

BEFORE THE STATE OF WASHINGTON
ENERGY FACILITY SITE EVALUATION COUNCIL

In the matter of)
Application No. 2009-01) Hearing Volume VIII
WHISTLING RIDGE ENERGY, LLC.) Pages 1089 - 1203
WHISTLING RIDGE ENERGY PROJECT)
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A hearing in the above matter was held on Monday, January 10, 2011, at the Skamania Lodge, 1131 S.W. Skamania Lodge Way, in Stevenson, Washington at 10:40 a.m., before the Energy Facility Site Evaluation Council with C. Robert Wallis, Administrative Law Judge, presiding.

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REPORTED BY:

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CCR NO. 2029

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9 PORT OF SKAMANIA COUNTY, SKAMANIA ECONOMIC
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15 JUDGE WALLIS: This is the January 10, 2011 EFSEC
16 Docket No. 2009-01 involving the Whistling Ridge Energy
17 Project. Today our schedule has three witnesses to appear:
18 Mr. Meier, Mr. Till, and Mr. Wittenberg, Mr. Wittenberg to
19 be available this afternoon.

20 In brief discussion prior to going on the record
21 we have noted the schedule. Of witnesses for tomorrow will
22 be Mr. Usibelli, Mr. Yourkowski, Mr. Pearce, Mr. Lang, and
23 our post-hearing schedule will be topic of discussion
24 tomorrow.

25 Chairman Luce and Mr. Sutherland have indicated

1 that commitments will prevent them from being present
2 tomorrow, but that they will be reading the record.

3 Is there anything further preliminarily before we
4 proceed?

5 Let the record show that there is no response.
6 Mr. Meier has stepped forward to the stand.

7 (Dan Meier sworn on oath.)

8 MR. ARAMBURU: I think we've gone through the
9 preliminaries with Mr. McMahan, and we had just started on
10 his cross-examination. I think it was last Wednesday, and
11 so I think we're going to continue with that at this time.

12 JUDGE WALLIS: Very good.

13 DAN MEIER,

14 having been first duly sworn on oath,

15 testified as follows:

16
17 CONTINUED CROSS-EXAMINATION

18 BY MR. ARAMBURU:

19 **Q. Mr. Meier, it's been a few days since you've been**
20 **on the stand so let me reiterate your testimony I believe you**
21 **gave when you were on the stand previously, and correct me if**
22 **I'm wrong anywhere. I understand that you prepared a**
23 **geotechnical report for what was then the Saddleback Wind**
24 **Energy Project, and that geotechnical report is found in**
25 **Appendix B to the Environmental Impact Statement. I**

1 understand that there was an on-site reconnaissance done by
2 you and perhaps other people from URS in approximately
3 September of 2007. I understand that you had walked the
4 site, and that there are certain test pits that were dug
5 under your direction to test subsurface conditions. Am I
6 pretty much right about all of that?

7 A. The only thing I would correct in that is that test
8 pits, the geotechnical investigation is not performed under
9 my oversight. I came on the project shortly after those were
10 completed.

11 **Q. But you've the walked site.**

12 A. Yes, that's correct.

13 MR. ARAMBURU: Members of the Council, the
14 principal part of Mr. Meier's part testimony will be in
15 Appendix B to the EIS.

16 MR. McMAHAN: And I believe it's in the ASC.
17 Correct?

18 MR. ARAMBURU: I think it's actually Appendix B in
19 the EIS.

20 MR. McMAHAN: Let's make sure we're talking about
21 the same thing here because what he's here testifying to is
22 not the appendix of the EIS, but the appendix to the ASC.
23 And I think it's the same document, but let's just check.
24 It's the February 2009 Preliminary Geotechnical Report
25 that's stamped by Engineer Willman and Licensed Geologist

1 Meier; is that correct?

2 MR. ARAMBURU: Well, I'm looking at what's been
3 attached to the EIS as the preliminary geotechnical report
4 from November of 2007.

