry starting with IF&W and  
21 then goes to the sentence that starts with the  
22 December 7 comprehension plan, could I ask you to  
23 read --

24 JEFF REARDON: That's actually the third to  
25 the last sentence, but that's okay. The December 7

1 Comprehension plan and supporting documents appear to  
2 provide closure on most of the issues under review by  
3 MDIFW. We have appreciated your willingness to work  
4 with us to resolve closure on most of the issues  
5 under review by MDIFW. Sorry. We have appreciated  
6 your willingness to work with us to resolve them.

7 MR. MANAHAN: Okay.

8 JEFF REARDON: The items below are the  
9 remaining issues currently under review by Department  
10 staff and we look forward to closure of these as soon  
11 as practical.

12 MR. MANAHAN: Thank you. And could I then  
13 ask you to go to the top of that page, the second  
14 full paragraph starting with to ensure. This is from  
15 an email from Gerry Mirabile in return to Robert  
16 Stratton of IF&W. Could I just ask you to read that  
17 paragraph?

18 JEFF REARDON: To ensure that we're all on  
19 the same page, CMP requests that MDIFW confirm the  
20 attached clarification materials address all of  
21 MDIFW's remaining concerns and that MDIFW is  
22 satisfied with the latest January 30, 2019 NECEC  
23 project comprehension plan as supplemented by these  
24 attached clarifications, provides satisfactory  
25 mitigation for the NECEC project impacts. Thank you



1 for your continued assistance.

2 MR. MANAHAN: And then the last one I'm  
3 going to ask you to read is the first two  
4 sentences -- three sentences on the first page  
5 starting right after Gerry and starting with thanks  
6 for.

7 JEFF REARDON: Gerry, thanks for the March  
8 11 email as follow-up to address the Department's --  
9 the Department remaining resource impact concerns for  
10 the NECEC project. Sorry, how much farther do you  
11 want me to read?

12 MR. MANAHAN: Just keep going. The next two  
13 sentences.

14 JEFF REARDON: We appreciate your  
15 willingness to work with us to finalize the complex  
16 fish and wildlife resource issues. We have read your  
17 response and accept the explanations provided in the  
18 March 11 email as sufficient to allow DEP to apply  
19 applicable natural resource law to the permitting  
20 process.

21 MS. TOURANGEAU: Excuse me, is there a  
22 question or are we just having him read CMP's  
23 testimony into the record?

24 MR. MANAHAN: Thank you, Mr. Reardon. So my  
25 question for you is do you think that IF&W is wrong

1 in making these conclusions?

2           JEFF REARDON: To be honest, I actually  
3 reviewed this at length when it was submitted to the  
4 record after I actually filed my rebuttal testimony  
5 because it came quite late and when I first reviewed  
6 this exchange of emails the -- the key phrase here I  
7 believe was one of the ones that you asked me to  
8 read, and just a second, let me find it. There was a  
9 reference to attachments, I believe, in Bob  
10 Stratton's December 21 email -- no, I'm looking at  
11 Gerry Mirabile's email. Yes. To ensure that we're  
12 all on the same page, CMP requests that MDIFW confirm  
13 that the attached clarification materials address all  
14 of MDIFW's remaining concerns and that MDIWF is  
15 satisfied that the latest January 30 NECEC  
16 comprehension plan as supplemented by these attached  
17 clarifications, that's the important phrase, provides  
18 satisfactory mitigation of NECEC's project impacts.  
19 I do not see here those attachments, so I can't speak  
20 to what -- whether I would agree with them or not as  
21 addressing the concerns I have. I don't believe they  
22 do, but I don't have them in front of me. And as I  
23 recall, they weren't -- those attachments were not  
24 part of the package that you filed, although I don't  
25 know if this is it the complete version as filed.

1 MR. MANAHAN: I'll just represent to you  
2 that it's not. That is the first four pages of  
3 Exhibit 4.1-A. So your testimony is you have not  
4 reviewed the other materials in Exhibit 4.11-A which  
5 are those attached clarifications?

6 JEFF REARDON: I do not recall.

7 MR. MANAHAN: Okay.

8 MS. BENSINGER: I'm sorry, can I just --

9 JEFF REARDON: If -- if you have them, I'd  
10 be happy to speak to them here.

11 MR. MANAHAN: They're -- they're in Exhibit  
12 4.1-A.

13 MS. BENSINGER: Okay. In CMP's rebuttal?

14 JEFF REARDON: Can you display those?

15 MR. MANAHAN: Yes. Yes, in -- it's  
16 Ms. Johnston's rebuttal testimony in 4.1-A.

17 MS. BENSINGER: Okay.

18 JEFF REARDON: Ms. Johnston's rebuttal  
19 testimony?

20 MR. MANAHAN: Ms. Johnston's, yes. I'm not  
21 asking you to review them right now, Mr. Reardon. I  
22 asked you if you had reviewed them and your  
23 testimony was you had not.

24 JEFF REARDON: I -- I did review Ms.  
25 Johnston's rebuttal testimony, yes.

1 MR. MANAHAN: Okay.

2 JEFF REARDON: I'm sorry, I didn't remember  
3 that that reference was to the materials part. Would  
4 you like me to address those?

5 MR. MANAHAN: Well, my question to you is  
6 simply if you have reviewed Exhibit 4.1-A --

7 MS. ELY: Is it just the compensation  
8 report? There is a lot of exhibits and so just  
9 asking him if he's -- he's reviewed a numbered  
10 exhibit is a little difficult, so I have --

11 MR. MANAHAN: Well, I've said several times  
12 that it's Ms. Johnston's rebuttal testimony.

13 MS. ELY: I'm --

14 MS. MILLER: I'm going to interrupt right  
15 now. It is difficult to keep up with all of the  
16 exhibits, so if we could just be a little patient  
17 with one another and trying to identify what's what  
18 as we go through this I'd appreciate it. Thank you.

19 MS. ELY: Jeff, I have it here.

20 JEFF REARDON: If I may, I -- I just dug  
21 through the pile and I have Ms. Johnston's rebuttal  
22 testimony. If you refer me to the page numbers in  
23 question, I am sure I can find it quickly.

24 MR. MANAHAN: My question for you is whether  
25 you disagree with IF&W's conclusion that based

1 upon -- that those materials that you have in front  
2 of you that the -- that you believe IF&W was  
3 incorrect in concluding that CMP has adequately  
4 addressed IF&W's concerns with the comprehension plan  
5 and the cold water fishery impacts in particular.

6           JEFF REARDON: I do unless there are  
7 additional mitigation measures other than the ones  
8 you and I have already exchanged about, but I believe  
9 those mitigation measures are three. Number 1,  
10 12.023 miles largely on the Dead River, a little bit  
11 on the lower branch of Enchanted Stream and a variety  
12 of unnamed and in some cases unmapped streams that  
13 are tributaries to the Dead River on the compensation  
14 parcels. Number 2, the \$200,000 for culverts and,  
15 number 3, the \$180,000 into the Maine Nongame Fund.  
16 Those in combination, I believe, are inadequate to  
17 address the impacts of the lack of buffers, buffers  
18 on 11.02 miles of high quality cold water streams  
19 that are highly productive of brook trout and I've  
20 testified to that in my direct testimony, my rebuttal  
21 testimony today and in response to several questions  
22 from you this afternoon and this morning.

23           MR. MANAHAN: So it is also your testimony,  
24 Mr. Reardon, that you believe that IF&W does not have  
25 sufficient expertise or willingness to properly

1 manage fisheries and wildlife in Maine?

2           JEFF REARDON: You're -- you're putting  
3 words in my mouth. I said I disagree with their  
4 assessment.

5           MR. MANAHAN: Okay. Why don't we turn to  
6 Mr. Towle.

7           TODD TOWLE: Towle.

8           MR. MANAHAN: Towle, excuse me, Mr. Towle.

9           TODD TOWLE: That's okay.

10          MR. MANAHAN: On Page 5 to 6 of your direct  
11 testimony you express concern regarding adverse  
12 impacts to Gold Brook. Are you aware that CMP has  
13 proposed taller structures at Gold Brook after  
14 consulting with IF&W to allow full height vegetation  
15 within the 250 foot riparian buffer management zone  
16 to protect Roaring Brook Mayfly and spring  
17 salamanders?

18          TODD TOWLE: I am -- I am aware of it now.

19          MR. MANAHAN: Okay. Are you aware that this  
20 will allow the species to utilize intact streamside  
21 vegetation for feeding and cover during the various  
22 life stages?

23          TODD TOWLE: I am now.

24          MR. MANAHAN: Okay. Are you aware that this  
25 proposal will also protect brook trout and other cold

1 water fishery species by avoiding and minimizing  
2 secondary impacts and tree clearing within the  
3 riparian buffer?

4 TODD TOWLE: I would say yes, but I am in  
5 disagreement with it.

6 MR. MANAHAN: Okay. Why don't we move to  
7 Mr. Joseph. Mr. Joseph, good morning.

8 RON JOSEPH: Good morning.

9 MR. MANAHAN: I think I heard you testify  
10 this morning that deer will -- are willing to or will  
11 go around clearcuts; is that correct? Did you  
12 testify to that this morning?

13 RON JOSEPH: Um...

14 MR. MANAHAN: I thought that's what I heard  
15 you say.

16 RON JOSEPH: Well, I don't remember saying  
17 that, but.

18 MR. MANAHAN: Well, do you think it's true,  
19 will deer generally go around clearcuts?

20 RON JOSEPH: Well, they will in the  
21 summertime, yup.

22 MR. MANAHAN: Okay. Won't they also go  
23 around the deer -- or go through or use the deer  
24 travel corridor that IF&W asked for and that CMP has  
25 provided, the 10 new deer yards in the Upper Kennebec

1 deer wintering area -- deer travel corridors in the  
2 Upper Kennebec deer wintering area?

3           RON JOSEPH: I consider those experimental  
4 and as such you heard my colleague, David Publicover,  
5 talk about once that transmission corridor has been  
6 constructed and you've got 150 foot wide swath in the  
7 Upper Kennebec River deer yard there is no guarantee  
8 that those trees are going to stay standing. There  
9 will be -- there will be blowdowns, so. And while  
10 we're on that subject, I think that I agree with what  
11 my colleague here said that CMP has looked at and  
12 claimed that there is going to be 39 acres, 39.2  
13 acres of trees cleared in the Upper Kennebec River  
14 deer yard, however, it doesn't make any mention about  
15 the incidental losses of blowdown on the hard edges  
16 of that corridor, so I have questions about whether  
17 those crossings that IF&W has agreed to that will  
18 provide deer with access to it whether -- whether it  
19 will even remain standing.

20           MR. MANAHAN: Okay. On Page 1 of your  
21 rebuttal testimony you say that the transmission line  
22 will act as a conduit and the spread of invasive  
23 non-native plants. Does the practice of forestry  
24 operations contribute to the spread of invasive  
25 species?



1           RON JOSEPH: It does.

2           MR. MANAHAN: And do recreational vehicles  
3 that are already used in the western Maine mountains  
4 contribute to the spread of invasive species?

5           RON JOSEPH: Yes, but this is an additional  
6 impact. This is an additional additive to that.

7           MR. MANAHAN: Okay. Are you aware that the  
8 project will be required to follow specific timber  
9 map requirements to reduce the potential for the  
10 spread of invasive species?

11          RON JOSEPH: No, I am not.

12          MR. MANAHAN: Well, do similar requirements  
13 apply to forestry operations?

14          RON JOSEPH: What do you mean?

15          MR. MANAHAN: Do -- do forestry  
16 operations -- forestry operations required to follow  
17 specific timber map requirements to reduce the  
18 potential spread of invasive species?

19          RON JOSEPH: I am not aware of that.

20          MR. MANAHAN: You're not. Okay. Do those  
21 similar requirements apply to recreational vehicles  
22 used in this area?

23          RON JOSEPH: I'm not sure.

24          MR. MANAHAN: Okay. On Page 2 of your  
25 rebuttal testimony you say the project will also

1 fragment the most important remaining DWA in The  
2 Forks region and that CMP's proposed deer corridor  
3 mitigation will not prevent this, but wouldn't the  
4 proposed NECEC corridor which utilizes a scrub/shrub  
5 vegetation and no regular vehicular traffic cause  
6 significantly less habitat fragmentation in the  
7 existing roadways?

8           RON JOSEPH: Well, we're talking -- we're  
9 talking about running a transmission corridor through  
10 a deer yard in The Forks that's one of the last  
11 remaining deer yards in that part of the state and my  
12 argument is that will act as a barrier to deer  
13 movement across there in deep snows.

14           MR. MANAHAN: Okay. Does commercial  
15 forestry result in habitat fragmentation?

16           RON JOSEPH: What do you mean, with respect  
17 to deer yards?

18           MR. MANAHAN: Yes.

19           RON JOSEPH: Okay. Well, this is how I  
20 would answer that, there is -- for the zoned deer  
21 yards that I have worked on throughout my career  
22 there has been forest activities permitted within  
23 those deer yards and that creates early successional  
24 forest, but unlike the -- but unlike the transmission  
25 line those forests can mature over a period of time.

1 The CMP's proposal to construct corridors, those are  
2 going to remain essentially shrub/scrub habitat  
3 indefinitely or for the length of the project, so I  
4 don't see how that can be compared.

5 MR. MANAHAN: So -- so how long does it take  
6 for those forestry operations for the trees to regrow  
7 to the maturity that you're hoping for?

8 RON JOSEPH: Well, it depends on the soils  
9 and the forest cover type, but generally speaking,  
10 forest harvest cycles are 50 years, 40 to 50 years.

11 MR. MANAHAN: So longer than the life -- at  
12 least several generations of the deer that you're  
13 worried about?

14 RON JOSEPH: Come again?

15 MR. MANAHAN: So the time that would be  
16 required will be longer by several generations than  
17 of the life of the deer that you're concerned about?

18 RON JOSEPH: I -- I am not following your  
19 question, I'm sorry.

20 MR. MANAHAN: Okay. Well, how about this,  
21 is there any commercial forestry operation in the  
22 vicinity of the Segment 1, which is the new corridor  
23 portion of the NECEC project?

24 RON JOSEPH: Is there any forestry? Of  
25 course there is.

1 MR. MANAHAN: Okay. And do you know how  
2 many acres of commercial forests are harvested each  
3 year in the western Maine mountains region?

4 RON JOSEPH: No, I don't. But I do -- but I  
5 do know this, since we're on the topic of deer  
6 wintering areas, I do know that much of those deer  
7 yards along the corridor not related to your project  
8 but they've been essentially eliminated.

9 MR. MANAHAN: Okay. Do you know how many  
10 miles of edge effect are caused by those commercial  
11 forestry operations?

12 RON JOSEPH: I don't.

13 MR. MANAHAN: Is the Upper Kennebec deer  
14 wintering area currently subject to a conservation  
15 easement?

16 RON JOSEPH: Yes.

17 MR. MANAHAN: For the entirety of the deer  
18 wintering area?

19 RON JOSEPH: Well, this is what you're  
20 proposing, right, is to put it in a conservation?

21 MR. MANAHAN: Yes, we are proposing to put  
22 some of it --

23 RON JOSEPH: Right.

24 MR. MANAHAN: -- into a conservation  
25 easement. So would you consider that conservation

1 easement that we're proposing to be an improvement of  
2 the protection of the deer wintering --

3           RON JOSEPH: Well, I don't -- I don't think  
4 what CMP is proposing is adequate compensation for  
5 the damages that are going to be caused by extending  
6 a corridor through the Upper Kennebec deer yard. As  
7 my -- my -- my -- one of the purposes of my  
8 testifying here today is I don't think CMP has done  
9 an adequate job of demonstrating an alternative that  
10 would avoid the deer yard all together.

11           MR. MANAHAN: So what I'm getting at is  
12 whether the -- without a conservation easement in  
13 that area now that that area could currently be  
14 clearcut to adversely affect the deer wintering area?

15           RON JOSEPH: Well, it would be subject to  
16 the Forest Practices Act.

17           MR. MANAHAN: Are you aware of how much  
18 acreage CMP is proposing to protect by conservations  
19 in that area?

20           RON JOSEPH: Yeah, 717 acres. Am I correct?

21           MR. MANAHAN: Yes, you are. Are you aware  
22 that IF&W had significant input into development of  
23 the deer travel corridors in the comprehension plan  
24 for impacts in the Upper Kennebec DWA?

25           RON JOSEPH: Yes, I do.

1 MR. MANAHAN: And that DW- -- and the IF&W  
2 determined that the 10 proposed travel corridors  
3 along with the preservation of the 717 acres you just  
4 referred are adequate to avoid undue adverse impacts  
5 and to offset unavoidable impacts to the deer  
6 wintering area?

7 RON JOSEPH: Yes, I am, but here is the  
8 issue. This is an indeterminate deer yard meaning  
9 that is protected by regulations, so IF&W is sort of  
10 hamstrung on what it can ask for for mitigation. If  
11 it had been a regulatory deer yard or a significant  
12 wildlife habitat or PFW, IF&W in my estimation would  
13 not have gone along with this, but there is very  
14 little leverage.

15 MR. MANAHAN: Let's turn to Mr. Publicover  
16 or Dr. Publicover, excuse me.

17 DAVID PUBLICOVER: Excuse me, Publicover.

18 MR. MANAHAN: Publicover. Thank you. Dr.  
19 Publicover on Page 4 of your rebuttal testimony you  
20 say the project's riparian buffers may allow for  
21 movement of many species across the corridor. They  
22 are insufficient to provide habitat to species to  
23 avoid areas without forest cover or adequate height  
24 and density. Are you aware that Group 1 witness  
25 Janet McMahon has testified that the western Maine

1 mountain region encompasses 5 million acres?

2 DAVID PUBLICOVER: Yes.

3 MR. MANAHAN: And how many acres of  
4 Segment -- will Segment 1 of the NECEC occupy?

5 DAVID PUBLICOVER: I believe about a  
6 thousand acres.

7 MR. MANAHAN: And are you aware that that's  
8 maybe 2/10,000 of the habitat of the western Maine  
9 mountain region?

10 DAVID PUBLICOVER: Yes, but any impact can  
11 be made insignificant if you look at it on a large  
12 enough scale. You can look at an interstate highway  
13 that scales the State of Maine it's probably a  
14 similar percentage but nobody would claim it's an  
15 insignificant impact.

16 MR. MANAHAN: Okay. Then would you agree  
17 that there are hundreds of miles of roads in the  
18 western Maine mountains area?

19 DAVID PUBLICOVER: Yes.

20 MR. MANAHAN: Thousands?

21 DAVID PUBLICOVER: I don't know what the  
22 number is. Most of those roads are relatively narrow  
23 logging road corridors. There are a few major  
24 logging roads that are somewhat wider, but not nearly  
25 as wide as the transmission line corridor and there

1 is a couple of state highways.

2 MR. MANAHAN: Well, so let's talk about one  
3 of the bigger roads, Spencer Road, which is sort of  
4 an east/west significant road. Well, let me ask you,  
5 do you consider the Spencer Road to be a significant  
6 road and does it contribute to habitat fragmentation?

7 DAVID PUBLICOVER: It does, but even the  
8 road -- the Spencer Road is a narrower corridor than  
9 the transmission line that results in a narrower  
10 break in forest canopy and it's probably the major  
11 road in the Moose River Valley.

12 MR. MANAHAN: How much -- how much  
13 vegetation will be on -- will there be more  
14 vegetation on the Spencer Road than in the corridor?

15 DAVID PUBLICOVER: No. So for species that  
16 are able to cross scrub/shrub habitats, the Spencer  
17 Road may be a bigger barrier than the corridor, but  
18 for species that don't like crossing non-forested  
19 openings then the corridor will be a bigger barrier.

20 MR. MANAHAN: Well, let me ask you this, how  
21 does the amount of vehicle traffic on area roads that  
22 we just talked about compare to traffic in the  
23 proposed corridor?

24 DAVID PUBLICOVER: Well, I don't believe  
25 there will be very much traffic at all in the



1 proposed corridor, but compared to, you know, public  
2 roads, I think the traffic on Spencer Road is  
3 probably fairly minimal. I'm not aware that road  
4 mortality on logging roads is a major concern of, you  
5 know, major fragmented concern. That's usually  
6 associated with public roads that have higher  
7 traffic.

8 MR. MANAHAN: Is there any commercial  
9 forestry operations in the vicinity of Segment 1 of  
10 the NECEC?

11 DAVID PUBLICOVER: Of course there is.

12 MR. MANAHAN: And I asked this question  
13 earlier of Mr. Joseph, but do you know how many acres  
14 of commercial forests are harvested each year in the  
15 western Maine mountain region?

16 DAVID PUBLICOVER: No.

17 MR. MANAHAN: Do you know how many miles of  
18 edge effect are caused by those forestry operations?

19 DAVID PUBLICOVER: No. I know that most of  
20 the harvesting is partial harvesting that retains  
21 canopy, so those edges are fairly indistinct and  
22 probably wouldn't even be considered, you know, true  
23 edges. The amount of harvesting that's conducted by  
24 clearcutting, again, is as I testified in my  
25 testimony and as Mr. Goodwin testified in response

1 under cross-examination only about 6 to 7 percent of  
2 the harvested acres are clearcuts with a similar type  
3 of edge and that edge, again, is temporary.