5 MR. McMAHAN: Well, the information that's
6 applicable today that's attached to the ASC is a
7 geotechnical.

8 Mr. Meier, am I missing something here? It's that
9 geotechnical report from February of 2009.

10 THE WITNESS: That's correct.

11 BY MR. ARAMBURU:

12 **Q. Is that different material that's represented in**
13 **the November 2007 book?**

14 A. I don't believe it is.

15 MR. McMAHAN: I'm just as a frame of reference I
16 believe the Siting Council's best informed by using the
17 appendix to the ASC which is in fact a referenced document
18 in Mr. Meier's testimony, not the DEIS. I'm just a little
19 worried about getting quotes off between records here, and I
20 would like as accurate examination and as accurate
21 documents, and as complete documents, and the most timely
22 document is the one from the ASC.

23 BY MR. ARAMBURU:

24 **Q. What changes were made between November 2007 and**
25 **February of 2009?**

1 A. I don't believe there's changes made to the actual
2 report other than an inclusion -- no, I take that back.
3 There's no changes made to the geotechnical report.

4 JUDGE WALLIS: Is the pagination identical?

5 THE WITNESS: I don't have them both right in
6 front of me. I really can't answer that.

7 JUDGE WALLIS: I am concerned as is Mr. McMahan
8 that when there's reference in the transcript that people be
9 able to go to the appropriate document to follow along.

10 THE WITNESS: And I'm not sure. The appendix
11 number might be different.

12 MR. McMAHAN: And I would just appreciate it if
13 Mr. Aramburu would use the ASC attachment which again is
14 that which is referenced in the testimony not the DEIS
15 attachment.

16 JUDGE WALLIS: So the record is here clear exactly
17 where can that be found?

18 MR. McMAHAN: It's Appendix B to the application
19 for site certification. It was provided in a CD along with
20 the ASC to all parties.

21 MR. ARAMBURU: I've been using what's on line and
22 what's up on the screen for my work which is apparently
23 application and then Appendix A to the application is the
24 geotechnical report.

25 MR. McMAHAN: I think I misspoke. It is A. B is

1 the wildlife. I'm sorry, Mr. Aramburu. Yes, I misspoke.
2 It is A which is the geotechnical report attached to the
3 ASC. We may be on the same page. I'm concerned about the
4 record.

5 JUDGE WALLIS: Let's be off the record for just a
6 minute.

7 (Discussion off the record.)

8 JUDGE WALLIS: Let's be back on the record.

9 It has been determined that the appendix to the
10 application and the appendix to the DEIS appear to be
11 similar, if not identical. Mr. Aramburu's questioning will
12 be based upon the appendix to the application, and we have
13 portions of that application available for illustration on
14 the screen in the hearing room.

15 MR. ARAMBURU: For Members of the Council I will
16 refer to the geotechnical report.

17 BY MR. ARAMBURU:

18 **Q. So do I understand correctly, Mr. Meier, that you**
19 **did some work in 2007 and URS hasn't really been back on the**
20 **since then?**

21 A. I believe that another -- Mr. Willman, the
22 geotechnical engineer returned to the site to look at what's
23 referred to as West Pit Road following the decision to change
24 the access route. I believe that was in 2009.

25 **Q. Now, I put up on the screen Figure 1 to the**

1 geotechnical report, and this is a vicinity map, and that's
2 that following page 8-2 of this document. Are you familiar
3 with that document?

4 A. Yes, I am.

5 Q. I'm going to bring that up here when we go over it.
6 You've identified the site of the project; is that correct?

7 A. Yes.

8 Q. And the site of the project shows somewhat
9 southeast of Chemawa Hill. Do you see that?

10 A. Yes, I do.

11 Q. Is the site of the project directly located on this
12 map?

13 A. It doesn't appear to be. I think there was a
14 mistake there.

15 Q. What's the mistake?

16 A. It was probably put on the map based on an address.
17 It looks to me it's like too far south, and it's not actually
18 meant to convey the outline or limits of the site. It's a
19 vicinity map.

20 Q. Other than the vicinity map do you have any
21 topographic drawings of the site other than this?

22 A. I believe Figure 2.

23 MR. McMAHAN: It's figure 2 in the application; is
24 that correct?

25 THE WITNESS: I believe so. It should be Figure 2

1 of the geotechnical report.

2 MR. McMAHAN: Okay. Right.

3 BY MR. ARAMBURU:

4 Q. And I am putting up on the screen Figure 2 of the
5 report, and what are the contours that are found in this
6 drawing?

7 A. Those are USGS based. I believe their 10-meter DEM
8 contours.

9 Q. Are these 25-foot contours?

10 A. Do you remember mean contour interval?

11 Q. Yes.

12 A. I'm sorry. I can't read it on my copy.

13 Q. Do you happen to know what they are?

14 A. Usually they are either 10-foot or 20-foot,
15 occasionally 40.

16 Q. As I understand what you've done, Mr. Meier, is
17 prepared a preliminary geotechnical evaluation of the site;
18 is that correct?

19 A. Correct.

20 Q. And would the other work be necessary before the
21 turbines are actually sited on the project?

22 A. Prior to siting I don't believe so. As part of the
23 engineering and final design there will be additional
24 geotechnical investigations.

25 Q. I am putting up on the screen Figure 2 to your

1 **geotechnical report. Can you identify what this document is.**

2 A. This is the site plan. It shows the boundaries of
3 the proposed site and that's the dotted line. It shows
4 locations of the proposed turbines and roads.

5 **Q. The TP references test pits?**

6 A. Correct.

7 **Q. Have you been informed that there may be a**
8 **different type of turbine that is to be installed on the**
9 **property?**

10 A. I've been told that a higher capacity turbine has
11 been considered.

12 **Q. Have you been provided any specifications for**
13 **weight, height, size of the turbines?**

14 A. No, we haven't.

15 **Q. Now I had some questions about the work you've**
16 **done. As I understand, your test pits went down to 15 feet;**
17 **is that right?**

18 A. They vary I think anywhere from 6 to 14 or 15 feet,
19 yes.

20 **Q. But your test pits would not go to the depths of**
21 **the expected excavations of the project; is that correct?**

22 A. That is not clear. We don't know what the expected
23 excavation depths are to the project.

24 **Q. Have you ever been told that the excavations may**
25 **exceed or may meet or exceed 30 feet?**

1 A. We have looked at a conceptual foundation design
2 that included foundations as deep as 30 feet, but that is not
3 a singular -- that's not the only design that's available for
4 foundation.

5 **Q. But the geotechnical didn't go past 15. It did not**
6 **go to the possibility of 30-foot excavations.**

7 A. It did not.

8 **Q. I'd like to have you take a look, if you would, at**
9 **Figure 2. Can you generally describe the area in which**
10 **Turbines A-1 through A-7 are located?**

11 A. Yeah, on the map there it's the turbines on the
12 furthest right. It's a long narrow ridge with descending
13 slopes on both sides.

14 **Q. So are there steep slopes on both sides of that**
15 **turbine line?**

16 A. Yes.

17 **Q. What are the percents of those slopes?**

18 A. I believe the slope to the -- again, for
19 everybody's orientation the north is left here. So the
20 slopes to the northwest which is where you're pointing at
21 now.

22 **Q. Okay. That northwest would be on Figure 2 it would**
23 **be down and to the left?**

24 A. Correct.

25 **Q. Okay. Go ahead.**

1 A. Those are up to 70 percent.

2 Q. Okay. And what about the slopes to the, let's see,
3 that would be the southeast on this?

4 A. Yes.

5 Q. What are those slopes?

6 A. Those are shallower. They're more in the range of
7 40 to 50 percent maximum.

8 Q. And both of those slopes qualify as landslide
9 hazard areas in the Skamania County Critical Areas Ordinance?

10 A. Yes, based on the steepness of the slope.

11 JUDGE WALLIS: To be a little bit more clear about
12 the area there are some numbers along the line I believe
13 that we're talking about. A-6, A-5, and so on to A-1. Is
14 this the general area that we're referring to?

15 MR. ARAMBURU: I believe the question to the
16 witness involved the string of turbines beginning with A-1
17 going through A-7 as shown on Figure 2 of the geotechnical.

18 JUDGE WALLIS: Thank you.

19 BY MR. ARAMBURU:

20 Q. In this area you have two test pits. What was the
21 nature of the soils you discovered at the depth of these test
22 pits?

23 A. I am referring to the test pit logs now. Test pits
24 8 and 9 both of those test pits the upper one foot of the
25 test pit was logged as a sandy silt topsoil, and in Test Pit

1 8 the test pit went to seven feet and the one foot to
2 seven-foot depth was a medium gray highly moderate weathered
3 basalt, and the test pit was completed at seven feet due to
4 refusal which means that the backhoe that was being used or
5 the excavator was no longer able to penetrate.