4 MR. MANAHAN: You -- you heard Mr. Reardon  
5 read the portions of the email exchange between IF&W  
6 and CMP from this last March this morning, did you?

7 DAVID PUBLICOVER: I did.

8 MR. MANAHAN: And do you think IF&W has  
9 expertise in management of wildlife in Maine?

10 DAVID PUBLICOVER: Yes.

11 MR. MANAHAN: In the habitat fragmentation?

12 DAVID PUBLICOVER: They don't appear to have  
13 addressed that issue. I think they dropped the ball  
14 on that one.

15 MR. MANAHAN: Okay. On Page 8 of your  
16 rebuttal testimony you say in developed landscapes  
17 transmission line corridors can provide habitat  
18 benefits and then you say, and I'm quoting, that  
19 those benefits are not applicable to the landscape  
20 through which the new corridor would pass, which is  
21 comprised of extensive and relatively natural forest  
22 that is not being lost to development and from which  
23 species are not being excluded. Do you think any  
24 species are excluded from the thousands of acres that  
25 are subject to forest harvesting operations each

1 year?

2 DAVID PUBLICOVER: Temporarily, yes.

3 MS. ELY: I'm sorry, Mr. Manahan, can you  
4 point again to where you're talking about?

5 MR. MANAHAN: It's on Page 8 of his rebuttal  
6 testimony.

7 MS. ELY: Sorry.

8 MR. MANAHAN: Dr. Publicover, do you know  
9 how many camps are located off the Spencer Road and  
10 other woods roads off the western Maine mountain  
11 region?

12 DAVID PUBLICOVER: No, I don't.

13 MR. MANAHAN: Did AMC oppose the proposed  
14 revisions to the LUPC adjacency rules because it  
15 would lead to more development in those wrong places,  
16 if you will, those places?

17 DAVID PUBLICOVER: We opposed the proposed  
18 revisions to the adjacency rules. I was not one of  
19 the people involved in that. I'm not really sure  
20 what that has to do with this.

21 MR. MANAHAN: Well, do you deny that the  
22 certainty of no further development in the  
23 transmission corridor provides habitat benefits?

24 DAVID PUBLICOVER: The fact that somebody  
25 won't build a camp in the middle of the corridor. I

1 think if it does, it's fairly minimal. I don't think  
2 there is much chance that there would be camps  
3 constructed out in the middle of the woods there  
4 whether there was a corridor or not. People tend to  
5 construct camps on lake shores for the most part.

6 MR. MANAHAN: Right. Okay. No further  
7 questions. Thank you.

8 MS. MILLER: Thank you. I'm going to call  
9 for about a 10 minute break and then we'll resume  
10 with the cross-examination of the Witness 4 panel.  
11 Thank you. Group 4 panel.

12 (Break.)

13 MS. MILLER: Okay. I think we're ready with  
14 the sound and everything, so we'll go ahead and get  
15 started. So we're still continuing cross-examination  
16 of Group 4 witnesses and next we have on the agenda  
17 is Group 6.

18 MR. WOOD: Hi. Rob Wood representing Group  
19 6. So I had a few questions for folks on the panel  
20 starting with Mr. Reardon. So I'd like to discuss  
21 mitigation for cold water fisheries impacts. You  
22 mentioned the potential for additional mitigation  
23 measures to address cold water fisheries impacts  
24 specifically raising pole heights to allow more full  
25 forest canopy cover under the wires. From your

1 perspective would this address impacts if applied  
2 more broadly throughout Segment 1?

3 JEFF REARDON: Yes.

4 MR. WOOD: Would you have any concerns about  
5 the visual impacts of raising pole heights more  
6 extensively throughout Segment 1?

7 JEFF REARDON: Well, first of all, I am by  
8 no means a visual expert. From my perspective, which  
9 is typically streamside, the poles wouldn't be  
10 visible because they would be obscured by intact  
11 canopy. Visibility from other points may be an issue  
12 but not one in which I have any expertise.

13 MR. WOOD: Okay. Are you also familiar with  
14 the vegetative tapering approach proposed to reduce  
15 visual impacts from Coburn Mountain?

16 JEFF REARDON: I recall testimony about it  
17 earlier in the week and I read some of the segments  
18 of the application that dealt with it. Would you  
19 like me to...

20 MR. WOOD: Could you describe what that  
21 might entail based on your understanding?

22 JEFF REARDON: As I understand it, it -- it  
23 would allow for -- for some tapering from mature  
24 trees at the edge of the corridor to taller and  
25 taller vegetation tapered to reduce largely visual

1 impacts, but I believe in the case of corridors for  
2 deer that there was some discussion that they might  
3 also provide values for deer. Mr. Joseph would be a  
4 better person to talk to about that question.

5 MR. WOOD: Okay. So I'll describe briefly  
6 my understanding just so we're on the same page. So  
7 you would have 35 foot trees next --

8 MS. ELY: We're going to object to this  
9 question because it's outside of Mr. Reardon's --

10 MR. WOOD: Okay.

11 MS. ELY: -- expertise and his testimony.

12 MR. WOOD: Okay. So just one additional  
13 follow-up question, would the additional vegetation  
14 created by tapering in the manner that you describe  
15 throughout a greater portion of Segment 1 mitigate  
16 impacts to cold water fisheries?

17 JEFF REARDON: I don't believe so. And if I  
18 may elaborate, largely because if what the -- the  
19 primary two functions that we are not getting with  
20 the buffers as proposed are recruitment of large wood  
21 by definition say in the state's -- in the state  
22 standards for a large wood addition projects, chop  
23 and drop projects. Large wood is pieces of wood that  
24 are 1.5 to 2 times the wetted channel width and the  
25 wetted channel width here is the wetted channel width

1 at the annual flood, what they call the bankfull  
2 flow. So for a 20 foot wide stream, a 20 foot wide  
3 during a flood period would be needing pieces that  
4 were 40 feet wide and with a diameter of 8 inches or  
5 larger to do any good and you're not going to get  
6 that with 25 to 35 foot high vegetation.

7 MR. WOOD: Thank you. So, Mr. Joseph, you  
8 say that there is no guarantee that deer travel  
9 corridors will work and that they are experimental.  
10 What would be needed in terms of a guarantee of  
11 average tree heights and ground cover to ensure from  
12 your perspective that these deer travel corridors  
13 would be affected of fulfilling the purpose of  
14 allowing deer to cross under vegetation?

15 RON JOSEPH: What height?

16 MR. WOOD: So average -- if you were to  
17 state an average -- is there a requirement for an  
18 average tree height and average amount of ground  
19 covered under the wires, what -- what would you --

20 RON JOSEPH: This information is available  
21 on Maine Fish and Wildlife in numerous reports on  
22 best practices for deer wintering areas and a minimum  
23 of 35 feet and up. I take that from, as I said, the  
24 state's deer management plans.

25 ROB JOSEPH: Okay. Thank you. And then

1 lastly for Dr. Publicover, so you're familiar with  
2 the Spencer Road near the proposed corridor, correct?

3 DAVID PUBLICOVER: From aerial photography.  
4 I haven't traveled its length.

5 MR. WOOD: Okay. Is it fair to say that the  
6 Spencer Road is probably the largest fragmenting --  
7 linear fragmenting feature between Routes 201 and 27?

8 DAVID PUBLICOVER: I believe it probably is,  
9 yes.

10 MR. WOOD: So are you familiar with how wide  
11 the Spencer Road is specifically?

12 DAVID PUBLICOVER: Yeah, I've measured it on  
13 the high resolution Google Earth imagery. The -- I  
14 think the -- the actual travel corridor itself is 24  
15 to 28 feet wide, which is about the maximum you're  
16 going to get for a logging road except for something  
17 maybe like the Golden Road. You know, you add 8 feet  
18 on either side for ditches, so, yeah, you're probably  
19 talking a cleared area of 40 feet in areas where the  
20 forest comes up to the road, so that's probably  
21 about, you know, the maximum I'd say 40 to 50 feet  
22 would be the width of the break in the forest canopy.  
23 Obviously in some places where you have big landings  
24 or, you know, clearcuts on either side of the road it  
25 gets extended, but, yeah, I would say at -- in



1 forested conditions the break in the forest canopy is  
2 probably 40 to 50 feet wide.

3 MR. WOOD: And does the Spencer Road narrow  
4 as it approaches the Canadian boarder?

5 DAVID PUBLICOVER: Well, I think -- yeah, I  
6 think the major portion of the road is what I can --  
7 what I can tell is it gets out somewhere in the  
8 vicinity of the South Branch of the Moose River and  
9 then it sort of disperses into narrow roads.

10 MR. WOOD: Any idea how wide --

11 DAVID PUBLICOVER: The Spencer Road does not  
12 continue at that width all the way to the Canadian  
13 border as far as I can tell. Some of the -- a couple  
14 of the roads up in the St. John River Valley do river  
15 crossings at the border.

16 MR. WOOD: Okay. So would it be accurate to  
17 state that the proposed transmission corridor would  
18 be three to four times as wide as the Spencer Road at  
19 its kind of wider points near Jackman?

20 DAVID PUBLICOVER: In terms of the break in  
21 the forest canopy, yes.

22 MR. WOOD: Some folks have raised the issue  
23 of the lack of vegetation in logging roads. With  
24 perspective to vegetation and logging roads, is there  
25 any way to meet the purpose and need of a logging

1 road while retaining vegetation on the road?

2 DAVID PUBLICOVER: Not if it's something  
3 that's regularly used. I know many of the secondary  
4 roads get put to bed for 10 or 15 years in between  
5 for use of harvesting so they will revegetate to  
6 shrubby vegetation and cover stand, but something  
7 like the Spencer Road, no, you cannot have a  
8 vegetated Spencer Road.

9 MR. WOOD: And can the purpose and need of a  
10 transmission corridor be met while retaining  
11 significant vegetation in the corridor?

12 DAVID PUBLICOVER: A certain type of  
13 vegetation. Shrubby vegetation.

14 MR. WOOD: So could more vegetation be  
15 retained than the currently proposed, for example, by  
16 significantly expanding vegetative tapering in  
17 Segment 1?

18 DAVID PUBLICOVER: I don't know. I can't  
19 speak to that. You know, I don't know what their  
20 needs are or what they can -- what they can do. I  
21 know you can put vegetative tapering in the way they  
22 did in some of the other areas for something like  
23 Pine marten it would have limited effectiveness. If  
24 the sort of maximum height of the tapered vegetation  
25 is 35 feet, the marten needs at least 30 feet high

1 vegetation and a certain density, so you wouldn't get  
2 very far in from the edge of the corridor before you,  
3 you know, you might narrow the corridor by 10 feet  
4 even with tapered vegetation for something like  
5 marten.

6 MR. WOOD: And if tapering as you describe  
7 were combined with travel corridors similar to what  
8 is described in the Applicant's approach for the deer  
9 wintering area in Segment 1, would that allow for  
10 canopy sufficient for marten to potentially cross the  
11 travel corridors?

12 DAVID PUBLICOVER: You know, I -- would it  
13 make a bad situation better? Possibly. I'd have the  
14 same concerns as I would that Mr. Joseph expressed  
15 with the deer yards, you know, how wide would they  
16 be, how tall with the vegetation, you know, maybe  
17 subject to blowdown, so, you know, there is a lot of  
18 concerns, but would it be a marginal improvement?  
19 Probably.

20 MR. WOOD: Okay. And then lastly just on  
21 the -- just going back to the issue of permanence of  
22 logging roads versus transmission corridors, is it  
23 your estimation that a typical logging road would be  
24 considered impermanent and not -- so not permanent?

25 DAVID PUBLICOVER: Excuse me?

1 MR. WOOD: Would it be your opinion or  
2 estimation that a typical logging road is not  
3 permanent?

4 DAVID PUBLICOVER: I would say as long as  
5 its managed timber land it's permanent, but as we  
6 know across the region ownership changes, management  
7 changes, a lot of land has come into conservation and  
8 roads get retired. Roads can be revegetated. On our  
9 property, AMC's 75,000 acres in Maine over a third of  
10 that is ecological reserve and the logging roads are  
11 going away. So logging roads, again, can be retired  
12 if the ownership and management objectives change. I  
13 am not aware of too many transmission line corridors  
14 that have gone away.

15 MR. WOOD: Okay. Thank you. That's all.

16 MS. MILLER: Thank you. Group 7.

17 MR. SMITH: No questions. Thank you.

18 MS. MILLER: Group 3.

19 MR. BUXTON: On the way.

20 RON JOSEPH: Could you refresh my memory of  
21 who Group 3 represents?

22 MR. BUXTON: I'll be happy to do that. Good  
23 morning. I'm Tony Buxton from the Industrial Energy  
24 Consumer Group, the IECG. And Group 3 is composed of  
25 the Maine Chamber of Commerce, the Industrial Energy

1 Consumer Group, the City of Lewiston, the Greater  
2 Lewiston/Auburn Metro Chamber and the International  
3 Brotherhood of Electrical Workers. I am not sure who  
4 asked the question, but that's the answer.

5 MS. MILLER: Thank you.

6 RON JOSEPH: I did. Thank you.

7 MR. BUXTON: Since I'm not the first to ask  
8 any of you questions, I'm going to try to avoid  
9 repetition, but let's hope we can be successful. I  
10 have a few questions for Mr. Joseph. Is it correct  
11 that you believe that timber harvesting is not a  
12 permanent factor affecting deer wintering areas?

13 RON JOSEPH: Well, if it's done in a -- in a  
14 proper manner it can be a benefit. Let me elaborate  
15 on that. In this region we're talking about in  
16 western Maine deer were hardly there at all in the  
17 late 1800s, but as timber harvesting moved north, I'd  
18 say by the 1950s was the year of -- the golden era of  
19 deer all the way to 1970 when there was a perfect  
20 balance between timber harvesting in which created  
21 early successional forests for deer to feed, but  
22 there was also an adequate number of deer wintering  
23 areas left. Those were the bonanza years for deer  
24 and then shortly after that the deer declined as the  
25 deer wintering areas were harvested.

1 MR. BUXTON: The period 1950 to 1970 was the  
2 golden era for many of us, wasn't it?

3 (Laughter.)

4 RON JOSEPH: I was born in '52, sorry.

5 MR. BUXTON: I withdraw the question. From  
6 your knowledge of deer, what's the life span of a  
7 typical deer?

8 RON JOSEPH: Well, they can live to be about  
9 20, but I'd say probably life -- average life span is  
10 probably about 8 to 10.

11 MR. BUXTON: And from your knowledge when an  
12 area is clearcut, how many years does it take  
13 assuming successional growth --

14 RON JOSEPH: Right.

15 MR. BUXTON: -- for that area to grow tall  
16 enough to provide an adequate deer wintering area?

17 RON JOSEPH: Well, as I mentioned earlier  
18 the minimum height for deer wintering area usually is  
19 35 feet or up and I guess it would depend on what  
20 soils and what types of trees, but I know that forest  
21 cycles, harvest cycles are 40 to 50 years, so  
22 probably in 40 to 50 years it would be -- it might  
23 become suitable again. Now, I may add to that. We  
24 do know as I mentioned in my testimony the Trout Pond  
25 deer yard, it's -- it was a deer yard and for some

1 reason the deer have left and I think it's as a  
2 result of they just died off. That's -- that's my  
3 own feeling because if they don't have enough  
4 cover -- deer are at the northern limit of the range  
5 in Maine and they can't -- winter is a bottleneck.  
6 If they don't have winter cover they can't survive.  
7 And since you mentioned you're representing the Maine  
8 Chamber of Commerce, I would hope that the Maine  
9 Chamber of Commerce would be interested in -- in the  
10 rural Maine economy as well as the economies -- and  
11 people in -- in Jackman and The Forks depend on a  
12 healthy deer population to keep their businesses  
13 going and we don't have that now.

14 MR. BUXTON: Thank you. I'll pass the  
15 message on. In fact, they may be listening and  
16 live-streaming today. And your comment about the  
17 northern limit of the deer heard, would you agree  
18 that Section 1 is just about at the northern limit of  
19 the northern limit?

20 RON JOSEPH: Well, it extends about another  
21 80 miles north into -- into Canada for the deer  
22 range.

23 MR. BUXTON: But you acknowledge that the  
24 number of deer has been decreasing in that area?

25 RON JOSEPH: Well, we do know probably in

1 the 1950s that there were an average of maybe 15 deer  
2 per square mile in that section and now western Maine  
3 has some of the lowest deer densities in the state.  
4 When I was with the Maine Fish and Wildlife  
5 Department in 1988 to 1990, we estimated that the  
6 deer population in western Maine mountains where this  
7 project is located is two to four square -- two to  
8 four deer per square mile.

9 MR. BUXTON: Thank you. Let's go back to  
10 the time that it takes for a clearcut to become a  
11 deer wintering area and the life of the deer in  
12 Maine. Since the life of the typical deer as you say  
13 is considerably shorter than the time it takes to  
14 restore a deer wintering area by successional growth,  
15 isn't it a fact that timber harvesting activities  
16 create a permanent obstacle at least from the  
17 perspective of the deer?

18 RON JOSEPH: No, I would not agree with  
19 that.

20 MR. BUXTON: Really. So if you -- let's do  
21 a hypothetical then, if we may. We have a deer  
22 wintering area and --

23 RON JOSEPH: Well, let me just add to that.  
24 We -- he have a number of zoned deer yards on the  
25 landscape and --



1 MR. BUXTON: Well, I understand that, but --

2 RON JOSEPH: -- and timber harvesting is  
3 allowed in those -- a certain percentage of timber is  
4 allowed to be cut and we're dealing with a public  
5 resource on private land and we can't -- and when I  
6 worked for the Maine Department of Inland Fisheries  
7 and Wildlife we recommended zoning or protecting the  
8 core region of the yard not the entire deer yard  
9 and -- and that's -- and to reduce the economic  
10 burden on landowners, we tried to be conservative and  
11 recommend only the minimum amount of area that we  
12 could get to protect the deer and then they would  
13 then apply to us or approach LURC and say we want to  
14 do timber harvesting and we would allow that. So to  
15 answer your question, timber harvesting if it's done  
16 properly is not damaging to deer provided that the  
17 deer yard itself remains intact.

18 MR. BUXTON: Well, let me -- so your  
19 testimony is that part of the deer wintering area has  
20 to remain intact for timber harvesting not to be a  
21 problem in regard to deer wintering areas?

22 RON JOSEPH: I guess I'm not following you.

23 MR. BUXTON: Well, let me go back to my  
24 question and then we'll go to your question, all  
25 right.

1           RON JOSEPH: All right.

2           MR. BUXTON: If you have a hypothetical deer  
3 heard in a hypothetical deer wintering area --

4           RON JOSEPH: Right.

5           MR. BUXTON: -- from your testimony any deer  
6 in that group is going to live no longer than 8, 10,  
7 12 years; is that correct?

8           RON JOSEPH: Well, they're different age  
9 classes.

10          MR. BUXTON: Yes, but even the youngest in  
11 that deer wintering area is going to pass on for  
12 whatever reason within 10, 12 years; is that correct?

13          RON JOSEPH: Yes.

14          MR. BUXTON: Okay. And that means the  
15 lifetime of that deer and every deer in that heard  
16 will be considerably shorter than the time required  
17 to restore that deer wintering area by successional  
18 growth; is that not correct?

19          RON JOSEPH: Well, the population is  
20 replenished. I mean, when there is adequate cover  
21 does can produce two to three fawns and the  
22 population can grow, but if there is not adequate  
23 cover does absorb their embryos. They give  
24 stillbirth, so.

25          MR. BUXTON: In the meantime, Mr. Joseph,

1 and let me acknowledge that you know far more about  
2 this than I do. In the meantime from your own  
3 testimony, that deer heard is exposed to deep snows  
4 if it cannot find another deer wintering area; isn't  
5 that correct, and that happens because of timber  
6 harvesting?

7           RON JOSEPH: No, it's because of the depth  
8 of the snows that they're confined.

9           MR. BUXTON: Well --

10           RON JOSEPH: When snow depths get to be 16  
11 inches or greater deer are restricted in their  
12 movements and having deer yards create these trails,  
13 networks of trails through the deer yard to lessen  
14 their energy expenditure.

15           MR. BUXTON: Right. Thank you. Thank you  
16 for all your answers. I'm going to move to a  
17 different area, if I may. In your opinion, if the  
18 winter weather in northeastern Maine experiences  
19 greater extremes than has been the case let's say  
20 since the 1950s more frequently in the future, for  
21 example, greater snow fall and harsher cold snaps  
22 will this further imperil the deer heard?

23           RON JOSEPH: Well, it will if we don't do a  
24 better job of recovering deer wintering areas. And I  
25 think that's been identified in a plan that the Maine

1 Department of Inland Fisheries has come out with.  
2 It's called Maine's Plan for Restoring Deer in  
3 Western Maine.