6 **Q. I put up on our screen for those that don't have a**
7 **report of the log for test pits. TP 8 is that the one you're**
8 **looking at?**

9 A. TP-8 that's the one that I just described.

10 **Q. The subsurface soils in this location would it be**
11 **fair to characterize those are highly fractured soil or**
12 **highly fractured material?**

13 A. Well, the rock that was penetrated was highly
14 weathered. There are no descriptions of the degree of
15 fracturing, and generally the soil description would not
16 include fracturing unless there were obvious figures.

17 **Q. So at Test Pit 8, which is the approximate location**
18 **of Turbines A-1 and A-2, the extent of subsurface excavation**
19 **is only seven feet.**

20 A. Correct.

21 **Q. Now, another question. Is it anticipated that**
22 **there will be blasting connected with these excavations for**
23 **the site?**

24 A. Well, there is discussion about the possibility of
25 blasting being necessary, but there are other methods that

1 are also mentioned. If rock has to be excavated, and it is
2 unable to be excavated by mechanical means, there are other
3 methods besides blasting that can be used.

4 **Q. But blasting would be an option depending on the**
5 **contract?**

6 A. Blasting is an option, sure.

7 **Q. Would blasting raise concerns about stability of**
8 **the adjacent landslide hazard areas?**

9 A. No.

10 **Q. It would not?**

11 A. Not unless -- it would not happen until after the
12 final investigation was done which would include deeper
13 investigations, soil boring or rock boring. At that point we
14 would be able to determine whether there was a potential
15 hazard due to blasting or boring, any kind of shaking caused
16 by blasting.

17 **Q. But that work has not yet been done?**

18 A. No, it hasn't.

19 **Q. If that subsurface were indicated highly fractured**
20 **loose materials at depth would there be concerns about**
21 **blasting in this area?**

22 A. If that was the case blasting would probably not be
23 necessary because you would be able to mechanically excavate
24 material.

25 **Q. In your work did you review the potential size and**

1 **weight of the wind turbines and their bases?**

2 A. We were provided, our engineers provided with a
3 sample tower configuration and size of loads.

4 **Q. Let me put up on the screen what is Figure 4 to**
5 **your geotechnical report, Rock Anchored Concrete Cap Concept.**
6 **Would that be the foundation diagram that you're referencing?**

7 A. Correct.

8 **Q. So let me understand what is described here.**
9 **You're showing a tower on the top of the drawing.**

10 A. Correct.

11 **Q. That would be the base where the wind turbines**
12 **mount?**

13 A. Yes, that's the wind turbine tower.

14 **Q. Then below that you show the concrete cap?**

15 A. Correct.

16 **Q. Would that be a line of concrete that can be**
17 **reinforced to hold the turbines?**

18 A. Yes, that would provide the base for the turbine
19 tower to be attached to.

20 **Q. What is the expected diameter of the concrete cap?**

21 A. That hasn't been determined.

22 **Q. Is it not the case in other parts of the**
23 **application that there is a description of up to 60 for**
24 **diameter of the cap?**

25 A. I'm not familiar with that.

1 **Q. Are you aware that the application has also**
2 **identified a depth of 30 feet for the cap?**

3 A. I am aware of that, and that's toward this
4 particular concept. It's not a final design or it hasn't
5 even been considered or model done.

6 **Q. Do I understand the figure on the board here is not**
7 **drawn to scale?**

8 A. It's not drawn to scale with respect to the
9 anchors, and I would say it's not to scale.

10 **Q. Could you provide us with a description of what**
11 **rock anchors are as found on the Figure 2 to the geotechnical**
12 **report?**

13 A. A rock anchor would be something that would be used
14 in lieu of a larger, wider larger diameter pad, and what it
15 does is it provides stability, lateral load carrying capacity
16 to the tower. And what they are, are holes are drilled into
17 the rock into a strong load carrying capacity rock, and the
18 anchors are then either cemented or an epoxy cement used to
19 develop the strength, and then the anchors which are
20 generally large diameter steel rods are tensioned to develop
21 the load capacity.