4 MR. BUXTON: You commented, did you not, in  
5 your presentation this morning to the agency that you  
6 did not believe this project reduced the greenhouse  
7 gas emissions in Maine; is that correct?

8 RON JOSEPH: Greenhouse gas emissions  
9 overall, this is Maine.

10 MR. BUXTON: I'm sorry, could you repeat  
11 your answer?

12 RON JOSEPH: Overall, I mean, you can't -- I  
13 mean, it's -- the atmosphere moves.

14 MR. BUXTON: But it's still your belief that  
15 this project does not reduce greenhouse gas  
16 emissions?

17 RON JOSEPH: Correct. Yes, it is.

18 MR. BUXTON: And are you aware of the  
19 testimony of representatives of some of the fossil  
20 fuel opponents in this project in other proceedings  
21 in which they admit that this project would shut down  
22 those fossil fuel plants to such an extent that it  
23 would reduce the contribution to Maine's electricity  
24 sector to greenhouse gasses in Maine by --

25 MS. BOEPPLE: Objection.

1 MR. BUXTON: -- one-third?

2 RON JOSEPH: I'm not --

3 MS. BOEPPLE: Objection.

4 RON JOSEPH: -- an expert on --

5 MS. MILLER: Please, please hold your  
6 comment.

7 MS. BOEPPLE: Objection. This is on the  
8 greenhouse gas. This question is obviously directed  
9 specifically to the greenhouse gas emissions topic,  
10 which is not part of the hearing and which has been  
11 ruled on repeatedly and we're not covering it here.  
12 Thank you.

13 MS. MILLER: For the record, did I hear  
14 another objection out there? Would you like to  
15 respond, Mr. Buxton?

16 MR. BUXTON: I would. And I want to make  
17 sure the record heard the finish of my question,  
18 which was that the testimony that I was referring to  
19 indicated that the operation of the NECEC would cause  
20 existing fossil fuel power plants of Maine to reduce  
21 their greenhouse gas emission by one-third.

22 MS. TOURANGEAU: Objection. Objection.  
23 You're just getting the testimony in --

24 MR. BUXTON: Well, I'm not a witness and so  
25 therefore --

1 MS. TOURANGEAU: But your question is  
2 getting in the answer.

3 MR. BUXTON: It sounds like you're afraid of  
4 some facts.

5 MS. BENSINGER: Excuse me, Mr. Buxton, can  
6 you simply respond to the question --

7 MR. BUXTON: Certainly, I will. Thank you.

8 MS. BENSINGER: -- as to why such a question  
9 is relevant?

10 MR. BUXTON: Mr. Joseph opened the door on  
11 this with his comment this morning to you that the  
12 project does not reduce greenhouse gas emissions and  
13 I'm merely asking the basis for that and whether he  
14 actually knows anything about the issue.

15 RON JOSEPH: Well, the basis for that is  
16 look at --

17 MS. BENSINGER: Hold on. Hold on. Hold on.  
18 We have to rule on the objection, please.

19 RON JOSEPH: Okay.

20 MS. BENSINGER: My recommendation is that  
21 the Chair sustain the objection because the topic of  
22 greenhouse gasses was not one of the hearing topics.

23 MS. MILLER: I will sustain the objection  
24 for that reason.

25 MR. BUXTON: Thank you. I think that's all

1 my questions of Mr. Joseph. Thank you, Mr. Joseph.

2           RON JOSEPH: You're welcome.

3           MR. BUXTON: Dr. Publicover, if we could  
4 chat a minute. Once again, Mr. Manahan has asked a  
5 lot of the questions that I had hoped to ask.  
6 Holding him responsible for that let me ask you this,  
7 before you prepared your testimony, did you visit the  
8 area of the project called Section 1?

9           DAVID PUBLICOVER: No.

10          MR. BUXTON: You did not. Would you agree  
11 as a forester and a graduate of the Yale School of  
12 Forestry that the area does not contain what you  
13 would call as a forester any mature forest?

14          DAVID PUBLICOVER: No, I wouldn't agree it  
15 doesn't contain any mature forest. I think it  
16 contains a fairly limited amount of mature forest.

17          MR. BUXTON: How do you determine that if  
18 you haven't visited?

19          DAVID PUBLICOVER: Well, as I indicated, I  
20 believe, in my rebuttal testimony, I did an  
21 extraction of the U.S. Forest Service inventory  
22 analysis data in that region around the corridor,  
23 pulled out the data from the plots within that region  
24 separated by age, class and density. And I can't  
25 remember the number, but I think it was about 7

1 percent of the plots in that region came out to be  
2 well stocked stands over 100 years old.

3 MR. BUXTON: Okay. And those are mature  
4 forests what you believe is required for proper  
5 habitat for the pine marten; is that correct?

6 DAVID PUBLICOVER: It's not so much age,  
7 it's structure and cover. You know, age is -- in  
8 stands that are partially harvested repeatedly, you  
9 know, the stand age is really not, you know, you can  
10 have a stand that's heavily harvested but has a few  
11 residual hold trees, but it's more a matter of what  
12 is the cover density, what is the height of the  
13 canopy and does it have the diverse structure in  
14 terms of dead wood.

15 MR. BUXTON: And are you saying today that  
16 you can determine the answer to those questions  
17 without visiting the area?

18 DAVID PUBLICOVER: I'm familiar with the  
19 industrial forest landscape throughout Maine. I  
20 don't know that this one is specifically that much  
21 different.

22 MR. BUXTON: I see. Thank you. Would you  
23 agree that your testimony at Page 9 Line 19 describes  
24 the NECEC in this area has, quote, carved through  
25 managed timber land rather than pristine wilderness?



1           DAVID PUBLICOVER:  Yes.

2           MR. BUXTON:  Did you perform a  
3 scientifically based fragmentation study to support  
4 your testimony or to derive your testimony?

5           DAVID PUBLICOVER:  Which part of my  
6 testimony?

7           MR. BUXTON:  Your part about fragmentation.

8           DAVID PUBLICOVER:  No, I didn't, but then I  
9 don't have the burden of proof.

10          MR. BUXTON:  And do you consider  
11 fragmentation analysis to be a science or is it  
12 qualitative and not quantitative?

13          DAVID PUBLICOVER:  There are -- there are  
14 measures that can be used to determine fragmentation  
15 patterns on landscape in terms of edge to area ratio,  
16 size of openings.  I am not an expert in those types  
17 of analyses.  I've seen them done.  And in a  
18 landscape in terms of this where the harvesting  
19 patterns are so diverse, you look at things, I mean,  
20 you know, if it's a matter of just clearcuts versus  
21 mature forest those types of analyses can probably  
22 tell you something.  When you have a landscape that  
23 consists of partial cuts, strip cuts, clearcuts,  
24 group selections, I am not sure that you can derive  
25 specifically meaningful numbers out of that.

1 MR. BUXTON: Okay.

2 DAVID PUBLICOVER: You can look at -- yeah,  
3 some of those things that I have done in that regard  
4 are trying to map the large areas of interior forest,  
5 you know, true roads within interior forest habitat  
6 across the region and they're fairly limited, pretty  
7 much concentrated around large protected lands or  
8 mountain areas. There is very little of that type of  
9 habitat in terms of large areas, 5,000 acres or more,  
10 but there are -- there are certainly areas of  
11 mature -- of at least, you know, you don't always  
12 know the age, but interior forest habitat that would  
13 be crossed by the corridor just looking at aerial  
14 photos can tell you that.

15 MR. BUXTON: And you did look at Google, did  
16 you not?

17 DAVID PUBLICOVER: Google Earth, NAIP  
18 imagery.

19 MR. BUXTON: So what we have is your  
20 testimony on this issue, we don't -- is it correct we  
21 do not have the kind of fragmentation analysis that  
22 you have said can be done by someone?

23 DAVID PUBLICOVER: Yeah, I mean, it's just a  
24 simple matter of looking along the length of the  
25 corridor to some distance out on either side how much

1 of a forest is -- is not going to be something that  
2 we harvested.

3 MR. BUXTON: But we don't have that in this  
4 record?

5 DAVID PUBLICOVER: They don't have -- there  
6 is nothing in the record. There is not even the most  
7 limited or minimal type of assessments.

8 MR. BUXTON: Okay. Is it correct that you  
9 testified for AMC against the proposed Northern Pass  
10 project in New Hampshire?

11 DAVID PUBLICOVER: Yes.

12 MR. BUXTON: And one of your objections was  
13 the extent of fragmentation?

14 DAVID PUBLICOVER: Yes, so it's 32 miles of  
15 new corridor in the northern part of the route.

16 MR. BUXTON: And you were undergrounding of  
17 Northern Pass?

18 DAVID PUBLICOVER: Undergrounding along  
19 Route 3 along an existing highway not undergrounding  
20 in that corridor.

21 MR. BUXTON: Okay. Okay. Thank you. And  
22 when the project agreed to some 60 miles of  
23 undergrounding, did that change your position? Did  
24 you just become --

25 DAVID PUBLICOVER: No. No. You can finish.

1 MR. BUXTON: So you were still opposed?  
2 Thank you for being so polite here.

3 DAVID PUBLICOVER: No, because that 62 miles  
4 of undergrounding was to avoid the crossing of the  
5 White Mountain National Forest because they knew they  
6 were unlikely to get a permit, but it did not affect  
7 the northern part of the route, which would be the  
8 new corridor, they did not agree to underground that,  
9 so, no, that didn't --

10 MR. BUXTON: So it didn't change your  
11 position.

12 DAVID PUBLICOVER: Well, it changed AMC's  
13 position in regards to the impact on the National  
14 Forest and the Appalachian Trails. It did not change  
15 our position in regard to defragmenting intact of the  
16 northern part of the corridor.

17 MR. BUXTON: Okay. I'm going to give you a  
18 document and ask if you can identify it.

19 MS. BENSINGER: Mr. Buxton, is this a  
20 document that is already in the record?

21 MR. BUXTON: It is not and -- and I'm not  
22 going to try to put it in the record. I'm going to  
23 read from it, but I wanted to give him the courtesy  
24 of being able to see what I was reading.

25 DAVID PUBLICOVER: Yes, it's my pre-filed

1 direct testimony on the Northern Pass process.

2 MR. BUXTON: I have copies if you'd like to  
3 distribute them, but I -- I don't think we're going  
4 to sit down and sign on it.

5 MS. MILLER: I would like to have a copy and  
6 I think if you have enough for the parties that would  
7 be helpful.

8 MR. BUXTON: We do. That may just take a  
9 moment.

10 MS. MILLER: Thank you.

11 MR. BUXTON: I would just note for the  
12 record that the Industrial Energy Paper Group  
13 includes paper companies, so we're pleased to provide  
14 copies of documents.

15 MS. MILLER: Go ahead with your question,  
16 Mr. Buxton.

17 MR. BUXTON: Thank you. If would you please  
18 turn to Page 10 of your testimony in the New  
19 Hampshire proceeding. In outline 10 there is a  
20 couple of sentences, which reads in the end any -- is  
21 it correct that there is a statement that reads as  
22 follows: In the end, any quantitative assessment of  
23 fragmentation will be inconclusive. While it can  
24 indicate the extent of additional fragmentation that  
25 will take place from construction of the new

1 corridor, parentheses, as measured by reduction in  
2 total and interior forest, increase in edge and  
3 changes in forest block size, closed paren, an  
4 assessment of the severity of this impact will remain  
5 a judgement call; is that correct?

6 DAVID PUBLICOVER: That is what it says.

7 MR. BUXTON: And do you stand by that  
8 statement today?

9 DAVID PUBLICOVER: Yes, but it doesn't mean  
10 that a quantitative assessment can't inform that  
11 decision. You can have statistics on --

12 MR. BUXTON: Yes.

13 DAVID PUBLICOVER: -- you can have  
14 statistics how many deaths occur on highways at  
15 different speeds and that may inform your decision as  
16 to what the speed limit should be but it does not in  
17 and of itself give you the answer.

18 MR. BUXTON: And if you did that, just using  
19 your example, you could compare one road to another  
20 in terms of its safety; is that correct?

21 DAVID PUBLICOVER: You probably could.

22 MR. BUXTON: Yeah. So as you have  
23 indicated, we don't have an analysis in this case  
24 indicating that there is unusual fragmentation of any  
25 kind happening in this instance?

1           DAVID PUBLICOVER: We don't have any  
2 analysis that tells us how much interior forest  
3 habitat will be impacted by the project. I think  
4 that's a critical piece of information in making a  
5 judgement as to whether the fragmenting impact will  
6 be significant.

7           MR. BUXTON: And that's to be distinguished  
8 from mature forests which you said was 7 percent, for  
9 example, in Segment 1?

10          DAVID PUBLICOVER: You can have a small  
11 patch of mature forest, but it's not interior forest  
12 habitat. You can have interior forest habitat, you  
13 could have a 40 -- a large even aged 40 year old  
14 stand, closed canopy 40 year old stand, some species  
15 might see that as interior forest habitat, not all  
16 will, but it will not be considered mature forest  
17 habitat, so there are two different concepts.

18          MR. BUXTON: Well, so I am -- just to be  
19 clear here, is it your testimony that the --

20          MS. ELY: Excuse me. I think Mr. Buxton's  
21 time is up, but I didn't want to interrupt him in the  
22 line of questioning but I heard the alarm go off.

23          MS. MILLER: Yeah, I'm going to ask him to  
24 wrap up.

25          MR. BUXTON: I will be happy to. Thank you.

1 If I may just look for a second and make sure I get  
2 the questions that I want. You've indicated a  
3 concern for pine marten, are you aware that it is  
4 lawful in Maine to trap and kill pine marten?

5 DAVID PUBLICOVER: Yes.

6 MR. BUXTON: And are you aware that on  
7 average about 2,000 pine marten are trapped and  
8 killed in Maine each year?

9 DAVID PUBLICOVER: I have no idea what the  
10 number is.

11 MR. BUXTON: Okay. Thank you. I have no  
12 further questions. Thank you for your time, sir.

13 MS. MILLER: Thank you.

14 MR. SMITH: Hi. Thank you. Ben Smith for  
15 Intervenor Group 7. I -- in light of the  
16 questioning, I would like to actually have a few  
17 questions for Mr. Joseph or -- I did reserve  
18 follow-up.

19 MS. MILLER: Yup, that's fine.

20 MR. SMITH: Okay. Is it Mr. Joseph or Dr.  
21 Joseph?

22 RON JOSEPH: No, Mr. Joseph.

23 MS. MILLER: Can you pull the mic up, I'm  
24 sorry. Thank you.

25 MR. SMITH: So I have a few questions to



1 follow-up on Mr. Buxton's examination and it's with  
2 regard to the deer mortality caused by the winters.  
3 You would agree that winter is fat storage reserves  
4 and feed are not the only factors that are causing  
5 mortality for deer, right?

6           RON JOSEPH: What are you getting at? I'm  
7 not sure what your question is.

8           MR. SMITH: Well, would you agree that there  
9 are other factors that affect deer mortality?

10          RON JOSEPH: Yes.

11          MR. SMITH: All right. And one of those --

12          RON JOSEPH: Such as predation, is that what  
13 you're getting at?

14          MR. SMITH: Yes, exactly.

15          RON JOSEPH: Yes.

16          MR. SMITH: And the primary predator when  
17 we're talking about deer is the eastern coyote,  
18 right?

19          RON JOSEPH: Yes. And bobcat.

20          MR. SMITH: Right. Okay. And with regard  
21 to the coyote populations, they were not native to  
22 Maine back in the -- prior to the 1930s, correct?

23          RON JOSEPH: Correct, but wolves were.

24          MR. SMITH: I understand. I understand.

25          RON JOSEPH: Yup.

1 MR. SMITH: But coyotes were not?

2 RON JOSEPH: Correct.

3 MR. SMITH: And, in fact, they really only  
4 started to gain population in the 1960s, you would  
5 agree?

6 RON JOSEPH: Correct.

7 MR. SMITH: And there is a correlation, I  
8 guess, between when this balance -- the perfect  
9 balance was occurring that you were discussing before  
10 and when the coyote population started to increase,  
11 right?

12 RON JOSEPH: Mmm Hmm.

13 MR. SMITH: Is that a yes?

14 RON JOSEPH: Yes.

15 MR. SMITH: Okay. And since 1970, there has  
16 been a further explosion in the coyote population as  
17 well, right?

18 RON JOSEPH: And a decrease in deer  
19 wintering areas. It coincided with that.

20 MR. SMITH: Do you -- that wasn't my  
21 question. I mean, forestry has been going on for  
22 generations, correct?

23 RON JOSEPH: It's accelerated.

24 MR. SMITH: No, but follow my questions.  
25 Forestry has been happening for a long period of

1 time. What I'm asking you about --

2 RON JOSEPH: Yes.

3 MR. SMITH: -- is the impact of coyote  
4 populations on deer?

5 RON JOSEPH: I think it's -- I think it's  
6 insignificant. When you have inadequate deer shelter  
7 it's -- it's insignificant. I've maintained that all  
8 along. Let me give you an example. We've got a deer  
9 yard on the Golden Road called Big Smart Brook. It's  
10 5,000 acres in size. It has 500 deerling. There are  
11 coyotes that kill deer, but those numbers stay  
12 consistent year after year because they have adequate  
13 escape cover. So if you're implying that -- that  
14 deer -- other mortalities are related to deer  
15 predation I disagree.

16 MR. SMITH: So is one of the ways that the  
17 IF&W -- and you agree -- first of all, let me back  
18 up. The IF&W has expertise when it comes to managing  
19 the population of animals, correct, and that's why  
20 they have hunting permits and a certain number that's  
21 given out, right?

22 RON JOSEPH: Correct. And those -- those --

23 MR. SMITH: Yeah. Well, let me -- let me  
24 continue. And when it comes to coyote there is no  
25 limit --

1           RON JOSEPH: Correct.

2           MR. SMITH: -- on hunting permits that are  
3 given out for coyotes, correct?

4           RON JOSEPH: Correct.

5           MR. SMITH: And even allowed for night  
6 hunters, correct?

7           RON JOSEPH: Correct.

8           MR. SMITH: And the reason is that they're  
9 trying to reduce the population, correct?

10          RON JOSEPH: Yes.

11          MR. SMITH: Okay. Are you familiar --

12          RON JOSEPH: Well, they're trying to reduce  
13 the population because the public is asking for that.

14          MR. SMITH: Okay. Can I -- can I present a  
15 document just so that the witness could read it,  
16 please?

17          MS. ELY: I'd like the opportunity to see it  
18 first.

19          MR. SMITH: I don't have a paper copy. It's  
20 a document that I reviewed while Mr. Buxton was  
21 conducting his examination. I'd like to present it  
22 on the screen if I could. I have it on a flash  
23 drive.

24          MS. BENSINGER: This is a new document?

25          MR. SMITH: It's a report by IF&W and I want

1 to ask Mr. Joseph about that.

2 MS. BENSINGER: And you don't have any  
3 copies for --

4 MR. SMITH: I will provide it just like has  
5 been customary with other people, but I don't have a  
6 copy right now. It will be up on the screen for  
7 people to read.

8 MS. MILLER: Yes.

9 MS. TOURANGEAU: We were strictly instructed  
10 to bring copies for everyone to look at and looking  
11 at it up on the screen is going to be a bit of a  
12 disadvantage.

13 MS. MILLER: I would agree with that,  
14 however, we have already set a precedence in the past  
15 few days allowing several groups to do this, so I'm  
16 going to allow it.

17 MR. SMITH: Thank you. And I know I  
18 reserved a fairly short amount of time, but I'll be  
19 as brief as I can going through the report, if I may.  
20 Just going to the first page of that --

21 MS. ELY: So it isn't already labeled at --

22 MR. SMITH: Yup. Thank you. Can you reduce  
23 the size, ma'am, just so that I can try to see a  
24 little bit more of the page.

25 MS. PEASLEE: You want it in full screen?

1 MR. SMITH: Yeah, that would be... Perfect.  
2 Thank you so much. Mr. Joseph, are you familiar with  
3 Walter Jakubas?

4 RON JOSEPH: I know, Wally very well.

5 MR. SMITH: Okay. Is he an authoritative  
6 source?

7 RON JOSEPH: Yeah, I'd say so.

8 MR. SMITH: Okay. Did you in any way --  
9 were you affiliated with IF&W when this report would  
10 have been created?

11 RON JOSEPH: No, I was not.

12 MR. SMITH: Okay. But you wouldn't question  
13 the accuracy of that report, right?

14 RON JOSEPH: Well, I -- I'm not sure what  
15 you're getting at.

16 MR. SMITH: Okay. Well, I guess let's move  
17 on. But you recognize that Mr. Jakubas is an  
18 authoritative expert, right?

19 RON JOSEPH: Well, he's got a PHd and he's  
20 pretty knowledgeable, yes.

21 MR. SMITH: Okay. And --

22 RON JOSEPH: But this report was written in  
23 1999. That's 20 years ago.

24 MS. MILLER: Is there an objection?

25 MS. ELY: Yeah, I guess all of the other

1 exhibits that have been allowed in have been, you  
2 know, are one page and at times attorney's were --  
3 the panels has been allowed to see it and it's an --  
4 it's an entire document that I have no idea of  
5 knowing what's in this or looking at it. And also  
6 it's already labeled it looks like for the Western  
7 Mountains and Rivers Corporation, so it -- they  
8 clearly have had this.

9 MR. SMITH: No. No. This is inaccurate. I  
10 just put that label on the PDF while I was sitting  
11 there listening to Mr. Buxton and I put it on my  
12 flash drive. This is not something that I was  
13 sitting on. I just did it. Moreover, if you want to  
14 Google it you can do it on your computer right now,  
15 which you have in front of you and the report right  
16 in front of you. So, I mean, I'm not trying to  
17 surprise the witness here, I'm just trying to get the  
18 truth out.

19 MS. BENSINGER: How many pages long is the  
20 report?

21 MR. SMITH: I'm not going through much of  
22 the report. I think it's 67 pages, but I'm only  
23 going through a couple.

24 MS. BENSINGER: And are you going to offer  
25 it as an exhibit?

1 MR. SMITH: I will. That's why it's labeled  
2 at the top WMRC Exhibit 1 Cross.

3 MS. BENSINGER: I have a problem in that the  
4 witness hasn't had a chance to look it at.

5 MR. SMITH: I -- I understand and this is  
6 why I'm offering it and I want to question the  
7 witness about it on cross-examination. He's going to  
8 have a chance to be redirected by -- by his counsel.

9 RON JOSEPH: But I haven't had a chance to  
10 really consider it.

11 MR. SMITH: That's what cross-examination  
12 is.

13 RON JOSEPH: Yeah, but usually  
14 cross-examination I've had a chance to look at what  
15 the -- what's being offered.

16 MS. MILLER: Are you just going to refer to  
17 a few sentences here or there or large areas of this  
18 report?

19 MR. SMITH: I -- I think it will become  
20 apparent that I'm only talking about a few excerpts  
21 of the report which are relevant to his testimony.

22 MS. TOURANGEAU: Didn't WMRC have a full  
23 opportunity to submit pre-filed rebuttal testimony  
24 just like everyone else that could have included this  
25 report from 1999 and then the witness would have had



1 a chance to look at it?

2 MR. SMITH: So this is a hearing. WMRC  
3 provided pre-filed testimony on the first hearing  
4 issue. There is nothing that prevented us from being  
5 able to examine other witnesses on these issues and I  
6 can establish on cross-examination facts for the  
7 record.

8 MS. BENSINGER: I would recommend that the  
9 Presiding Officer allow the questioning to go  
10 forward. The lack of the opportunity of the witness  
11 to read the record in advance is noted and will be  
12 taken into consideration or can be taken into  
13 consideration in assessing the witnesses answers.

14 MS. MILLER: I will allow it, but if there  
15 are certain sections you're going to refer to I would  
16 ask that the witness have a few seconds to at least  
17 take a look at it and evaluate what is being referred  
18 to.

19 MS. BENSINGER: Or we could take a break and  
20 allow the witness to -- but it's 60 pages long, so it  
21 really wouldn't be very beneficial.

22 MR. SMITH: Okay. I'll be very brief. I  
23 mean, I actually think I've spent more time  
24 responding to objections than my examination would  
25 have been. So I guess I'd like to take you to Page

1 5. Page numbered 5.

2 MS. TOURANGEAU: I can't even see it.

3 RON JOSEPH: Yeah, right.

4 MR. SMITH: Is there a way to blow up the  
5 document more? Well, let me read it.

6 MS. PEASLEE: The more you blow it up the  
7 fuzzier it's going to get.

8 MS. BENSINGER: You can -- they probably can  
9 just come up.

10 MS. MILLER: You can come up closer, that's  
11 fine.

12 MR. SMITH: Mr. Joseph --

13 RON JOSEPH: I'll walk up and read it.

14 JEFF REARDON: All of us?

15 MR. SMITH: So on Page 5, I'll start  
16 reading.

17 MS. PEASLEE: Which part of it so you can  
18 see that part?

19 MS. MILLER: Is that the part you're going  
20 to be asking questions about, Mr. Smith?

21 MR. SMITH: I'm trying to find it now.

22 Okay. It's actually -- it's on page -- the bottom of  
23 Page 6.

24 MS. MILLER: Under food habits?

25 MR. SMITH: So the food habits, yup.

1 Exactly. I'll read this and, Mr. Joseph, you can  
2 tell me if I'm reading it correctly. Coyote food  
3 habit very seasonally ranging from omnivores, i.e.,  
4 opportunists -- opportunistically eating vegetative  
5 or animal matter during the summer and fall to strict  
6 carnivore eating meat in the winter. In Maine,  
7 common summer and autumn foods include fruit and  
8 berries, blueberry, raspberries, beechnuts, apples,  
9 serviceberry, white-tailed deer and snowshoe hare.  
10 And there is a cite to a Hilton and Harrison and  
11 Harrison report. Unlike coyotes in western states,  
12 eastern coyotes feed relatively little on small  
13 mammals such as mice, moles and squirrels.

14 Predominant foods of Maine coyotes in winter and late  
15 spring are white-tailed deer and snowshoe hare.

16 Similar to coyotes in other areas --

17 MS. ELY: Is there going to be a question in  
18 here?

19 MR. SMITH: I am just reading it. I want to  
20 -- I'll get to the question after. Similar to  
21 coyotes in other areas --

22 MS. ELY: I'm just going to formally object  
23 to continuing to read this report into the record  
24 without a question.

25 MR. SMITH: I'm -- I'm reading the report.

1 I'm going to ask the witness. The witness doesn't --  
2 the witness said that he didn't see the report. I'm  
3 reading it and I'm going to ask him a question  
4 afterwards.

5 MS. BENSINGER: How much are you planning to  
6 read?

7 MR. SMITH: This paragraph right here. Can  
8 you read -- can you see that, Mr. Joseph?

9 RON JOSEPH: I can't. Which paragraph?  
10 Starting with similar?

11 MR. SMITH: Yes. I'm up to that part right  
12 here.

13 RON JOSEPH: Okay. I'm with you.

14 MR. SMITH: So similar to coyotes in other  
15 areas in North America, Maine coyotes may hunt in  
16 packs, are capable of killing deer and readily feed  
17 on deer carrion. In Maine, the consumption of deer  
18 by coyotes increases in late winter. During this  
19 time of year deer are vulnerable to predation because  
20 their energy reserves are low and --

21 MS. TOURANGEAU: This is blatant testimony  
22 by the cross-examiner reading a report into the  
23 record of multiple paragraphs.

24 MR. SMITH: Can I finish my examination?  
25 I'm reading the report. I'm going to ask him --

1 MS. TOURANGEAU: You're reading the report,  
2 which is not asking a question.

3 MS. BENSINGER: Mr. Smith, you can ask the  
4 witness would he disagree -- you can ask the witness  
5 would he disagree if a person believed such and such  
6 and you don't have to read the whole report -- large  
7 sections of the report into the record.

8 MR. SMITH: What I was trying to accommodate  
9 is that people here are complaining that they haven't  
10 had a chance to read the report. Some people are  
11 claiming that they can't even see it, so I'm trying  
12 to make sure that in the context of my questioning  
13 people understand what I would be asking him. And I  
14 can lead into that right now for him.

15 MS. MILLER: Please ask the question.

16 MR. SMITH: So, Mr. Joseph, you've seen the  
17 report now, you've heard what I've summarized in the  
18 way of the report, is it fair that one of the main  
19 predations or one of the main mortality causes to  
20 deer based on what this individual had found and what  
21 the Department found was --

22 MS. ELY: I would -- sorry.

23 RON JOSEPH: If your question is do coyotes  
24 predate on deer the answer is yes.

25 MR. SMITH: And -- and that was actually --

1 it's found that there is a correlation here when  
2 you're talking about wintertime and the reason that  
3 they're actually being killed and the reason that  
4 there is such a high mortality of deer is they have a  
5 combination of low reserves, right, and you have  
6 coyotes which have been introduced and have expanded  
7 into new areas, populations have exploded and they  
8 are feeding on deer, correct?

9 RON JOSEPH: Coyotes --

10 MS. ELY: I object to this question.

11 RON JOSEPH: Coyotes have not --

12 MS. ELY: Mr. Joseph, hold on. Hold on.

13 Mr. Joseph, sorry, I object to this question. It is  
14 asking specifically if the -- if my witness agrees  
15 with the findings of this report that we have just  
16 seen and it has not been established. If he wants to  
17 ask him a question -- my client a question about his  
18 professional experience then that's different.

19 MS. BENSINGER: I might just say that the  
20 question mischaracterized the portion of the report  
21 that was read. The question said that the report  
22 said that the -- one of the main causes of mortality  
23 in deer is coyotes and that portion that you read  
24 didn't say that, so I would recommend that the  
25 question be stricken.

1 MR. SMITH: Mr. Joseph, would you agree that  
2 one of the main causes for the deer heard hurting in  
3 Maine is in the impact of the coyotes?

4 RON JOSEPH: No.

5 MR. SMITH: You disagree?

6 RON JOSEPH: Correct. Deer -- coyote  
7 predation on deer is insignificant when deer have  
8 adequate winter shelter.

9 MR. SMITH: And if deer -- if they had more  
10 than suitable reserves, food reserves, fat reserves,  
11 and obviously that's not the case, but if they did,  
12 they may survive, right?

13 RON JOSEPH: Correct. They can escape.

14 MR. SMITH: But -- but this is a compounding  
15 factor and we can't ignore the fact that coyotes are  
16 leading to deer mortality, correct?

17 RON JOSEPH: I've dealt with this question  
18 throughout my whole career and my answer remains  
19 absolutely the same and I'll repeat myself. Where  
20 deer have adequate winter shelter they have escape  
21 cover and coyote predation is insignificant. Yes,  
22 they do kill coyotes, but it's not a limiting factor  
23 for deer.

24 MR. SMITH: You mean they kill deer?

25 RON JOSEPH: Yes, they do.

1 MR. SMITH: Okay.

2 RON JOSEPH: What did I say?

3 MR. SMITH: You said they kill coyotes. No,  
4 coyotes -- well, they kill each other too, but  
5 coyotes do kill deer.

6 MR. SMITH: Okay. Thank you. WMRC would  
7 offer hearing Exhibit 1 into the record.

8 MS. ELY: And Group 4 would object strongly  
9 to the admission of this document.

10 MS. MILLER: We will admit it as Group 7  
11 Cross.

12 MS. TOURANGEAU: Can we clarify whether  
13 you're submitting the whole report or just the  
14 paragraphs referenced?

15 MS. MILLER: It will be the whole report. I  
16 expect copies to be provided to all parties and it  
17 will be Group 7 Cross 1. And I'm going to suggest a  
18 short break.

19 (Break.)

20 MS. MILLER: All right. We're going to go  
21 ahead and get started. We're going to continue with  
22 the Group 4 witness panel. Right now, we are on to  
23 Department questions, but before we get started I  
24 just want to let everybody know that Commissioner  
25 Reid had to step out for a little while for a phone



1 call, so he has left questions with us so we can get  
2 his questions asked and answered as well. So we'll  
3 go ahead and start with Jim.

4 MR. BEYER: Good morning. I'm going to  
5 start with Mr. Reardon. In your testimony on Page 3  
6 you discuss that Indian Pond Fisheries Habitat  
7 Committee work, which plan restoration projects for  
8 the Harris -- Harris Dam FERC permitting process. My  
9 question is are there projects that were identified  
10 in that plan that still need to be completed?

11 JEFF REARDON: I'm sorry. You're talking  
12 about Page 10 of my direct testimony?

13 MR. BEYER: Page 3.

14 JEFF REARDON: Sorry. Thank you. Can I  
15 give you a little -- just a little bit of  
16 background?

17 MR. BEYER: Sure.

18 JEFF REARDON: Thank. So that's a  
19 settlement agreement that was signed if I remember  
20 right in 2002. It created a habitat settlement fund  
21 of about \$750,000 that was put in an account and it  
22 has borne interest. We did, if I recall, two  
23 projects. There was one project on Cold Stream.  
24 There was another on one of the Dead tributaries. I  
25 can't remember which one, but I could look it up if

1 anybody needs to know. If I remember correctly,  
2 those two projects combined cost something like 250  
3 or \$300,000, but don't quote me on the numbers. It  
4 was quite a long time ago. At the end of the  
5 completion of those two projects and a detailed  
6 assessment of Cold Stream and other tributaries the  
7 IF&W and the consulting biologist who was hired by  
8 the licensee suggested to us that we use the rest of  
9 that fund for habitat protection of high quality  
10 habitat. The committee decided to focus -- it was  
11 about \$500,000 left in the fund at that time  
12 including the interest on Cold Stream. The money was  
13 parked while we worked on the Cold Stream project  
14 with that as seed money for what we originally  
15 thought would be a small project on Cold Stream that  
16 morphed into a much larger project with Forest Legacy  
17 and other funding. There was an \$8 million project  
18 and at the end of the day we couldn't spend that  
19 money on it because of federal reasons for Forest  
20 Legacy. So we're now at the completion of Cold  
21 Stream just coming back to considering what to do  
22 with the approximately 550 or \$600,000 left in that  
23 fund. We probably will go back and look at what  
24 other projects might have been identified in 2005 or  
25 6, but it's been that long since I've looked at it so

1 I can't tell you what was in the works.

2 MR. BEYER: Okay. And the point of my  
3 question was just if there was -- if you had a list  
4 of projects out there that needed funding or that's  
5 kind of where I was going with that.

6 JEFF REARDON: To give the short answer I  
7 probably should have started with, and I apologize,  
8 the -- the recommendation from then Forest Logging  
9 who was a fisheries biologist for IF&W working on the  
10 group and Kyle Murphy, who was the consulting  
11 biologist for I think then NextEra, who at that point  
12 was the licensee for the Indian Pond Dam they said,  
13 and I quote, you have excellent high value habitat in  
14 these tributaries to the Kennebec and the Dead River  
15 and your money would be better spent on protecting it  
16 than trying to restore those portions of it that have  
17 some level of degradation.

18 MR. BEYER: Thank you. Would it be possible  
19 in your opinion to build an overhead transmission  
20 line and not have an unreasonable impact on brook  
21 trout habitat and, if so, how?

22 JEFF REARDON: Yes. And I agree with  
23 Ms. Johnston where you were maintaining full canopy  
24 height vegetation under the lines with tall poles,  
25 which I believe is at Mountain Brook and Gold Brook,

1 I am satisfied that brook trout is protected, but  
2 that's two of the brook trout stream crossings on a  
3 very long corridor. You could do it on all of them  
4 technically and my concerns about lack of buffer  
5 would be -- I don't know if they would be zero, there  
6 would still be some impact but much, much lower. I  
7 don't know what the cost of that would be.

8 MR. BEYER: On Page 22 and 23 of your direct  
9 testimony you discuss the proposed compensation  
10 parcels as being primarily having a recreational  
11 fisheries benefit and we also heard that this morning  
12 for adult brook trout fish -- adult brook trout. And  
13 I heard you say that you would prefer protecting  
14 headwater streams as a more of a one to one  
15 compensation. Do you have particular parcels in  
16 mind?

17 JEFF REARDON: Yes. In the context of  
18 trying to spend the remaining \$500,000 in the fund, I  
19 have identified some parcels and discussed with at  
20 least one landowner a parcel we would like to  
21 protect. It happens to be a parcel the landowner  
22 wouldn't talk about because this corridor goes right  
23 through the middle of it. So there is one we had a  
24 conversation with a landowner that didn't go very far  
25 and I knew why once this application came in. It

1 would have protected the section where the crossing  
2 goes across Tomhegan Stream, which is a very  
3 important tributary to Cold Stream in part because  
4 it's colder than Cold Stream at the confluence and in  
5 part our radio telemetry data showed that at least  
6 some of the brook trout that we had tagged in the  
7 Kennebec River swam far enough up Cold Stream, which  
8 is quite remarkable given one of the waterfalls  
9 they've gone over to get there and into Tomhegan  
10 Stream to spawn, which was an indication to us that  
11 it was a very significantly important piece of  
12 habitat. Cold Stream was in the same category as are  
13 several of the Dead River tributaries, Salmon  
14 Stream -- and Salmon Stream, Kibbie Brook, Spencer  
15 Stream, Little Spencer Stream. But that Tomhegan  
16 piece is really special.

17 MR. BEYER: Do you have -- do you know of  
18 specific stream crossings, logging road culverts  
19 primarily, which could be replaced and provide fish  
20 passage and aquatic insect passage, do you have a  
21 particular -- particularly high value crossings --  
22 have you identified high value crossings, you know,  
23 high priority crossings in order to -- that would  
24 benefit habitat connectivity in -- I'll say out the  
25 Spencer Road or in that particular part of the state?

1           JEFF REARDON: I don't. Again, there was  
2 some work done about that -- regarding that by that  
3 committee that was looking at tributaries to the  
4 Kennebec and Dead to spend that enhancement fund that  
5 was targeted at that area. That work was happening  
6 soon after the settlement, so I'm just going to  
7 estimate, you know, 2002 to 2005 or 6, which is 12 or  
8 13 years ago and a lot has changed since then. As I  
9 recall, the highest priority site they assessed at  
10 that point were several crossings on Route 201.  
11 There are tributaries to the Kennebec that  
12 immediately cross under 201 and directly into the  
13 Kennebec River and we did not pursue any of those in  
14 part because of the expense and difficulty of working  
15 on Route 201 we weren't going to get very far with a  
16 \$500,000 fund. And I -- I have no idea how those  
17 crossings may have changed. DOT has changed a lot.  
18 DOT is doing is a much better job with culverts now  
19 than they were 15 years ago and those culverts may  
20 have been fixed in the meantime.

21           MR. BEYER: In your testimony you also there  
22 again on Page 3 you discuss that the compensation  
23 parcels are largely for the -- the brook trout  
24 habitat there is largely for adult brook trout,  
25 stocked brook trout and angling opportunities.

1 Doesn't supporting angling opportunities or  
2 protecting angling opportunities help advance the  
3 goals of your organization?

4           JEFF REARDON: A mantra for my organization  
5 is our job is to take care of the fish and we will  
6 let the fishing take care of itself. If I've got to  
7 choose between protecting habitat and providing an  
8 access for people to wet a line, protecting habitat  
9 is at the top of my list every single time. And, for  
10 example, projects like not to say that we don't work  
11 on access projects, but the access is secondary or  
12 incidental to the habitat protection. That Cold  
13 Stream project is a great example. That provides for  
14 all kinds of angler access, but we did it to protect  
15 the watershed and maintain the habitat integrity in  
16 Cold Stream and those headwater ponds.

17           MR. BEYER: You had asked Ms. Johnston on  
18 cross-examination how much shade on an 80 foot wide  
19 stream, I believe it was a 10 or a 12 foot tall shrub  
20 would provide. How much shade on an 80 foot stream  
21 would a 40 foot tall tree provide?

22           JEFF REARDON: Well, I guess it depends on  
23 the angle of the sun, et cetera, et cetera, but did  
24 you say 40 versus 10?

25           MR. BEYER: Yes.

1           JEFF REARDON: Four times as much. I mean,  
2 it's pretty obvious it's four times as much. Don't  
3 ask me to do trigonometry. It's been a while, but  
4 four times more, I know that -- I know it would be  
5 proportionally. If I may, the other thing that you  
6 would get is that you would, you know, at 40 feet  
7 you'd have much larger wood. And, again, a large  
8 part of our preservation work where we look at a land  
9 conservation for brook trout and salmon is about  
10 maintaining intact forests, and this is where  
11 fisheries, biologists and foresters sometimes  
12 disagree, they see a tree getting old and dying is a  
13 lost opportunity, we see it as habitat creation. And  
14 sometimes those trees are pulled into the stream on  
15 purpose, that's what the chop and drop projects are.  
16 In the long run, we would like to restore that as a  
17 natural function and that's a long-term job, but you  
18 get this by maintaining buffers and allowing those  
19 trees to grow big enough so they'll get derooted. At  
20 an 80 foot wide stream, 40 foot vegetation wouldn't  
21 do it, but at a 10 foot wide stream, which many of  
22 these headwater tributaries are, 30 to 40 foot, you  
23 know, 6 to 8 inch trees would provide a lot of  
24 habitat function that 10 inch alders would not -- I  
25 mean, 10 foot alders will not.



1 MR. BEYER: And I understand your argument  
2 concerning large, woody debris, however, if tapering  
3 was used in along the brook trout streams, would that  
4 reduce the impacts of insulation on the streams?