22 **Q. Is it kind of similar to tiebacks?**

23 A. Similar but generally speaking a little more
24 robust.

25 **Q. You haven't shown us the length of the expected**

1 **tiebacks. Could you tell us what that would be?**

2 A. I do not know at this time.

3 MR. McMAHAN: Your Honor, they're not tiebacks.
4 Just to be clear for the record, they're not tiebacks.

5 MR. ARAMBURU: Thank you, Mr. McMahan.

6 BY MR. ARAMBURU:

7 **Q. You don't know the expected length of the rock**
8 **anchors?**

9 A. No, we don't.

10 **Q. In looking at this drawing, if I understand**
11 **correctly, the rock anchors would go out there at an angle at**
12 **45 degrees of the base, all around the base?**

13 A. They would be at unknown at this time spacing, yes.

14 **Q. I think somewhere in the application it was**
15 **mentioned that there might be 128 of those per turbine.**

16 A. I believe that the reference to 128 is a reference
17 to the number of bolts that actually bolt the tower to the
18 concrete cap, not the anchors.

19 **Q. So in the area of Turbines A-1 through A-7 the**
20 **actual slope on either side of that narrow ridge line is more**
21 **than 45 degrees, is it not?**

22 A. It is not. It's less than 45 degrees. It's more
23 than 45 percent. That is different.

24 **Q. Okay. So what would the percent be?**

25 A. Well, 45 degrees is 100 percent.

1 **Q. Okay.**

2 A. Slopes on one side up to 70 percent, not
3 necessarily where these are located, just the slope in
4 general; and on the other side, on the southeast side they
5 are up to 50 percent perhaps.

6 **Q. Have you estimated the weight of the concrete base?**

7 A. No, because we don't know what size it is.

8 **Q. Could you estimate the base by calculating the
9 cubic volume of the diameter 60 feet by 30 feet?**

10 A. We could if that were the case.

11 **Q. That's a possibility, is it not?**

12 A. I don't know.

13 **Q. Now, I've looked at your geotechnical report. Let
14 me ask this question first. How wide is this narrow part of
15 the ridge line for the A-1 through 7 turbines?**

16 A. I don't have the number off the top of my head. It
17 could probably be scaled off of the map if you allow me a
18 minute here.

19 **Q. Could we use the very last drawing in your report
20 to Figure C-1 to do that?**

21 A. Which report are you referring to?

22 **Q. I'm referring to the geotechnical report, and
23 actually we were looking at this the other day. This is the
24 drawing.**

25 A. Yes, so we could probably.

1 MR. McMAHAN: So hang on a second. Are you asking
2 him to scale off the scale originally depicted in the
3 NRCS -- if I've got that acronym right -- map which is not
4 an actual GIS mapping? Is that what you're asking him to do
5 with that data? To scale off what?

6 MR. ARAMBURU: The question I put to the witness
7 was the width at the top of the narrow ridge line for the
8 A-1 through A-7 turbines, and I believe his answer was he
9 could scale it.

10 MR. McMAHAN: I'm very concerned at the idea of
11 one scaling from this map. This is not -- a topographic map
12 with GIS data does not in any way reflect the site. I'm not
13 sure what relevance comes from scaling off colors on an NRCS
14 map which is intended on a global kind of broad brushed
15 scale to map soil types. I don't get it.

16 MR. ARAMBURU: I think the witness said that that
17 would be the way he would do it so perhaps the question is
18 better put to the witness.

19 BY MR. ARAMBURU:

20 **Q. Is that the way you do it?**

21 A. I would scale it preferably based on survey topo.
22 I don't have the proper scale map in front of me to do a very
23 accurate job of scaling this off the map that I have. The
24 best scale map I have is about an inch equals 1,500 feet.
25 So, you know, if you use the lighter color that's on this map

1 maybe a quarter of an inch to an eighth or a quarter of an
2 inch.

3 **Q. Let's make sure the record reflects the map that**
4 **we're all looking at here, and the map on the screen is**
5 **Figure C-1 to the landslide hazard map which shows landslide**
6 **hazard classifications. Are we on the same page here?**

7 MR. McMAHAN: No, we're not. It's actually D-1
8 for the record in the appendix document. It might be C-1 on
9 whatever you're using, the EIS, but it's Figure D-1, not
10 C-1 just for the record. And again I want a complete
11 understanding of the characteristics of this map that you're
12 asking to be scaled because I do not want this record to
13 imply that that in any sense reflects current topographic or
14 GIS information. You are having him scale soil type maps.