5 JEFF REARDON: To some extent -- again, I'm  
6 going -- I -- I confess I don't know how wide the  
7 area of tapering would be. If tapering is just at  
8 the edge of a 150 wide corridor, you know, the 10 or  
9 20 feet on the east edge and the west edge of a  
10 north/south running corridor the impact would be  
11 minimal. If the tapering was 90 percent of the 150  
12 foot width of the corridor, it would, you know, have  
13 more impact, but it's still only going to be  
14 vegetation that's 20 feet tall and that's giving  
15 twice as much shade as the 10 foot tall vegetation  
16 would be. 25 foot, you know, again, it's  
17 proportional and the increase in tree height is not  
18 particularly large. I really think until -- and when  
19 you get closed canopy over small streams, you may  
20 never get the closed canopy with mature forest over  
21 80 foot wide stream, but at a 20 foot wide stream,  
22 you will get to the closed canopy with trees in the,  
23 you know, 40-50 foot height. You're not going to get  
24 there I don't think with vegetation that can be left  
25 under the, you know, in the 20 to 30 foot range

1 except or very small streams. And, again, that would  
2 be an improvement on those very small streams, not so  
3 much on the larger ones.

4 MR. BEYER: Thank you. What would be the  
5 benefits if, for example, and this is completely  
6 hypothetical, all of the culverts on the Spencer Road  
7 got replaced such that they were Stream Smart  
8 Crossings?

9 JEFF REARDON: I -- I don't know for a  
10 couple of reasons. Number 1, I know some of the  
11 streams that cross that and when you say all of them,  
12 I have no idea how many there are, one could look --  
13 I wouldn't look at just the Spencer Road, I'd look at  
14 a watershed and pick some of the more important ones  
15 and I can give some thought as to what those are and  
16 I don't have -- beyond Cold Stream, which I know very  
17 well, I don't have ideas and I believe most of the  
18 crossings in Cold Stream are already on their way to  
19 being fixed. But, I mean, you could do that  
20 assessment and get to the idea of, you know, how much  
21 habitat replaces 12 miles. Again, it would require a  
22 detailed status of culverts. One of the issues is  
23 that all of the culvert data on those private timber  
24 lands is proprietary, so I don't know what the  
25 existing status of the culverts is. And I will say

1 some forest owners when I look at their lands have  
2 done quite a good job, other forest owners have not  
3 and I do not know the status of the culverts on that  
4 side of Route 210. On the east side, I have a little  
5 better sense.

6 MR. BEYER: Thank you. I'm going to now  
7 turn to Mr. Joseph. Do logging roads through a deer  
8 wintering area fragment that habitat?

9 RON JOSEPH: It could in the wintertime when  
10 the snows are deep, but it depends on if it's a  
11 winter road or a -- winter roads don't, but. You  
12 know, the difference of winter roads?

13 MR. BEYER: Yes. Yup. How narrow would  
14 that road have to be in order for it not to fragment  
15 the habitat? In other words, would a skid trail as  
16 opposed to something like the Spencer Road?

17 RON JOSEPH: I think, no, we have a number  
18 of skid trails that are in deer yards. In fact, we  
19 have a number of strip cuts that are in deer yards  
20 that -- it depends on the width.

21 MR. BEYER: Okay. In your testimony this  
22 morning you mentioned the deer yard in Parkman.

23 RON JOSEPH: Mmm Hmm.

24 MR. BEYER: Do you know if that deer yard  
25 has been rated?

1 MR. BEYER: Rated.

2 RON JOSEPH: I do not.

3 MR. BEYER: Okay.

4 RON JOSEPH: You mean either as a  
5 significant habitat or?

6 MR. BEYER: Right. Is it moderate or high  
7 value? Has it been rated as moderate or high value?

8 RON JOSEPH: That, I don't know. This is  
9 quite a few years ago.

10 MR. BEYER: Okay. Are any of the deer yards  
11 to your knowledge in the organized towns rated for  
12 moderate or high value?

13 RON JOSEPH: In the organized?

14 MR. BEYER: In the organized.

15 RON JOSEPH: I didn't work in the organized  
16 towns, I'm sorry. I don't -- I really don't know. I  
17 think the ones that are bisected by the transmission  
18 corridor -- the existing transmission corridor are  
19 indeterminate status is my understanding.

20 MR. BEYER: Okay. So you primarily looked  
21 at the new 53 mile corridor?

22 RON JOSEPH: I was most concerned with the  
23 impacts to the Upper Kennebec river deer yard, yes.

24 MR. BEYER: Okay.

25 RON JOSEPH: But that's not to say that

1 there aren't some impacts to the other 11 -- I think  
2 the application said there were possibly impacts up  
3 to 22 deer yards, but additional clearing would be  
4 done on 11 if my memory is serving me correctly here.

5 MR. BEYER: Okay. Dr. Publicover, on Pages  
6 19 and 20 in your direct testimony you state the  
7 alternative of burying the line along the Spencer  
8 Road would have less damaging -- be less damaging to  
9 the environment. What about an overhead line  
10 adjacent to the Spencer Road?

11 DAVID PUBLICOVER: That would probably be  
12 even less damaging to the environment because you  
13 wouldn't be disturbing the soil with digging and  
14 trenching, but I suspect the scenic impacts would be  
15 pretty -- pretty severe.

16 MR. BEYER: If the 53 miles of new line, if  
17 that was tapered such as what they're doing along the  
18 stretch near Coburn Mountain, would that lessen the  
19 impact of habitat fragmentation in your opinion?

20 DAVID PUBLICOVER: It would lessen it to  
21 some degree. It would certainly be an improvement,  
22 you know, it would take a bad situation and make it  
23 somewhat less bad. It would reduce the edge effects  
24 because you would have less penetration of light and  
25 wind and things into the adjacent forest. It might

1 increase -- it would probably increase the ability of  
2 some species to get across the corridor. I would say  
3 I'm not sure it would have that much benefit for pine  
4 marten if vegetation was only 35 feet at the edges  
5 and they generally require forest 30 feet or above.  
6 So would it be an improvement? Yes. Would it solve  
7 all of the issues? No.

8 MR. BEYER: Okay. I am going to now ask  
9 this question for the Commissioner and it's for --  
10 I'd like to hear a response from all of the panel  
11 members. Are there areas along the especially the 53  
12 mile section that are particularly sensitive habitats  
13 where either undergrounding or tapering would provide  
14 benefits and can you prioritize those? And we'll  
15 start with Mr. Joseph.

16 RON JOSEPH: Well, as I -- of course, I'm  
17 here to focus my attention pretty much on the deer  
18 yard issue and so I'll concentrate on my -- or  
19 address my comments to the Upper Kennebec River deer  
20 yard. And I guess to answer the Commissioner if he  
21 was sitting here I would -- I would say I would like  
22 to see an alternative put forth in good faith by CMP  
23 that avoids the deer yard all together. Now, that  
24 doesn't entirely answer your question, but I think  
25 that's -- given the fact that we have so many deer

1 yards left and the ones that we do have are pretty  
2 significant, I would like to see more effort put into  
3 examining that alternative where it just skirts  
4 around the deer yard.

5           Now, in terms of minimizing that, I don't  
6 know, I suppose burying it would be less of an issue  
7 than putting 150 foot wide corridor through there,  
8 but that wouldn't be my -- but there would still be  
9 some impacts. It wouldn't be my druthers. I guess  
10 I'm -- I'm looking to DEP for hope that you can apply  
11 some kind of pressure, if you will, to encourage  
12 Central Maine Power Company since they're -- I  
13 understand earlier this week that the longevity of  
14 the life of this project is going to be 40 years or  
15 thereabouts as a minimum and they stand to make  
16 millions of dollars off this project that I don't see  
17 why they can't put more effort into avoiding the deer  
18 yard all together.

19           DAVID PUBLICOVER: Well, I would start by  
20 saying our preference is to see -- to eliminate the  
21 need for the new corridor entirely by co-location  
22 along existing roads. The problem -- many of the  
23 fragmenting impacts are not from the line, it's from  
24 the corridor. Now, to the extent that burial results  
25 in a narrower corridor and perhaps allows for more

1 places where you can maintain full height vegetation  
2 across the corridor that would be an improvement.

3           In terms of priorities, you know, I tend to  
4 think of the big scale, so I would -- to me, the  
5 stretch between say the western end of Beattie, the  
6 Attean area, you know, on the north and Tumbledown  
7 Mountain on the south and on the east to the eastern  
8 end of the Number 5 Bog area, you know, and Spencer  
9 Pond to the south. You know, you're talking about --  
10 that's about a 20-25 mile stretch. I don't think in  
11 terms of a half mile here or a half mile here. I  
12 know TNC has presented its testimony where they have  
13 identified, you know, things at that type of segment.  
14 So, again, and that is also that -- that central  
15 stretch, the area -- the portions where the line most  
16 closely parallels the Spencer Road for -- for part of  
17 that, you know, basically the Spencer Road comes very  
18 close to the corridor between Coburn and Tumbledown  
19 Mountain and the Spencer Road drops down to the south  
20 towards Spencer Pond, the corridor goes across the  
21 street and then they parallel each other very  
22 closely.

23           MS. BENSINGER: Excuse me, could we use that  
24 map? If you could bring that to a place and maybe  
25 you could point to the map.



1           DAVID PUBLICOVER: Well, that map doesn't  
2 have the conservation lands on it. Maybe that one  
3 with the gap.

4           MS. ELY: This one, Dave?

5           DAVE PUBLICOVER: Yeah, probably that. And  
6 also actually if we can pull up my -- our exhibit,  
7 which I believe is DP 18 Group 4's pre-filed  
8 exhibits. Group 4 PowerPoint slides.

9           So essentially, you know, there is the  
10 conservation complex around Pooler, Attean and Number  
11 5 Bog, TNC's whole preserve. And then to south you  
12 have Tumbledown Mountain and Spencer Pond. So that  
13 stretch in between there I think is a -- to me, is  
14 the most important stretch. You know, there are  
15 probably other places that, you know, I haven't  
16 looked at it in as much detail as TNC did. I think  
17 Cold Stream would probably be an important one, but  
18 if you bring up Beattie. Go way down. Way down. So  
19 you can see here, again, there is, you know, the  
20 Attean Pond, you know, and Number 5 Bog, so the whole  
21 conservation complex is here. You know, you have  
22 Spencer Pond here. You have Tumbledown Mountain over  
23 in this area and so you have this stretch where they  
24 parallel each other very closely and Spencer Road  
25 drops down and then you have another stretch where

1 they parallel each other very closely, so that seems  
2 to be the most logical place where you could do both  
3 a burial and a co-location. And, you know, if I had  
4 my druthers that would be my priority, but, again,  
5 the first priority is avoid the need for a new  
6 corridor entirely. You know, I would -- you know, I  
7 would guess the crossing of the South Branch of the  
8 Moose River might be a priority. Some people might  
9 have crossing of Route 201 as a priority for scenic  
10 reasons, that really hasn't been our issue, but  
11 that's how I would think of it.

12 MR. BEYER: Thank you.

13 DAVID PUBLICOVER: Do you want the others?

14 MR. BEYER: Yes, I do.

15 TODD TOWLE: For me, I think -- I'm kind of  
16 in line with Jeff here. I mean, there is -- if you  
17 took a sample of all of the streams, the crossings,  
18 you're going to find brook trout in probably every  
19 one of them of certain a age, you know, whether  
20 they're parr or whether they're adult. But I -- I  
21 feel like the Cold Stream area and the tributaries,  
22 but Tomhegan, that is an incredible valuable piece of  
23 brook trout habitat and not just in Maine, okay.  
24 That's -- that would be the east coast. That's one  
25 of the primary places for the last stand of these

1 fish. It's got everything going for it. So that  
2 would be -- as a -- as the fisheries would go, that  
3 would be my priority, that whole parcel.

4 MR. BEYER: Okay.

5 TODD TOWLE: Like I said before, the other  
6 one that's -- I've got probably a lot more experience  
7 and that probably a lot of people don't have is Horse  
8 Brook. It's another small brook that crosses and it  
9 goes into the Moose River, so it drains from Grace  
10 Pond to the Moose River. Brook trout actually will  
11 go back and forth from both of those fisheries --  
12 from both of those waters in the summer for -- for  
13 refuge and that, you know, those types of waters that  
14 are interconnected where you have protection, natural  
15 protection, those to me seem to be a priority because  
16 you have migratory fish moving around. And a lot of  
17 those fish are -- they may be small, but they're also  
18 adults, okay, so just because a brook trout is 5 or 6  
19 inches it can actually be an adult, all right, so  
20 that's a spawning fish, that is essentially a mature  
21 fish. So I would say anything that's connecting  
22 with -- if you had IF&W study, so which I'm sure that  
23 they have some, but they don't have all of them for  
24 every stream in Maine, but that's what I would  
25 prioritize.

1 MR. BEYER: Thank you. Mr. Reardon.

2 JEFF REARDON: Can you scroll backwards to  
3 the Reardon exhibit starting with Reardon 3-A, which  
4 is my, I think, third or fourth slide? There we go.  
5 So in my pre-filed -- first of all, let me step back  
6 and do the big picture. The question you asked, I  
7 believe, was are there places where I think  
8 undergrounding would be helpful as opposed to the  
9 proposal.

10 MR. BEYER: Undergrounding or tapering.

11 JEFF REARDON: Okay. You and I talked about  
12 tapering before, so these are all high priority  
13 areas. I will say with regard to undergrounding from  
14 my perspective -- and this comes from participation  
15 with the construction of a pipeline corridor through  
16 the Sheepscot. I'd want to think hard about the  
17 long-term impacts of a wider cleared corridor versus  
18 the short term impacts of the stream crossings and it  
19 would make a big difference whether those stream  
20 crossings were trenched or directionally drilled and  
21 on the Sheepscot we did both. The directionally  
22 drilled crossing was essentially zero impact to the  
23 West Branch of the Sheepscot River. The trench  
24 crossing had some pretty significant short-term  
25 impacts on the impacts on the East Branch of the

1 Sheepscot and I want to see what the application for  
2 trenching would look like. The details would really  
3 matter on the burial option.

4           However, to go to your question of  
5 particular places where mitigation measures would  
6 reduce the impacts I identified several in my  
7 pre-filed testimony and I'm going to walk through  
8 them kind of from west to east on the map. So the in  
9 big picture we're starting relatively far west on  
10 that 53 mile corridor where there is a crossing  
11 and -- and this is a section -- and this is one of  
12 the things that I focused on, there were places where  
13 just because of where the line was laid out rather  
14 than crossing one big stream once it crossed multiple  
15 small streams and one of the examples of that  
16 identified on habitat I know is quite high value was  
17 in Skinner Township there is a complex of 18  
18 crossings; three permanent streams, 12 intermittent  
19 streams, three ephemeral streams on a combination of  
20 the West Branch of the Moose River, the South Branch  
21 of the Moose River and several tributaries near where  
22 the two branches come together. And that would  
23 definitely be a place where you consider rerouting to  
24 potentially avoid an area which clearly has a lot of  
25 streams coming together in a relatively short reach

1 and get to fewer crossings maybe on higher ground.  
2 It's a place where taller poles to span those  
3 crossings like was taken at Gold Brook or Mountain  
4 Brook could make a big difference and, again, I --  
5 there may be options there.

6           The next one that I identified was on Piel  
7 Brook. Piel Brook, this is -- scroll two slides  
8 forward. There we go. So Piel Brook is the primary  
9 tributary to Parlin Pond. It drains sort of the east  
10 side of Coburn Mountain into Parlin Pond and then  
11 Parlin Stream which eventually goes down into the  
12 Moose River. Piel Brook is a nice little brook trout  
13 stream if you're high enough up on it. It gets  
14 warmer in its lower reaches down towards the pond.  
15 But near the four corners of Bradstreet, Parlin Pond  
16 and Upper Enchanted and Johnson Mountain Townships,  
17 again, just because of where the crossing goes  
18 through the stream -- the crossing there, there are  
19 10 crossings; three permanent streams, five  
20 intermittent streams, two ephemeral streams right in  
21 the headwaters of Piel Brook, which are probably the  
22 most significant pieces. But I actually think a  
23 table on the next page -- hold on, go back. So each  
24 of these blue lines here is a crossing and I -- there  
25 is a table on the next page that identifies which

1 crossings those are. If I had them -- I could have  
2 flagged each of these if I had the GIS mapping in  
3 front of me, but as can you see, there is a pretty  
4 short reach here and that reach is -- can anybody  
5 read that? .09 point.

6 MR. BEYER: .09.

7 JEFF REARDON: So within a mile there is 10  
8 stream crossings all on streams that go into Piel  
9 Brook all close to its headwaters. That is a lot of  
10 impact on small headwater streams that potential for  
11 sediment for multiple streams during construction,  
12 potential temperature impacts because each of those  
13 crossings by itself has some impact, but 10 of them  
14 close to each other on the highest and coldest part  
15 of stream has more impact. So I'd look here, again,  
16 is there a relocation that avoids this. Burying,  
17 again, comes with the trade-offs I talked about  
18 earlier or you can go to taller poles that span those  
19 crossings instead.

20 Two others that I'll flag and I will note  
21 that both of these were also flagged in the  
22 correspondence between IF&W and the licensee  
23 relatively recently that Mr. Manahan was asking me  
24 questions about earlier are the Cold Stream crossing.  
25 So go forward another slide. One more, please. So

1 the issue here is that we conserve and, in fact, I'm  
2 now feeling quite guilty having written a lot of  
3 applications for funding that said that we have  
4 conserved Cold Stream from source of mouth, but we  
5 didn't. We did not conserve the footprint of the  
6 Capital Road and that's where the corridor is  
7 crossing because they don't have to cross  
8 conservation there, although they're crossing between  
9 two conservation parcels. The upper parcel is one  
10 parcel in the Cold Stream forest unit, the lower  
11 green parcel there is the lower piece of that.  
12 Again, this is a place where just because of the line  
13 and they're squeezing between the road and two  
14 conservation parcels and they chose to go through  
15 that gap. That's a wet, marshy relatively flat area  
16 with a bunch of wetlands and intermittent streams  
17 that come into a relatively flat for Cold Stream --  
18 section of Cold Stream. So, again, there is lots of  
19 impact on multiple streams in a fairly defined area  
20 that already has some temperature issues. I mean,  
21 we're down relatively low in Cold Stream here. This  
22 is a part of the stream that already warms and you  
23 can find brook trout there all summer, but not very  
24 far up stream from us here is the confluence of  
25 Mountain Brook and that's already a piece of the



1 stream that fish are migrating into Mountain Brook,  
2 which is colder when this warms up mid-summer and I  
3 think this will make that impact worse in this  
4 localized area.

5           Then the last one is probably the one where  
6 I have perhaps the highest level of concern. Go two  
7 more slides. And this is the crossing of Tomhegan  
8 Stream and there is considerable discussion of this  
9 in the back and forth between the Department about  
10 final details that's happened this winter since  
11 the -- as the comprehension plan was being finalized  
12 in that email exchange that ended a couple of weeks  
13 ago. But, again, they're relatively squeezed here.  
14 I believe that one they chose to cross Cold Stream  
15 where they did, they've got to find a place to cross  
16 Tomhegan Stream and get to the Kennebec, they're  
17 squeezed by that Cold Stream parcel again here, which  
18 is conservation land they can't go across. There is  
19 a heritage pond, I believe, in that corner of that  
20 parcel. And where this crossing is you can -- you  
21 could put it here and then you're closer to  
22 encroaching on conservation land. You can put it  
23 here, but just look at this complex of wetlands and  
24 small streams through here. All those small blue  
25 lines are separate streams. Again, I can't remember

1 the details. Some of those are ephemeral, some of  
2 them are intermittent, some of them are permanent.  
3 The actual main stem of Tomhegan stream is braided  
4 here. That may be an impact of old log driving. It  
5 may be an impact of that stream crossing. I don't  
6 know, but the stream is braided at this location, so  
7 it's multiple crossings. And, again, if you think  
8 about the temperature impact of opening up that 150  
9 foot wide corridor, it's not having it on one small  
10 stream at this location, it's having it on multiple  
11 streams, all of which come together so the rest of  
12 Tomhegan Stream coming down here has that cumulative  
13 impact of multiple crossings. If there was a way to  
14 find a place that crosses fewer of these or, again,  
15 find a way to keep more canopy and more shade on  
16 those locations that would be it.

17 I will also say you were kind of asking me  
18 for a prioritized list. These happen to be streams I  
19 know well and when I look at the impacts they seem  
20 severe. I have not done a detailed assessment of  
21 every stream on the 53 miles, but that is something  
22 one could do with data.

23 MR. BEYER: Thank you. Here again this is  
24 for any of the panel members and it's a question from  
25 Commissioner Reid. What environmental benefits of

1 burying or tapering vegetation -- what would the  
2 environmental benefits be of tapering or burying the  
3 line have in the sensitive habitats you're concerned  
4 about?

5           JEFF REARDON: I'll start. We'll go the  
6 other way this time?

7           MR. BEYER: Sure.

8           JEFF REARDON: I'm warmed up. I would --  
9 tapering, we talked about tapering. I don't think  
10 for brook trout those benefits are large. I can't  
11 speak for the wildlife or visual impacts. For  
12 streams, I have concerns about burying. It depends  
13 on how the stream crossings were done. If all of  
14 these streams were directionally drilled, the impact  
15 on the stream could be zero depending on how that was  
16 done. Again, I don't know what the cost would be.  
17 And I guess I -- were Commissioner Reid here, I would  
18 encourage him to ask -- to add to his list of things  
19 to consider taller poles to keep an intact canopy  
20 over the stream crosses.

21           TODD TOWLE: I really, I mean, I just can't  
22 see without the knowledge of drilling, you know, and  
23 the benefits and the difference between going over or  
24 under some of these, you know, valuable habitats. I  
25 guess from a guiding business perspective there is

1 going to be visual impact either way. If I took a  
2 sample of my client base from the State of Maine  
3 they're very accepting of a working forest. They  
4 grew up with it. They see it. I don't take them to  
5 places like this and -- and seeing a very large power  
6 line would be, I think, detrimental to their  
7 experience. Would it be different if it were a  
8 cooling station and underground? I don't know. I'd  
9 have to see it. I know by just kind of broadly  
10 looking at the size of the -- of a power line, it  
11 seems to me much more, I guess, the word would be  
12 intrusive to -- to what I do for work. And I know,  
13 again, from my business clientele, if I took a poll  
14 from people from away and I took them to a place  
15 with -- under a power line, I don't -- I wouldn't do  
16 it just because of the experience that I'm trying to  
17 provide. I'm trying to provide a remote fishing  
18 experience with -- logging roads are fine for most  
19 people. I guess that's the best way I can answer  
20 that.

21           DAVID PUBLICOVER: I would say, you know,  
22 thinking about the area that I highlighted with that  
23 stretch with Attean, Gold Brook, Number 5 Bog, that  
24 whole preserve on the north, Tumbledown Mountain,  
25 Spencer Lake to the south, you know, one of the core

1 principles of conservation biology is you have your  
2 core high value areas and then you want to maintain  
3 connectivity through them. In some cases, with  
4 corridors if there is inhospitable habitat, but in  
5 this case with the managed forest matrix. And those  
6 places I mentioned are some of the highest value  
7 habitats in this region as, you know, in terms of  
8 maintaining those larger blocks of more mature  
9 interior forest habitat. The area to the north is a  
10 very large IF&W habitat focus area. It's actually  
11 shown, I think, on some of the materials in the  
12 record. Some of that area is managed with preserve,  
13 a lot of it is managed certainly less intensively  
14 than the industrial land.

15           To the south, Tumbledown Mountain is a large  
16 block of 2- -- over 2,000 acres of high elevation  
17 unfragmented habitat. Whether that's because of  
18 operational concerns or just because of Plum Creek  
19 and Weyerhaeuser decided to stay out of it because  
20 it's become a source habitat, I can't say. And the  
21 area around Spencer Lake is a fairly large unroaded  
22 probably continuous interior forest habitat that that  
23 area is actually owned by John Malone, so I think,  
24 you know, he's -- for whatever reason that was one of  
25 his -- I think his first purchase and whether he has

1 special feeling for it, but it has not been  
2 harvested. It's not protected, but it has not been  
3 harvested to the extent of surrounding land.

4           So those are sort of three big blocks of  
5 higher value and maintaining connectivity between  
6 them, anything that, you know, the corridor as we've  
7 said I think would be a big break in forest  
8 connectivity. Anything that can minimize, you know,  
9 reduce that impact, you know, is obviously a benefit.  
10 As I've said, I'm not sure the tapering is all that  
11 effective. The burial would be effective to the  
12 extent that it could result in a narrower corridor,  
13 but especially if it could allow places of full  
14 height vegetation to be maintained across that  
15 corridor. I don't know if they can -- to do that  
16 you'd have to have at least some -- some gap, you  
17 know, to run the cable through, but maybe in places  
18 it doesn't -- they've talked about a 75 foot corridor  
19 and they've talked about the need to not let roots  
20 grow into the trench. Yet, I don't understand that  
21 because Northern Pass proposed burial, they were  
22 along an existing highway and they weren't talking  
23 about a 75 foot wide corridor. They were talking  
24 about much narrower corridors. You know, maybe it's  
25 a different technology, I don't know. But if you had

1 a 75 foot wide corridor that's better than 150 foot  
2 wide corridor. If that whole thing is scrub/shrub  
3 that still creates a gap for mature, you know, forest  
4 species like marten.

5           So there are ways to improve it. But I  
6 think we should be searching, you know, not to make  
7 an unacceptable solution somewhat acceptable, I think  
8 we should be searching for, you know, as I've said in  
9 a number of other venues as we build our 21st Century  
10 infrastructure let's look for 21st Century solutions.  
11 Let's look for the right way to do it, not make a bad  
12 project less bad. You can improve it, but there are  
13 ways you can make it even better and tapering doesn't  
14 get to that level.

15           MR. BEYER: Thank you.

16           RON JOSEPH: Well, I'll echo what David just  
17 said with respect to the deer yard. As I pointed out  
18 in my testimony that IF&W when they wrote to -- in a  
19 June letter to Lauren Johnston that putting the  
20 corridor through the deer yard would be -- could be  
21 very well be an impediment especially in deep snow,  
22 so whatever could be done to reduce that. And I  
23 suppose, I don't know what -- I don't know what the  
24 width would be if the -- of the corridor if there --  
25 if the line is buried there, but I guess if the

1 Commissioner were sitting here, I would go back to  
2 what I said earlier and that is, I guess, my first  
3 druthers would be to ask CMP to seriously think about  
4 avoiding the deer yard all together.

5 MR. BEYER: Thank you all. Another  
6 Commissioner -- another question from the  
7 Commissioner for Mr. Joseph. What is the  
8 significance of the Upper Kennebec deer wintering  
9 area being classified as indeterminate?

10 RON JOSEPH: Well, that's a long, sad  
11 history there that we could take up the rest of this  
12 hearing if -- if you want me to go into that great  
13 detail. The State of Maine, mainly IF&W, has been  
14 working with landowners since probably the late 1950s  
15 to develop cooperative agreements to protect deer  
16 yards and that met with quite a bit of resistance  
17 because IF&W, mainly Chuck Benaziak (phonetic), who  
18 is really the father of deer management in the State  
19 of Maine sent an order for us to ensure a deer  
20 population in western, northern and eastern Maine  
21 we've got to have deer wintering yards. So as the  
22 Department tried to -- I'm going to get to your  
23 question. The Department tried to develop  
24 cooperative agreements in the '50s and the '60s and  
25 met with some success but a lot of resistance and



1 then when LURC came into existence and there was a  
2 mechanism to zone these deer yards as PFWs, that met  
3 with even greater resistance. And then I think after  
4 a period of about 30 years of battling with  
5 landowners and fighting over a PFWs, in 2007 the  
6 Department was lobbied very hard by the forest  
7 products industry to back away from zoning and  
8 instead let's give this cooperative agreement effort  
9 a try again and I think that has largely -- in some  
10 cases it's worked, but the problem with cooperative  
11 agreements is that there is no legal binding and when  
12 the property sells as we've seen a dizzying number of  
13 properties sell in the Maine woods, some of those  
14 agreements with the new landowners said, well, you  
15 know, I didn't sign this agreement and I've invested  
16 this amount of money into this property and the best  
17 remaining timber, the most valuable timber left is in  
18 the deer yard and I'm going to cut it. And so that  
19 in a nutshell is where we're at with deer yards in  
20 Maine. It's been an uphill battle and the deer have  
21 suffered because of it.

22 MR. BEYER: Right. So -- so get to the  
23 question about the fact that the Upper Kennebec deer  
24 yard is indeterminate.

25 RON JOSEPH: I -- I don't know why it is.

1 MR. BEYER: What's the significance of that  
2 though?

3 RON JOSEPH: What's the significance of it?

4 MR. BEYER: Yeah.

5 RON JOSEPH: The significance of it is it  
6 doesn't have legal protection. It's not legally  
7 protected, so the Department has to rely on the  
8 goodwill of the landowner to do what every -- he or  
9 she or the company to protect it and then look to DEP  
10 for some support as well.

11 MR. BEYER: Thank you.

12 MR. REID: Just one follow-up to that. In  
13 your view, does that mean that the Upper Kennebec  
14 deer yard has lesser value as habitat than regulatory  
15 deer yards?

16 RON JOSEPH: No, sir. It does not. It's  
17 just -- I mean, to the deer it doesn't matter really  
18 if it's regulated or not, it's a deer yard, so it's  
19 important to them.

20 MR. REID: Thank you.

21 JEFF REARDON: May I -- may I just add one  
22 piece of testimony regarding that? And if this is  
23 out of place, please tell me, but I will just say in  
24 the planning for the Cold Stream project I spent a  
25 considerable amount of time in the field with IF&W

1 fisheries biologists and deer biologists and staff  
2 from TPL and from then landowner Plumb Creek trying  
3 to sort out where the boundaries were. We had a very  
4 complicated project with an acreage limit where we  
5 were trying to squeeze in as much deer habitat as we  
6 could into that parcel and as much brook trout  
7 habitat as we could into that parcel and we spent a  
8 lot of time going back and forth arguing about the  
9 relative value of this piece of the Kennebec deer  
10 yard complex versus what piece of Tomhegan Stream  
11 versus what Plumb Creek was willing to sell. And I  
12 will say that given the amount of time that the IF&W  
13 staff and the region spent on trying to get as much  
14 of that complex into the Cold Stream unit as possible  
15 they think it has very high value.

16 MR. BEYER: I have no more questions. Thank  
17 you.

18 MS. MILLER: Commissioner, do you have any  
19 other questions?

20 MR. REID: No. Thank you.

21 MS. MILLER: Mark.

22 MR. BERGERON: Dr. Publicover, a few  
23 questions for you.

24 DAVID PUBLICOVER: Sure.

25 MR. BERGERON: With your experience as a

1 forester, could you give us some indication of the  
2 length of time that you think it might take for a  
3 tapering section on the edges of this corridor to  
4 establish itself because as I understand it, and  
5 maybe you have a different understanding, the 150  
6 foot wide corridor would be cleared edge to edge and  
7 then allowed to regrow back up to the tapered width,  
8 can you give us an indication of how long you might  
9 think that might take?

10           DAVID PUBLICOVER: A rule of thumb that I  
11 recall in talking about some of the early sustainable  
12 management discussions was forests reach sort of  
13 maturity, you know, with the minimum level of when  
14 you start talking about mature forests is 40 feet or  
15 40 years. So, you know, and hard woods will reach  
16 that level quicker, oftentimes, than soft woods.  
17 Again, it depends on the species. If you're talking  
18 about, again, soft wood trees growing up to a height  
19 of 35 feet, you know, unless you're doing, you know,  
20 spacing control and giving, you know, pre-commercial  
21 things giving them room to grow, again, I think  
22 you're probably talking 30 years thereabouts. A few  
23 decades.

24           MR. BERGERON: Okay. Thank you. You had  
25 also mentioned earlier about some of the widths of

1 the corridor or the underground portion of the  
2 corridor on the Northern Pass project. Do you have a  
3 sense of in general how wide that underground  
4 corridor was in those sections?

5 MR. PUBLICOVER: Well, I was trying to look  
6 that up recently, you know, that information is in  
7 the Federal Draft Environmental Statement. In some  
8 places it was actually going to be buried in the  
9 road, in a paved road. In other places it was going  
10 to be buried directly adjacent to the road in the --  
11 on the shoulder of the road, but they were talking  
12 about, you know, trying to protect stone walls, you  
13 know, adjacent to the road, so I think they were  
14 talking about -- even if it was adjacent to road  
15 they're talking 10 or 15 feet, you know, in terms of  
16 how much room they needed to install it. And that  
17 may, you know, and then they may add in like one lane  
18 of the road, but they certainly weren't talking 75 --  
19 75 feet. And I think it probably varied in different  
20 places, again, in some places they were going to  
21 go -- they were going to basically close down and dig  
22 up one lane of a road and put it in, so, but. And I  
23 can't say for sure whether this is the exact same  
24 technology that -- that, you know, was discussed in  
25 some of the new witnesses here, so I wouldn't -- I

1 wouldn't guarantee that it's an apples to oranges --  
2 an apples to apples comparison, but I would suggest  
3 looking at the Federal DEIS for the Northern Pass  
4 would give more detail on that kind of thing.

5           MR. BERGERON: Thank you. Mr. Reardon, in  
6 your direct testimony, I believe it was on Page 8,  
7 you were discussing some of the brook trout habitat  
8 in this area. Could you give me a brief description  
9 of what effect forestry activities have on brook  
10 trout habitat?

11           JEFF REARDON: Sure. Certainly forestry  
12 activities have impact on brook trout habitat. In  
13 this region probably the most significant impact was  
14 the impact that occurred when we were log driving.  
15 You can still walk just about any stream in the State  
16 of Maine and find places where the streams were  
17 bulldozed, where driving dams were built, those have  
18 habitat impacts. Some of the habitat restoration  
19 projects we've done were trying to address those  
20 impacts from a very long time ago.

21           The second, I think, most significant is the  
22 road network and particularly the stream crossings  
23 and that's getting better because we're paying more  
24 attention to both, sorry, landowners -- I'm too loud  
25 for microphones.

1 MS. MILLER: Can everybody else just turn  
2 their mic off while Mr. Reardon was talking.

3 JEFF REARDON: I think I did my whole  
4 testimony without a mic. Can everybody hear me  
5 without it? Is this okay? You can hear me? So  
6 that's getting better both because we're talking  
7 about improving regulatory standards. The LUPC is --  
8 is doing a rulemaking on -- or they may have  
9 completed the rulemaking on improved standards for  
10 culverts. It wouldn't affect forest roads, but the  
11 landowners themselves are doing a better job. In  
12 general, right now the forest roads are in better  
13 shape than DOT or town roads.

14 MS. MILLER: Sorry. I guess you have to  
15 talk into the microphone for the live-streaming.

16 JEFF REARDON: I'm sorry. So that would be  
17 the secondary impact. Of course the impacts of  
18 timber harvesting on the streams directly in the  
19 sense of clearing, number one, they're temporary not  
20 permanent. And, of course, the landowner is trying  
21 to regrow trees and get them to marketable size  
22 quickly and you cannot clear all the way to the  
23 stream bank on most of the streams that we're talking  
24 about because you'd violate forestry standards if you  
25 did, so it's significantly lower. That said, as a

1 voluntary buffer management we are typically asking  
2 landowners on conservation lands to do less than what  
3 the law would allow them to cut in riparian areas and  
4 have talked about conservation easements or  
5 conservation purchases like Cold Stream to be able to  
6 do that so there is some impact, sure.

7 MR. BERGERON: Thank you. Also in your  
8 direct testimony you talked about Roaring Brook  
9 Mayflies and spotted salamanders and the  
10 protections -- the legal protections -- the  
11 regulatory protections they may have, are there any  
12 of those same protections or similar protections for  
13 any other species of brook trout in this area?

14 JEFF REARDON: No. I think the question  
15 you're asking me is have we -- have we identified  
16 brook trout habitat as significant wildlife habitat  
17 under the Natural Resources Protection Act?

18 MR. BERGERON: No. Are there other  
19 protections for threaten/endangered or other  
20 classifications by the Department of Inland Fisheries  
21 and Wildlife for brook trout?

22 JEFF REARDON: No. Brook trout are not a  
23 threatened and endangered species. They are a  
24 species of greatest conservation need as identified  
25 in the most recent state wildlife action plan, which



1 I think is dated 2015 and was finished in 2016.

2 MR. BERGERON: Okay. Thank you. One more  
3 question and I know it's probably in the record  
4 somewhere. I was hoping you might be able to briefly  
5 describe if the Maine Department of Inland Fisheries  
6 and Wildlife or the U.S. Fishery and Wildlife Service  
7 had any comment to impacts of potential impacts to  
8 Atlantic salmon habitat on the West Branch of the  
9 Sheepscot River.

10 JEFF REARDON: If -- if they -- if they did,  
11 I don't recall seeing it in the consultation. I will  
12 say, again, before I worked for TU I worked for  
13 Sheepscot Valley Conservation Association. That  
14 section of the West Branch of the Sheepscot River is  
15 already severely impacted by multiple power lines  
16 that don't cross the river at right angles, they  
17 parallel it, if I remember correctly, on both sides.  
18 The Maritimes and Northeast pipeline also crossed the  
19 West Branch of the Sheepscot River in that same reach  
20 and, again, created an additional corridor. At the  
21 time I worked for the Sheepscot Valley Conservation  
22 Association the then president of SVCA wanted me to  
23 spend all of my time working on a bill in the Maine  
24 Legislature about what he called corridor sprawl and  
25 how we should not allow one corridor to be next to

1 another one. That has not become the state policy in  
2 the intervening 22 years or so. But the -- I think  
3 the additional impact of this line while there is  
4 some because it will remove a little bit of what  
5 little bit is left isn't very high because so much is  
6 already gone.

7 MR. BERGERON: Great. Thank you.

8 Mr. Towle, in your direct testimony you had talked  
9 about -- so maybe if you can describe a little bit  
10 more about the differences or the importance of the  
11 differences between wild brook trout and non-native  
12 brook trout, please?

13 TODD TOWLE: I guess the best way to  
14 describe it would be look. It would be a physical  
15 characteristic. If you look at a hatchery raised  
16 brook trout, even after they're put into a system  
17 whether it's a lake or a pond or a river from IF&W,  
18 the fish itself has a different look. It's the same  
19 species, but it will have fin wear. You'll have it  
20 on its pectoral and on its tail. It's usually from  
21 crowding in a hatchery, so it's not a -- what you  
22 would picture as it -- it looks like damaged fish and  
23 it takes a while for those fins to grow back. A wild  
24 brook trout in comparison no matter what the size,  
25 whether it's a parr, immature brook trout, or adult

1 anywhere's between 6 to 20 inches it's what you  
2 picture in your mind especially in the fall in  
3 September when spawning season occurs. I don't have  
4 any slides to show you the difference, but I can tell  
5 you from an angler's standpoint and this would be  
6 from a -- from my business from a traveling angler or  
7 a resident, if you give them the choice between  
8 catching wild fish over hatchery fish it's 2 to 1  
9 wild fish. They would rather catch a wild fish, and  
10 these are my clients, and travel to catch wild fish  
11 than come and catch hatchery fish. Even though fish  
12 in the barrel mentality, if you've had a recently  
13 stocked pond, hatchery fish are a very easy target.  
14 The fish, for example, I think, can give you at Cold  
15 Stream, those fish no matter what the size and this  
16 is kind of a -- if you look at native fish throughout  
17 the country, Maine's native fish are brook trout and  
18 landlocked salmon. If you go out west, it's a  
19 cutthroat -- the amount of subspecies is a cutthroat.  
20 If you're a traveling angler, you're going to go out  
21 west and you're going to target cutthroat. If you're  
22 coming to Maine you're going to target brook trout.  
23 Even though we have rainbows and we have browns just  
24 like out west they have rainbows and browns, people  
25 want native wild fish. It's important to them. It's

1 history. It's not -- it's not a hybrid. It's not --  
2 it's not a fake fishery. It's not a supplemented  
3 fishery, okay. So those -- having -- having that  
4 it's -- it's the background of hunting and fishing.  
5 You're not on a game farm. You're not on a fish  
6 hatchery. So that to me is, you know, that's the  
7 gist of it. It's the ethical part of fishing.

8 MR. BERGERON: Okay. Great. Thank you.  
9 And I don't know if you had mentioned it, I know it's  
10 in, Mr. Towle, in your testimony, but there is a few  
11 mentions this morning of other panelists about a  
12 state heritage fish water. Could you or somebody  
13 describe what -- what that entails, please?

14 JEFF REARDON: Can I -- you want to try,  
15 Todd?

16 TODD TOWLE: I'll take a crack at it.  
17 Basically the way I look at it -- and he can expound  
18 on it like he can. If you think about it, our  
19 state -- our heritage water, it's a fishery, a pond  
20 that never been stocked. It's the same remnant fish  
21 when Maine was -- was founded. So there is -- you  
22 don't see invasive species in them, so nobody has  
23 gone in and created a different fishery. So to give  
24 you an example, I have a -- my family has a camp on  
25 Grace Pond. It's heritage water. Now, it has brook

1 trout in it. Those are the same brook trout that  
2 have been in there over 100 years, okay. It's the  
3 same. It's never been stocked. It's never been  
4 supplemented. It's -- they usually have special  
5 regulations on them to protect them and it's not to  
6 say that every heritage water is a trophy water.  
7 It's -- don't get that confused, it's not. It's what  
8 makes heritage water incredibly valuable for the  
9 people of Maine and people from away. It's just  
10 that. They're wild fish. They're our heritage fish  
11 and they haven't been altered and manipulated. And  
12 it's not trophy water because if you go to -- a lot  
13 of these ponds a 12 inch fish is the absolute largest  
14 fish you will get out of there, but it is -- it a  
15 wild non-stock fish.