15 BY MR. ARAMBURU:

16 **Q. Well, how else would we do it? Tell me. If we**
17 **want to know what the width of the narrow top of the ridge**
18 **line is in the area A1 to A-7 what is the best way to do that**
19 **given the information that we have available to us?**

20 A. You should use a higher resolution map than what we
21 have in front of us, and I don't think this is a higher
22 resolution map that we have in front of us in the document.

23 **Q. When higher resolution you mean a better scaled**
24 **map?**

25 A. Correct.

1 **Q. Okay.**

2 A. Preferably based on a better than 10-foot DEM topo
3 map.

4 **Q. When you say 10 DEM, that's a 10-foot contour?**

5 A. No, not a contour. No, 10-foot DEM, the 10 foot
6 refers to the resolution of the map, the pixels that are used
7 to develop the topography are only good -- I'm sorry, not 10
8 feet, 10 meters. It's a 10-meter DEM. So each pixel that's
9 used to determine topography on the map is more than 30 feet
10 squared.

11 **Q. And you haven't produced such a map?**

12 A. I don't think we have. No, we certainly haven't
13 for the geological portion of this permit application.

14 **Q. But you don't have it for any purposes I
15 understand?**

16 A. I can't speak to any other sections of the
17 document.

18 **Q. But lacking better information we can't really use
19 this and the D-1 drawing that we have up on the board?**

20 A. We can estimate, but it will be a very gross
21 estimation. Like I said, it's one inch equals 1,500 feet so
22 a quarter of an inch or third of an inch is 500 feet.

23 **Q. As I understand your geotechnical report, the
24 principal area of the geologic concern and the geotechnical
25 concern over this entire site is this A-1 through A-7; is**

1 **that correct?**

2 A. I would say that the principal area of concern
3 including the descending slope below that ridge to the
4 northwest and the area around the C-line.

5 **Q. So I am just putting up this is the landslide**
6 **hazard report, and this doesn't have a page number, but I**
7 **think it's the fourth page of the report that I have up on**
8 **the screen.**

9 A. Correct, I've got that in front of me.

10 **Q. Does that indicate that the exposure of the towers**
11 **to headward erosion of the steep slope drainages can be**
12 **minimized by providing maximum possible setbacks from the**
13 **tops of the steep slopes and/or by siting the turbines along**
14 **portions of the ridge lines that are above**
15 **intervening spur ridges; the most critical area of exposure**
16 **to Class II landslide hazard areas is the narrow ridge at the**
17 **southern portion of the A-Line?**

18 A. That's correct.

19 MR. McMAHAN: What's the page number?

20 MR. ARAMBURU: This is the very end of the
21 geological report. It's Figure D to the geologic report
22 entitled landslide hazards.

23 MR. McMAHAN: I understand, but for the record I
24 would like to make sure we're understanding the very end
25 means what page?

1 MR. ARAMBURU: Well, it doesn't have a page.

2 MR. McMAHAN: You have a point. So it's called
3 Conclusions and Recommendations and it's the paragraph just
4 before Figure D-1. Correct?

5 MR. ARAMBURU: That hat is right. Thank you,
6 Mr. McMahan.

7 BY MR. ARAMBURU:

8 **Q. You also indicated concerns now you said providing**
9 **maximum possible setbacks, and you have a line of setbacks**
10 **ought to be in that area to protect the landslide hazard**
11 **areas that are adjacent to the A-1 to A-7 line?**

12 A. The maximum possible setbacks. Not knowing what
13 the actual foundation looks like it's hard to say what the
14 comparative amount of setbacks available is. The best thing
15 to do is to site these towers where as it states there are
16 intervening spur ridges which allows a much wider footprint.
17 Again that's part of the micro-siting and final geotechnical
18 investigation work.

19 **Q. Keeping in mind that no matter what we assume these**
20 **are pretty heavy foundations and perhaps predominant**
21 **foundations; is that correct?**

22 A. Heavy is a relative term. Yes, they weigh a lot.

23 **Q. And if you were to make a recommendation taking**
24 **account of these steep slopes that were here how far back**
25 **from these steep slopes would you recommend setting back**

1 **these foundations that you have?**

2 A. Again that cannot be determined until the final
3 geotechnical investigation is done, and we know what the
4 final site of each of the towers is, and then we can run our
5 slope stability analysis and determine whether or not we have
6 enough of a setback. And if we do not have enough of a
7 setback, then the tower would have to be moved or something.
8 That can't be done until we're at the design phase.

9 **Q. Assuming that the diameter of the foundations for**
10 **the individual turbines that would be 60 feet, 60-foot**
11 **diameter, how much disturbed area would be necessary in**
12 **addition to the 60 feet to install those foundations?**

13 A. I don't think that is a valid assumption, and I
14 can't say what the disturbed area would be around each one of
15 the foundations partly because that is a means and methods
16 determination that the contractor has to make, and it would
17 have to fall within whatever the storm water pollution
18 protection plan and the DMPs are for the site. It would all
19 be -- the contractor would be restricted to a footprint
20 determined by that.

21 **Q. I want to go back to your testimony again, and I**
22 **just put up Figure D-1, the landslide report again. I have**
23 **been asking you questions about the A-1 through A-7 line of**
24 **turbines which has three steep slopes entirely around it; is**
25 **that correct?**

1 A. Yes.

2 Q. And the next set of turbines the A-8 through A-13
3 are also located adjacent to steep slopes?

4 A. The slopes for those to the due east are not as
5 steep.

6 Q. Due east?

7 A. Would be up on this figure.

8 Q. Okay. Towards 144?

9 A. Correct.

10 Q. Now, you also indicated that the other area of
11 concern had to do with the C-line of turbines, and again
12 putting up Figure D-1 from the landslide hazard report on the
13 screen, and I am going to see if we can do the resolution
14 here by going up a bit more. First the line of C-1 through 4
15 turbines is that another area of particular concern from the
16 standpoint of landslide hazard?

17 A. That is a concern due to the fact that it was
18 mapped previously as a landslide on other maps, and we've
19 taken a look at it through aerial photos and on site, and our
20 conclusion is that it doesn't appear to be landslide related.
21 But we will be or we recommend that during the final
22 investigation work it is particularly closely looked at for
23 signs of landslide activity.

24 Q. Who did the mapping for this feature found in and
25 around Turbines C-1 through C-4?

1 A. I believe it is Korosec, and I think it is the
2 White Salmon 15-minute geologic map.

3 **Q. I think you'll have to help me.**

4 A. 15-minute refers to scale. It's a very large scale
5 map, 1 to 100,000. So in terms of the size of this feature
6 on the map it's a very small feature on the geologic.

7 **Q. You used the word Korosec. What does that mean?**

8 A. That's the author of the map. Sorry.

9 **Q. Is that a person?**

10 A. Yes.

11 **Q. The C-1 through 4, the C-1 to C-4 are also located**
12 **in an area which is surrounded by a Class II landslide hazard**
13 **area, are they not?**

14 A. That is correct.

15 **Q. Did you conduct some test pits in the area of C-1**
16 **through C-4 turbines?**

17 A. I believe so.

18 **Q. Pardon me?**

19 A. Yeah, I believe we did.

20 **Q. Is it of concern from a geotechnical standpoint**
21 **that the installation of the turbines may create vibration on**
22 **surrounding soils?**

23 A. No.

24 **Q. It does not? And just one other question, if I**
25 **may, regarding the foundation design. Let me go back to**

1 that. Okay. I put up on the screen then preliminary rock
2 anchor capacity from Figure 4 from your geotechnical report,
3 Rock Anchor Concrete Cap Concept.

4 A. Yes.

5 Q. Are all of these anchors, these rock anchors that
6 are going out are going out at a 45-degree angle?

7 A. No, I don't believe so. I have to state that I'm
8 not an engineer and I don't design these things, but my
9 familiarity with them is that you would have some that were
10 vertical and some that were splayed.

11 Q. Do you have an idea for how many splayed rock
12 anchors would be installed?

13 A. Again, that's highly dependent on the future
14 geotechnical investigation work and the final design of the
15 foundation. I should point out also that not all the
16 foundation designs would require rock anchors. There's quite
17 a bit of flexibility from what I've been told in how these
18 foundations can be built.