16           JEFF REARDON: And if I can add, the  
17 heritage fish waters were designated initially by  
18 legislation in 2005 or 2006. That legislation was  
19 subsequently amended. To qualify for heritage water,  
20 heritage status, it has to be a lake or pond. It has  
21 to be either have never been stocked or not stocked  
22 in at least 25 years, so it's a rolling list. A pond  
23 will qualify as they reach that threshold. And the  
24 legislation requires two things, one that the State  
25 of Maine may not stock fish there without removing it

1 from the heritage fish list. And number two, that  
2 the State of Maine must have regulations for at  
3 minimum no live fishing bait on those waters in order  
4 to prevent the introduction of non-native species  
5 that might compete with them, several of the bait  
6 fish species, smelts, golden shiners are very  
7 significant competitors with brook trout.

8 MR. BERGERON: Thank you. No further  
9 questions.

10 MS. BENSINGER: Mr. Reardon, would -- can  
11 you submit into the record a copy of that report or  
12 document you referred to, I believe it was a 1999  
13 document that with a discussion of potential brook  
14 trout habitat improvement project?

15 MR. BEYER: Indian Pond.

16 JEFF REARDON: Yes, I -- I know what you're  
17 referring to and I'll tell you why I'm hedging. The  
18 only place -- I know -- I know I no longer have a  
19 hard copy of that because I lost it when I moved to  
20 my current house 10 years ago. There was a box of  
21 documents I've never found. And electronically that  
22 document could be found in the FERC archives, but I  
23 believe the file format there is one that I can no  
24 longer retrieve on my computer. I've tried. I can't  
25 remember what the file format is, but I think I can

1 find where the file is in the FERC docket, but  
2 whether I can create a format of it that I can print  
3 or share, I honestly don't know. And I'm -- I'm  
4 sorry to do that, but I just -- I don't want to  
5 promise I can't -- I will do my best.

6 MS. BENSINGER: Would you let us know,  
7 please?

8 JEFF REARDON: Yeah, I can definitely  
9 provide the link to where it is for somebody more  
10 technically savvy than me, but I'll do my best to get  
11 you a hard copy.

12 MS. BENSINGER: Thank you.

13 RON JOSEPH: Is this -- is this a FERC  
14 document?

15 JEFF REARDON: It is.

16 RON JOSEPH: Would it be available from  
17 Steve Shepard at Fish and Wildlife Service since he's  
18 the FERC biologist?

19 JEFF REARDON: It -- it might be. It also  
20 might be available in -- in the Department's records  
21 from the relicensing. Were Dana Murch still here,  
22 Dana would be able to put his fingers on that  
23 document in about 30 seconds. Whether Kathy Howatt  
24 can do that or not, I don't know. And I believe -- I  
25 am just trying to think, Steve Hippito (phonetic)

1 from IF&W, he has retired.

2 MS. BENSINGER: Please, if you can just let  
3 us know.

4 JEFF REARDON: I'll -- I'll do my best.

5 MS. BENSINGER: Thank you.

6 MS. MILLER: All right. Any other questions  
7 from the Department? We'll go ahead then and break  
8 from lunch. We'll do redirect after lunch. Same  
9 panel. Thank you.

10 (Luncheon break.)

11 MS. MILLER: Welcome back from lunch. So at  
12 this point, we have just a little bit longer with our  
13 Group 4 witnesses. Thank you very much. And we will  
14 start with redirect.

15 MS. ELY: I just have a couple of questions.  
16 Mr. Joseph, Mr. Manahan asked you some questions  
17 about forestry activity in Maine, do you recall that  
18 line of questioning?

19 RON JOSEPH: I do.

20 MS. ELY: How many forest projects --  
21 forestry projects are 54 miles long and 150 feet  
22 wide?

23 RON JOSEPH: I can't think of any.

24 MS. ELY: Okay. Thank you. Mr. Buxton also  
25 asked you some questions, the ones I'd like to ask



1 you about are any deer hunting permits. When he was  
2 asking you those questions it sounded like you wanted  
3 to elaborate but the questioning moved on and I  
4 wanted to ask you if you wanted to elaborate on any  
5 deer permits?

6 RON JOSEPH: Well, the only --

7 MR. BUXTON: I'm sorry, if I may. I don't  
8 object to him answering the question, but I didn't  
9 ask a thing about deer permits.

10 MS. MILLER: I wonder if you can just  
11 clarify what this is about so then we just have a  
12 little context in mind?

13 MS. ELY: If I recall the line of  
14 questioning it was about whether there were --  
15 whether deer permits were issued and I am honestly  
16 not where sure Mr. Buxton went, but it was truncated  
17 and so I wanted to let Mr. Joseph finish.

18 MR. BUXTON: I have great respect for  
19 counsel and less respect for my memory, but I believe  
20 none of us will remember my discussing deer permits.

21 MS. BENSINGER: Do you recall a question  
22 about that?

23 RON JOSEPH: Well, I don't -- I recall  
24 starting -- maybe he said something that triggered me  
25 to talk about winter severity and the increase and

1 decrease and the issuance of any deer permits. It  
2 has to do with winter severity, so. In years that  
3 there is a lot of deer mortality with high --

4 MS. BENSINGER: Well, let her ask the  
5 question.

6 MS. MILLER: So it sounds like Mr. Buxton --  
7 just for clarifying the record, it sounds like  
8 Mr. Buxton -- Mr. Buxton did not ask any questions  
9 about any deer permits; is that correct?

10 MR. BUXTON: That's correct. I did ask a  
11 question about the effect of heavier snows on the  
12 deer herd.

13 MS. MILLER: Okay. Thank you.

14 RON JOSEPH: And that's probably what  
15 triggered my thought about any deer permits.

16 MS. MILLER: Go ahead.

17 RON JOSEPH: And that the state issues any  
18 deer permits and it varies from year to year  
19 depending on what the estimate of deer mortality is  
20 in the winter. This winter because we've had a  
21 really severe winter there will be high deer  
22 mortality rates and my -- my guess is that next  
23 spring or later in the spring or the summer when they  
24 do issue any deer permits it will be cut way back to  
25 save the does.

1 MS. ELY: Thank you. Mr. Reardon,  
2 Mr. Manahan asked you some questions about CMP  
3 Rebuttal Exhibit 4.1.A, do you recall that line of  
4 questioning?

5 JEFF REARDON: I do.

6 MS. ELY: And do you still have that exhibit  
7 handy?

8 JEFF REARDON: I do. I think it's actually  
9 the one on the bottom of the pile. I do. Is it the  
10 attachments to Ms. Johnston's rebuttal testimony?

11 MS. ELY: It is. So keep it -- keep it  
12 handy. First, can you look at the bottom of Page 2?

13 JEFF REARDON: Of her testimony?

14 MS. ELY: Of the attachment CMP 4.1.A Page  
15 2. There is an email at the bottom of the page that  
16 Mr. Manahan had you read from, I'd like to ask you  
17 what the date of that email is.

18 JEFF REARDON: At the bottom of Page 2?

19 MS. ELY: Yup.

20 JEFF REARDON: The date on the email at the  
21 bottom of the page was December 21, 2018. Are we  
22 looking at the same document?

23 MS. ELY: Yes. And who is it from?

24 JEFF REARDON: From Bob Stratton at IF&W.

25 MS. ELY: And who is it to?

1           JEFF REARDON: To Gerry Mirabile.

2           MS. ELY: Okay. Could you look one page  
3 back on Page 1 of this exhibit to bottom, there is  
4 another email there, can you tell me who it's from?

5           JEFF REARDON: Gerry Mirabile, CMP.

6           MS. ELY: And who is it to?

7           JEFF REARDON: Sorry. To Bob Stratton at  
8 IF&W.

9           MS. ELY: And what's the date of that email?

10          JEFF REARDON: March 11, 2019.

11          MS. ELY: Thank you. And then just the top  
12 of the page again there is another email. Can you  
13 state who the email is from?

14          JEFF REARDON: The email is from Jim  
15 Connolly, who I believe is the Bureau Director at  
16 IF&W.

17          MS. ELY: And who is it to?

18          JEFF REARDON: To Gerry Mirabile.

19          MS. ELY: And what is the date on that  
20 email?

21          JEFF REARDON: March 18, 2019.

22          MS. ELY: Thank you. Mr. Manahan asked  
23 you -- sorry, back on Page 2. He asked you in this  
24 email where CMP is asking MDIWF if the attached  
25 clarification materials provided, quote, satisfactory

1 mitigation of the project impacts. Do you recall him  
2 asking you about that language in the email?

3 JEFF REARDON: I do.

4 MS. ELY: Okay. Again, back to Page 1, the  
5 top email. Can you tell me if the word satisfactory  
6 mitigation appeared anywhere in that email?

7 JEFF REARDON: This is the email from James  
8 Connolly to Gerry Mirabile?

9 MS. ELY: Yes.

10 JEFF REARDON: On March 18?

11 MS. ELY: Yes.

12 JEFF REARDON: Yes. It's going to take me a  
13 minute. And, I'm sorry, the satisfactory -- what was  
14 the second word I'm looking for?

15 MS. ELY: Satisfactory mitigation.

16 JEFF REARDON: I have read this quickly, but  
17 I don't believe the word satisfactory or mitigation  
18 appears in the email.

19 MS. ELY: Thank you. Switching gears now.  
20 Mr. Reardon, in some earlier questioning you  
21 mentioned that burying the line might have no impact  
22 on brook trout habitat and I wanted to ask what  
23 assumption did you make about vegetation over the  
24 buried portion of the line in making that statement?

25 JEFF REARDON: I made the assumption that if

1 the line were buried it would be done, number one,  
2 without direct impacts to the stream say by  
3 trenching, and number two, maintaining an intact  
4 riparian buffer with a full canopy for at least 100  
5 feet back from both stream banks.

6 MS. ELY: Okay. Thank you. Dr. Publicover,  
7 Mr. Manahan asked you some questions about traffic on  
8 the corridor, do you recall that line of questioning?

9 DAVID PUBLICOVER: Yes.

10 MS. ELY: Okay. Were you referring to car  
11 traffic or any type of motorized traffic?

12 DAVID PUBLICOVER: No, I was referring to  
13 car traffic, which obviously there will be not be in  
14 the corridor. There will be snowmobile traffic. I  
15 understand that the corridor will be open to  
16 snowmobiling, which raises additional concerns of its  
17 own on -- especially on American marten. In the  
18 Grant Reliable Wind Power project in Maine I was  
19 involved, I was an expert witness in that proceedings  
20 and this was a wind power project proposed for a  
21 large block of unfragmented high elevation habitat  
22 and one of the primary concerns was on marten because  
23 in New Hampshire that is a state threatened species.  
24 As a result of that, AMC and New Hampshire Fish and  
25 Game worked out a settlement that involved very

1 significant land conservation, but also funded a  
2 study of what the impact of the project would be on  
3 American marten. That project was done by a graduate  
4 student, I believe, at UNH in cooperation with New  
5 Hampshire Fish and Game. It involved radio collaring  
6 a number of marten determining how their habitat use  
7 changed once the project was built and they found  
8 that a number of the marten that they had trapped had  
9 been killed by coyote and the assumption was that the  
10 coyote now had access to this area because the road  
11 up the wind turbines was packed by snowmobiles.  
12 Normally, coyote would not be able to access that  
13 area because of deep snow. So in this area the same  
14 concern remains that, you know, the snowmobile  
15 traffic will create a packed snow corridor that will  
16 allow access to generalist predators such as coyotes  
17 and potentially fox that will not only compete with  
18 marten but could potentially directly prey on them.

19 MS. ELY: Thank you. Mr. Buxton asked you  
20 if you had ever been to the region of the corridor  
21 and you said that you haven't. How is it that you're  
22 able to offer testimony on a place that you have not  
23 visited?

24 DAVID PUBLICOVER: That's a good question.  
25 Well, I have been involved in discussions,

1 conferences, meetings on forest management in the  
2 state, forest ecology in the state dating back to the  
3 Northern Forest Lands Council days of the early '90s.  
4 And for the last 15 years I have been responsible for  
5 land management planning on AMC's lands east of  
6 Moosehead Lake. I have traveled extensively  
7 throughout the region. I've been on industrial  
8 lands. I've been on forest management tours in  
9 northern New Hampshire, western Maine, downeast  
10 Maine, northern Aroostook County. I have been as far  
11 as Rockwood but have not been out into the Moose  
12 River Valley. However, I think my experience gives  
13 me the ability to look at things like aerial  
14 photography, understand the ecology of the landscape,  
15 the forest types and the patterns of timber  
16 harvesting in the area to the extent I can look at an  
17 aerial photo and picture very closely in my mind what  
18 is going on there.

19 MS. ELY: Thank you. Finally, Mr. Buxton  
20 also asked you if you were aware that Maine allows  
21 for the trapping of marten, do you recall this line  
22 of questioning?

23 DAVID PUBLICOVER: Yes.

24 MS. ELY: Does the fact that Maine allows  
25 for the trapping of pine marten mean that we should



1 have a concern for the species or its habitat?

2 MR. PUBLICOVER: Oh, not at all. You know,  
3 first I think it's important to remember that when we  
4 talk about marten we're not just talking about one  
5 species. Marten is one of the two primary umbrella  
6 species in the north Maine woods as determined by  
7 extensive research at the University of Maine and it  
8 is the umbrella species for mature forest habitat.  
9 The other one is lynx, which is the umbrella species  
10 for early successional spruce fir habitat. So when  
11 we talk about marten we're not just talking about one  
12 species, we're talking about the whole suite of  
13 species that share the same habitat needs. Now, with  
14 regards to trapping, again, marten is trapped and I  
15 think that increases the importance of not adding  
16 additional pressure onto the species by degrading its  
17 habitat. How many deer are killed in Maine by  
18 hunters? And we've spent a lot of time here talking  
19 about deer habitat management. So I don't think  
20 trapping -- the fact that a species is trapped or  
21 hunted does not mean that we should not be concerned  
22 about the habitat impacts.

23 MS. ELY: Thank you. That's all the  
24 questions I have.

25 MS. MILLER: Thank you. Any recross by the

1 Applicant?

2 MR. MANAHAN: Mr. Reardon, just a few  
3 follow-up questions. You had testified earlier today  
4 that you think chop and drop would be a useful  
5 addition to CMP's compensation proposal.

6 MS. ELY: Objection. This is not within the  
7 scope of my redirect.

8 MR. MANAHAN: Ms. Ely -- Ms. Ely just a  
9 minute ago asked you about IF&W's agreement -- the  
10 agreement between CMP and IF&W. Are you aware --

11 MS. ELY: I did not ask about the substance.  
12 I just asked about dates and the substance of the  
13 email. I didn't ask about the document.

14 MR. MANAHAN: Right, but you asked about  
15 whether or not the material that Mr. Reardon just  
16 looked at --

17 MS. BENSINGER: Mr. Manahan, please address  
18 your argument to the Presiding Officer.

19 MR. MANAHAN: Excuse me. Ms. Ely just asked  
20 about whether or not the materials that Mr. Reardon  
21 was reading indicated that there was a satisfaction I  
22 think was the word from IF&W and I'm exploring  
23 whether or not, in fact, Mr. Reardon is aware of the  
24 specifics of that satisfaction.

25 MS. BENSINGER: I would recommend then that

1 the Chair allow the question.

2 MS. MILLER: I will allow the question.

3 MR. MANAHAN: Thank you. Are you aware that  
4 IF&W specifically asked for chop and drop --  
5 specifically asked that CMP not use chop and drop in  
6 its comprehension plan?

7 JEFF REARDON: Two things. First of all,  
8 one of the accommodations in your question that I had  
9 recommended at --

10 MS. BENSINGER: Can you please speak into  
11 the microphone?

12 JEFF REARDON: Oh, sorry.

13 MS. BENSINGER: Thank you.

14 JEFF REARDON: Two things, one, I believe  
15 one of the premises for your question was that I had  
16 recommended adding chop and drop to the mitigation  
17 plan. I do not believe I did so. I did discuss what  
18 the standards of wood size were for chop and drop  
19 projects in the context of what kinds of wood we  
20 would like to see recruited out of riparian buffer  
21 zones. So I didn't say that, that's not the question  
22 you asked me, but I wanted to address that premise of  
23 your question. I am sorry, can you repeat the  
24 question about the materials?

25 MR. MANAHAN: Are you aware that IF&W asked

1 CMP not to include chop and drop in its comprehension  
2 plan?

3 JEFF REARDON: I have reviewed  
4 correspondence between the two agencies. I can't  
5 remember seeing that in the IF&W communications. I  
6 believe I did see in some of the communications from  
7 CMP that you were confirming that they asked you to  
8 look at other alternatives than chop and drop.

9 MR. MANAHAN: Okay. And with respect to  
10 CMP's discussion with IF&W having to do with Tomhegan  
11 Stream, are you aware that CMP agreed to reevaluate  
12 Tomhegan Stream with IF&W for plantings following the  
13 initial cutting to determine if more shading is  
14 needed?

15 MS. ELY: I'd like to object to this  
16 question as well. This was definitely not anything  
17 that I asked about and I asked about whether the  
18 words were in the email not about the actual content  
19 of the other documents.

20 MR. MANAHAN: Ms. Ely opened the door to the  
21 IF&W agreement in her redirect and so I'm re-crossing  
22 on that IF&W agreement with respect to whether or not  
23 IF&W is satisfied.

24 MS. MILLER: I'll allow it.

25 MR. MANAHAN: Thank you. This will be

1 short. This is a -- do you need me to repeat the  
2 question, Mr. Reardon?

3 JEFF REARDON: You were asking me -- may I  
4 ask, are you asking me about the section of that  
5 correspondence headed issue three resolution?

6 MR. MANAHAN: No, I'm simply asking if  
7 you're aware that CMP agreed to reevaluate Tomhegan  
8 Stream with IF&W for plantings following initial  
9 cutting to determine if more shading is needed at  
10 Tomhegan Stream?

11 JEFF REARDON: I -- I am reading the  
12 paragraph that I believe you're asking about that  
13 deals with Tomhegan Stream and it does not say  
14 exactly that, but I'll read what that paragraph says  
15 to you if you'd like.

16 MR. MANAHAN: Well, as far as I know it's  
17 not in that paragraph. I'm asking generally what  
18 IF&W's discussion on the agreement with CMP --

19 MS. ELY: Objection. We're now talking  
20 generally about CMP's origin. You're admitting that  
21 it's not even in that document.

22 MR. MANAHAN: I didn't say it was in that  
23 document. I said it has to do with CMP's agreement  
24 with IF&W, which was the point of your question,  
25 which is --

1           JEFF REARDON: May I answer your question?  
2 With respect to the --

3           MS. BENSINGER: Hold on. Hold on. The  
4 Presiding Officer needs to rule on the objection.  
5 Thanks.

6           JEFF REARDON: Sorry.

7           MR. MANAHAN: This is simply following up on  
8 the same question.

9           MS. MILLER: I will allow it.

10          JEFF REARDON: With respect to discussions  
11 between CMP and IF&W regarding Tomhegan Stream, I am  
12 aware that in an email from Bob Stratton on Friday,  
13 February 21, he identified a number of issues that  
14 were still open issues at that time. Number three of  
15 which was, and I quote, MDIW&F and CMP agreed to  
16 evaluate all riparian issue areas post-construction  
17 and assess the need to augment the natural regrowth  
18 of vegetation within the respective buffers. As part  
19 of the post-construction assessment MDIF&W requests  
20 that the five streams labeled as PSTR-4401, 4401, and  
21 maybe those are the same streams, I don't know, 4405,  
22 4406 and 4407, KMZ PIM 12 receive a higher level of  
23 consideration for potential plantings as they have  
24 elevated value as stream resources. MDIF&W does  
25 request that CMP provide additional planting plans

1 during this phase of the project for the resources is  
2 listed below, Sheepscot River where brook floaters  
3 are present and Montsweag Brook where brook floaters  
4 are present. Brook floaters are fresh water muscles.  
5 In follow-up, March 11, responses from CMP to MDIF&W  
6 the heading of the document is responsive to MDIF&W  
7 remaining issues from December 21, 2018 MDIF&W email  
8 and clarification regarding January 30, 2019  
9 comprehension plan, March 11, 2019. If I read down  
10 to issue three, which I assume is the same identified  
11 issue three, it restates issue three as I just read  
12 it in substantially the same words. I won't read all  
13 of it and there is a, quote, issue three resolution.  
14 The statement that CMP agreed to evaluate all  
15 riparian areas post-construction and assess the need  
16 to augment the natural regrowth vegetation, all is  
17 underlined, with the respected buffers was inaccurate  
18 and has been clarified as discussed below. In  
19 consultation meetings, one stream complex PSR, those  
20 same numbers, I won't read them again, KMZ PIM 12,  
21 known as Tomhegan Stream was discussed and CMP agreed  
22 to revisit those areas with MDIF&W following  
23 construction to determine in plantings were  
24 warranted. It was also discussed in the course of  
25 these consultation meetings that plantings of the

1 non-capable species and stream buffers particularly  
2 in this area of the project where soils are rocky may  
3 not succeed and that natural revegetation is likely  
4 to outcompete plantings. Is that what you're asking  
5 me about?

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

8 MS. MILLER: Thank you. Any other re-cross?  
9 Okay. We'll go ahead then and -- thank you for  
10 witness -- Group 4 witnesses. I appreciate your  
11 time. So now we'll go ahead and switch over to Group  
12 8, Mr. Russo. Go ahead, Mr. Russo.

13 CHRISTOPHER RUSSO: Good afternoon. My name  
14 is Christopher Russo. I'm the Vice President of  
15 Charles River Associates in Boston and I'm here on  
16 behalf of NextEra Energy, who has engaged my firm to  
17 offer independent expert testimony.

18 What I'd like to do is provide a brief  
19 summary of my testimony and the key points contained  
20 within. I know some of you were here on Tuesday and  
21 for those of you have to listen to me recite it  
22 again, I offer my apologies. But let me give a brief  
23 introduction to myself and then summarize my  
24 testimony and then offer a few observations about  
25 some of the discussions that have gone on here and



1 what I think the situation is with regards to NECEC  
2 and some of the issues. My background --

3 MS. MILLER: Mr. Russo, can I just have you  
4 pull the mic a little closer?

5 CHRISTOPHER RUSSO: Better?

6 MS. MILLER: Yes.

7 CHRISTOPHER RUSSO: So I am by background an  
8 engineer and economist. I have spent a majority of  
9 my career analyzing power markets in one form or  
10 another working at everything from power plant  
11 engineer to an academic researcher to an economist  
12 analyzing the dynamics of these markets and the  
13 engineering and environmental impacts of generation  
14 transmission projects.

15 My testimony is fairly straightforward and  
16 really addresses two principle points. And so the  
17 first of which really is something which I think has  
18 been discussed at length in these hearings and at  
19 this point is generally agreed upon, which is that  
20 CMP did not consider undergrounding 53 miles of DC  
21 line through northern Maine. In testimony from CMP  
22 and especially that from Mr. Dickinson from CMP, he  
23 identified some of the reasons for that, which I will  
24 address a bit further along in my opening statement.  
25 The second principle point in my testimony, which I

1 think is important is that the characteristics of the  
2 DC line or the way in which NECEC is proposed to be  
3 constructed is atypical and somewhat unusual. A DC  
4 line, as you know, of course, is a high voltage  
5 direct current line and it is generally infeasible  
6 without great expense to interconnect in the middle.  
7 So it's essentially a toll highway from Quebec to  
8 Lewiston with one exit on either end and no exits in  
9 the middle.

10 DC lines can offer significant advantages in  
11 terms of efficiency over long distances and a DC line  
12 of some length is necessary to connect the power  
13 grids in Quebec and New England, but a DC line of 150  
14 miles is unusual compared to those in which I  
15 identified in -- in my research. And in particular  
16 if we take the length of 150 miles there is only one  
17 other line I was able to identify that was also DC  
18 and of shorter length. The principle point of this  
19 being that construction of a DC line at this length  
20 is unusual. Let me pause there.

21 The third point I wanted to make is that  
22 with regards to the purpose of the line, and this is  
23 something which Mr. Dickinson touched upon in his  
24 testimony I thought was noteworthy, and I'll sort of  
25 elaborate on this with a metaphor I think which may

1 be useful in clarifying some of the issues after  
2 this. But in CMP's rebuttal testimony they asserted  
3 that it would be unreasonable to impose evaluation or  
4 consideration of all the available alternatives  
5 because if it were forced to or compelled in some way  
6 to underground the line it would not have won the  
7 solicitation -- the 83D solicitation for clean energy  
8 in Massachusetts, therefore defeating the purpose of  
9 the line.

10 MS. MILLER: Is there an objection?

11 MR. BUXTON: There is an objection. I -- I  
12 think this is rebuttal testimony by a witness who  
13 filed no rebuttal testimony.

14 MS. BENSINGER: Response?

15 MR. BUXTON: I think it's --

16 MS. TOURANGEAU: I think that -- sorry. Do  
17 you want to respond? I believe that Mr. Russo  
18 addressed this issue in his direct pre-filed as well.

19 MR. BUXTON: But he has just prefaced it by  
20 saying that he's responding to CMP's testimony.

21 MS. BENSINGER: Well, he can respond. If  
22 it's included in his original testimony and he can  
23 frame it as a response.

24 MR. BUXTON: Well, I guess we'll have to  
25 hear what he says. Thank you.

1 MS. MILLER: Proceed.

2 CHRISTOPHER RUSSO: To be clear, the issue  
3 about the purpose of the project is -- is, I think,  
4 very directly relevant to the two principle points in  
5 my testimony about the failure to consider  
6 alternatives and the unusual nature of this  
7 particular line. And so the purpose of the project  
8 in my opinion is, in fact, to be the most competitive  
9 offering into a competitive solicitation respecting  
10 all of the constraints and regulatory requirements  
11 that go along with it.

12 So with that, let me offer a metaphor which,  
13 I think, can clarify at least in my opinion  
14 summarizes some of the issues and then offer one or  
15 two final observations about ways in which potential  
16 alternatives could be considered. The differences  
17 and nuances between high voltage between AC and DC  
18 lines in the regulatory process are complex and I  
19 certainly recognize that and the language may seem  
20 somewhat arcane and inaccessible at times, but I  
21 think a metaphor that summarizes this reasonably well  
22 is if you hire a contractor to build a house. So you  
23 hire a contractor to build a house, you put it out  
24 for -- more to the point you put it out to bid. You  
25 get a number of bids back. The contractor takes --

1 you select the winning contractor for the lowest bid,  
2 that contractor then goes to the building department,  
3 the building department says, well, you know, I can't  
4 really approve this the way you've designed it.  
5 Maybe you're going to need a steel beam here instead  
6 of 2x10s, maybe I want a different R-value under the  
7 insulation. Maybe the connection to the pole out in  
8 the street needs to be underground instead of an  
9 overhead wire. Whatever it happens to be. At that  
10 point the contractor comes back to you and says,  
11 well, it's unreasonable to make me comply with these  
12 requirements in the building department because if I  
13 had to comply then I wouldn't have won -- then I  
14 wouldn't have been the lowest bid. That's  
15 essentially just in my opinion and my assessment with  
16 the state of affairs here with regards to NECEC and  
17 the additional requirements that could be imposed for  
18 considering all available alternatives or  
19 undergrounding the line.

20           The final thing I'll mention is that the --  
21 much like a contractor, right, if he needs to -- if  
22 he or she needs to address additional requirements  
23 imposed by the building inspector that's typically on  
24 him and my understanding of the dynamics and what's  
25 been supported by the testimony of CMP witnesses that

1 if additional requirements were required by you or  
2 the Land Use Planning Committee or other entities in  
3 the State of Maine they would not result in any  
4 additional cost to either Maine or Massachusetts  
5 ratepayers. So with that, I will close and offer  
6 myself for cross-examination.

7 MS. MILLER: Thank you. So we'll start with  
8 the applicant.

9 MS. GILBREATH: Hello again, Mr. Russo.

10 CHRISTOPHER RUSSO: Good afternoon.

11 MS. GILBREATH: I'm not going to rehash our  
12 line of questioning from Tuesday because as I'm sure  
13 you're aware that was a joint proceeding before the  
14 LUPC and DEP, so I don't think they need to hear that  
15 line of questioning again. So I just have a few  
16 quick questions for you to keep us all moving along  
17 here. Now, your direct testimony and your live  
18 testimony both on Tuesday and today, your overall  
19 criticisms is CMP's failure to consider  
20 undergrounding transmission line, correct?

21 CHRISTOPHER RUSSO: As in our exchange on  
22 Tuesday, I consider it just simply a statement of  
23 fact rather than a criticism, but, yes, that was one  
24 of the points in my testimony on Tuesday and today.

25 MS. GILBREATH: And another one of the

1 points in your testimony Tuesday and today and in  
2 your pre-filed is that other transmission projects in  
3 New England are proposed to go underground but the  
4 NECEC is not, correct?

5 CHRISTOPHER RUSSO: That's one of the  
6 elements of my testimony, yes, that's correct.

7 MS. GILBREATH: We went through that chart  
8 on Page 4 of your testimony, the three other  
9 projects, the TDI project in Vermont, Green Line  
10 project in Connecticut and the Northern Pass project  
11 in New Hampshire, correct?

12 CHRISTOPHER RUSSO: We did indeed.

13 MS. GILBREATH: And we established on  
14 Tuesday that among all of those projects you compare  
15 the NECEC not one of them secured long-term  
16 transmission service agreements, correct?

17 CHRISTOPHER RUSSO: That is correct.

18 MS. GILBREATH: Now, you testified today  
19 that you are aware of only one other DC line of  
20 shorter length than the NECEC that is overhead,  
21 correct?

22 CHRISTOPHER RUSSO: That is correct, one  
23 other line of similar length that's overhead, yes,  
24 that's correct.

25 MS. GILBREATH: And is that the Malaysia

1 line you were talking about on Tuesday?

2 CHRISTOPHER RUSSO: The Thailand/Malaysia  
3 line.

4 MS. GILBREATH: The Thailand/Malaysia line,  
5 okay. And we went over a few other examples of lines  
6 that I proposed to you that are also HVDC of similar  
7 length, do you recall that?

8 CHRISTOPHER RUSSO: I recall that we  
9 discussed one line in Africa of which I had not  
10 previously been aware of, but if my memory serves was  
11 about 600 miles. So I would categorize that as  
12 something significantly longer in DC technology. And  
13 the other was the Maritime link to Nova Scotia of  
14 which I believe has significant portions under water.

15 MS. GILBREATH: Are you aware that 116 miles  
16 of the Nova Scotia project are overhead?

17 CHRISTOPHER RUSSO: I wasn't aware of the  
18 exact number until now, but I have no reason to  
19 dispute it.

20 MS. GILBREATH: Okay. And the chart on Page  
21 4 of your testimony where you talk about Northern  
22 Pass, Northern Pass is an HVDC project as well; am I  
23 correct?

24 CHRISTOPHER RUSSO: A significant portion of  
25 it is HVDC.



1 MS. GILBREATH: And I see in your fifth  
2 column of overhead miles in the state said Northern  
3 Pass has 132 overhead miles?

4 CHRISTOPHER RUSSO: That's correct.

5 MS. GILBREATH: Now, this project is 145  
6 miles, the NECEC, correct?

7 CHRISTOPHER RUSSO: Ah, some reports  
8 proposed said it was 145.

9 MS. GILBREATH: Okay. With about a mile  
10 underground?

11 CHRISTOPHER RUSSO: That sounds about  
12 right.

13 MS. GILBREATH: All right. So the Northern  
14 Pass is comparable, in fact, a bit shorter in its  
15 overhead portion, correct?

16 CHRISTOPHER RUSSO: Right. And for clarity  
17 for the Commission of course this was selected and  
18 then rejected because it -- well, it was rejected  
19 essentially by the State of New Hampshire because of  
20 what I think were principally environmental concerns.

21 MS. GILBREATH: What's the approximate cost  
22 differential in your experience between an overhead  
23 and an underground transmission line?

24 CHRISTOPHER RUSSO: With the caveat that  
25 every project is different somewhere between 75

1 percent to 100 percent more expensive. It depends  
2 greatly on the geography, on the particular  
3 circumstances of the line, but, you know, 70 to 100  
4 percent more expensive is in the ballpark.

5 MS. GILBREATH: So that's about twice as  
6 expensive?

7 CHRISTOPHER RUSSO: Well, 100 percent would  
8 be, yes.

9 MS. GILBREATH: Okay. Are you familiar with  
10 Mr. Dan Mayers of NextEra?

11 CHRISTOPHER RUSSO: I have met him a few  
12 times.

13 MS. GILBREATH: Okay. And is he the  
14 Director of Transmission at NextEra?

15 CHRISTOPHER RUSSO: That was his title last  
16 I knew.

17 MS. GILBREATH: Do you believe that he would  
18 be someone who is familiar with the cost differential  
19 between overhead and underground transmission lines?

20 CHRISTOPHER RUSSO: I'm not sure I can  
21 testify to the limits of Mr. Mayers' knowledge, but  
22 at least in my experience he seems to be  
23 knowledgeable about transmission generally.

24 MS. GILBREATH: I have no further questions  
25 at this time. Thank you.

1 MS. MILLER: Thank you. Group 4.

2 MS. ELY: We don't have any additional  
3 questions.

4 MS. MILLER: Group 3.

5 MR. BOROWSKI: I have no questions.

6 MS. MILLER: Group 7.

7 MR. SMITH: No questions.

8 MS. MILLER: The Department.

9 MR. BEYER: Mr. Russo, why would it be  
10 typical to bury this transmission line such as this  
11 one in that less than 200 mile range? Why is that  
12 more -- practiced more often than overhead?

13 CHRISTOPHER RUSSO: DC lines are typically  
14 used in unique circumstances. Often they're needed  
15 to connect grids which are asynchronous like what  
16 we're talking about here, crossing under water or  
17 over very long distances. I think as a general  
18 matter, you know, burying lines usually has less  
19 visual impact, less environmental impact, that may be  
20 a case why -- that may be a reason why these  
21 particular lines were buried. You could certainly  
22 bury AC lines at this length, but to answer your  
23 question directly, which is, you know, why are the  
24 shorter lines typically DC and buried. I think it  
25 depends on, you know, the unique circumstances in

1 geography. Many of them are under water connecting  
2 different islands or bodies of water. The design of  
3 transmission lines that interconnect systems is very,  
4 very site dependent. I'm not sure that there is a  
5 rule of thumb that would say that, you know, that  
6 below certain lengths something needs to be buried in  
7 DC. What I can say is that an AC line of 150 miles  
8 is pretty common. A DC line of 150 miles is less  
9 common. But, you know, sort of the converse of the  
10 question you just asked is that, you know, could this  
11 be a buried AC line and the answer is yes or could it  
12 be an overhead line the answer to that would also be  
13 yes.

14 MR. BEYER: Okay. When you look at the 150  
15 miles, did you also consider the portion that's in  
16 Canada?

17 CHRISTOPHER RUSSO: Not really. The portion  
18 that's in Canada I understand is probably pretty  
19 short. There needs to be a connection on the  
20 electrical border between the Quebec and New England  
21 systems, but that -- again, that conversion, I mean,  
22 a back to back HVDC converter could fit inside this  
23 building, so it's relatively small. But to answer  
24 your question directly, no, I didn't -- I didn't  
25 specifically at the overhead portion in Quebec.

1 MR. BEYER: In some of the research I've  
2 done, which is not a ton, on burying DC lines, can  
3 they be directly buried or do they have to be in a  
4 conduit and if they're directly buried do they need  
5 to have some protections so people don't dig them up  
6 or drive over them?

7 CHRISTOPHER RUSSO: So this is getting into  
8 specific engineering issues. I can offer a general  
9 answer, which is that most high voltage DC lines of  
10 this size or magnitude probably would need to be in a  
11 concrete vault. I can't imagine this would be direct  
12 buried, but I suspect that's a question that would be  
13 specific to undergrounding the line and I'm not sure  
14 that I've done enough research to be able to answer  
15 questions about this one specifically, but from  
16 experience I would imagine that a pretty significant  
17 concrete vault would probably be required.

18 MR. BEYER: Thank you. I have nothing more.

19 MR. BERGERON: Mr. Russo, could you give us  
20 some general descriptions of what sort of vegetation  
21 management over an underground line would be?

22 CHRISTOPHER RUSSO: There typically needs to  
23 be a corridor around underground line to prevent  
24 roots from interfering with the vault of the conduit.  
25 Beyond that, that probably goes into an area where I

1 am not sure I have the necessary expertise to comment  
2 about vegetation management, but the -- you know, I'm  
3 confident in saying that there does have to be  
4 vegetation management even if something is  
5 underground. It can't be just buried and then sort  
6 of covered over.

7 MR. BERGERON: Thank you. And in general is  
8 there a I'll say a rule of thumb for an underground  
9 corridor width through -- not under a road or a road  
10 shoulder through, let's say, a greenfield.

11 CHRISTOPHER RUSSO: Yeah. I'm not sure I  
12 have -- I want to go back and check on this. I am  
13 not sure I feel comfortable enough knowing what the  
14 corridor width is for an underground line to offer  
15 you a specific number today.

16 MR. BERGERON: Okay. Thank you. And do you  
17 have any general insight or information about an  
18 underground line going overhead and underground and  
19 overhead and underground, is there -- are there  
20 considerations or limits technologically speaking to  
21 either prohibit that or make that infeasible?

22 CHRISTOPHER RUSSO: Well, everything is  
23 feasible it if you have enough money, right. So  
24 underground or over ground there is a cost involved.  
25 There needs to be infrastructure built around it.

1 You would need cooling apparatus for underground  
2 lines as well, but, you know, there are lines  
3 which are not necessarily in Maine, but lines which  
4 go underground and over ground multiple times, so  
5 it's feasible. The question of course is what the  
6 cost associated with it would be.

7 MR. BERGERON: Okay. And along those lines  
8 of cooling it's been mentioned a few times by various  
9 panels, can you give us some general understanding of  
10 what's required for cooling of underground lines and  
11 what sort of, I'll say, above-ground structures or  
12 apparatus might be needed to take care of that?

13 CHRISTOPHER RUSSO: Yes. Again, you know,  
14 I'm not -- I have not done a detailed engineering  
15 study nor am I necessarily qualified to do so for  
16 undergrounding a NECEC line, but as a general matter,  
17 cooling is required for underground lines. If you're  
18 running 1,200 megawatts through a couple of lines it  
19 does tend to generate a fair amount of heat, so you  
20 need heat exchanges and cooling stations at various  
21 intervals along the, you know, along the route. What  
22 those intervals would be and the size of those  
23 cooling stations, I'm not sure I'd want to offer  
24 information without going back and doing some  
25 specific research on it, but there would be cooling

1 required for an underground line, I am confident of  
2 that.

3 MR. BERGERON: Okay. Thank you.

4 MS. BENSINGER: I have -- I have one  
5 question. So the cooling is required no matter which  
6 type of line you're putting underground and is the  
7 cooling required -- the same extent of cooling for  
8 each of the two types of lines?

9 CHRISTOPHER RUSSO: That gets to sort of  
10 matters of detailed, you know, electrical engineering  
11 that may be specific to this project, but as a  
12 general matter buried lines whether it be AC or DC  
13 lines both require cooling. I am not sure I know  
14 without going back and actually doing the numbers not  
15 that I would necessarily be the best one to do so of  
16 what the difference in cooling apparatus or load or  
17 for consumption would be.

18 MS. BENSINGER: Thank you.

19 MS. MILLER: Okay. Seeing no other  
20 questions from the Department, redirect.

21 MS. HOWE: I'm just going to give him a copy  
22 of his testimony.

23 CHRISTOPHER RUSSO: Thank you.

24 MS. HOWE: Emily Howe, NextEra, Group 8.  
25 Mr. Russo, do you recall Ms. Gilbreath previously



1 just asking you about the table of other proposals on  
2 Page 4 of your testimony?

3 CHRISTOPHER RUSSO: Yes, I do.

4 MS. HOWE: So I'd like to go back over that  
5 table with you. So the TDI line in Vermont, can you  
6 tell me how many buried cable miles there are?

7 CHRISTOPHER RUSSO: 57 miles.

8 MS. HOWE: And what about the Green Line,  
9 how many buried lines of cable?

10 CHRISTOPHER RUSSO: 20.

11 MS. HOWE: And the Northern Pass?

12 CHRISTOPHER RUSSO: 60. Although with the  
13 Green Line I would also like to add that there are --  
14 the Green Line and TDI, they're also under water as  
15 well.

16 MS. HOWE: And how many are under water of  
17 the Green Line?

18 CHRISTOPHER RUSSO: The Green Line are 40  
19 miles under water and for the TDI line they're 97  
20 miles under water.

21 MS. HOWE: And how many buried cable miles  
22 are in the NECEC?

23 CHRISTOPHER RUSSO: About one under their  
24 Kennebec River Gorge.

25 MS. HOWE: Thank you. That's all I have.

1 MS. MILLER: Any recross?

2 MS. GILBREATH: No, thank you.

3 MS. MILLER: All right. Well, that's what  
4 we had for this afternoon. So for those of you who  
5 want to be at tonight's public testimony session,  
6 again, we recommend coming a little early and staking  
7 out some seats because, again, I don't know if we'll  
8 have a big crowd again, but this way you can be up  
9 front in case you did have any objections. For the  
10 public testimony you do have the opportunity to  
11 cross-examine should you desire to do so.

12 And so with that, I will -- that will be at  
13 6 o'clock in the Lincoln Auditorium, the same place  
14 as last time. For those of you who do not wish to  
15 attend, we will be back in the other room tomorrow  
16 morning, so you've got to bring all of your stuff  
17 again with you. I apologize for that. So we'll  
18 start up again tomorrow morning at I believe it's 9.  
19 Yup, 9 o'clock. Thank you, everybody.

20

21 (Hearing continued at 2:30 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 5, 2019

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