19 Q. But substantial foundations are necessary to hold
20 up these very large turbines; is that correct?

21 A. Yes. It's a question of counteracting the load
22 that are expected in the turbines.

23 Q. Let me go back to the very first page of your
24 geotechnical report under introduction, and I will put it up
25 on the screen. Section 1.2 of the introduction of which is

1 **entitled proposed construction. Do you see that?**

2 A. Yes, I do. Thank you.

3 **Q. And the second sentence there states that URS**
4 **received information from a proposed turbine construction**
5 **contractor D.H. Blattner & Sons. Is this something that you**
6 **received?**

7 A. This is something that the engineer received. I
8 believe it's the third sentence.

9 **Q. Did you have a chance to talk to Blattner about the**
10 **actual installation of the turbines?**

11 A. I did not.

12 **Q. It's indicated there that the preliminary assumed**
13 **installation was of an 80-meter high GE 1.5 turbine which was**
14 **to be supported by a 30-foot deep concrete foundation; is**
15 **that correct?**

16 A. That is the assumption that was used to determine
17 the conceptual design.

18 **Q. So the foundation would be based on 30-foot deep**
19 **foundations?**

20 MR. McMAHAN: Your Honor, objection. That's not
21 the testimony. The foundations will not be based upon
22 30-foot deep foundations. He stated over and over again
23 that there are multiple choices available in the design and
24 engineering. I just want to make sure you're not putting
25 words in his mouth. That's not what he said.

1 MR. ARAMBURU: I want to make sure you're not
2 putting words in his mouth. Let's let the witness answer
3 the question then.

4 BY MR. ARAMBURU:

5 Q. Did you assume that for your work there would be
6 30-foot deep foundations?

7 A. To develop the conceptual that was presented in the
8 geotechnical report those are the parameters that were used.

9 Q. Do you know how close the turbines are in the A-1
10 to A-7 model?

11 A. It's my understanding that the final siting has not
12 been performed.

13 Q. But your drawing shows the distance between
14 turbines. Do you know how close they are?

15 A. I don't know off the top of my head.

16 Q. Can you scale those from the map?

17 A. You could roughly scale them from the map.

18 Q. Let me just go back to this 128 anchor bolts. What
19 do you need 128 anchor bolts for?

20 A. Those are the bolts that hold the tower to the
21 foundation. So as you pour a foundation it has bolts
22 sticking out of it in a circular orientation, and then you
23 set the tower on top of the bolts to bolt it down. They have
24 nothing to do with how the foundation is attached to the
25 ground. The sentence that describes that says that each

1 turbine tower will be coupled to the foundation with 128
2 anchor bolts.

3 **Q. And that is designed for the GE 1.5-megawatt**
4 **turbine?**

5 A. Correct.

6 MR. ARAMBURU: That's all the questions that I
7 have.

8 MR. KAHN: I have no questions at this point.

9 JUDGE WALLIS: Mr. Marvin?

10 MR. MARVIN: I have no questions.

11 JUDGE WALLIS: Mr. McMahan?

12 MR. McMAHAN: Yes, thank you, Your Honor.

13 REDIRECT EXAMINATION

14 BY MR. McMAHAN:

15 **Q. Mr. Meier, would you please look at your last page**
16 **of narrative under the conclusions and recommendations**
17 **section. I want to ask you a few questions about that**
18 **language.**

19 A. Is this in the landslide?

20 **Q. Excuse me, yes. It's the appendix document in your**
21 **preliminary geotechnical report, the one that Mr. Aramburu**
22 **was referring to a short time ago.**

23 A. I have it in front of me.

24 **Q. Just to make sure the Siting Council fully**
25 **understands what your testimony is, you're not saying that**

1 **the only way of building this project is with maximum**
2 **possible setbacks from the top of the ridges, are you?**

3 A. No, that's preferred.

4 **Q. Can you please talk about and/or, that language**
5 **siting the turbines along portions of the ridge lines, etc.?**

6 A. Yes. If you maybe could put the drawing up with
7 the soils on it, the colored drawing.

8 **Q. The one at the very end?**

9 A. Yes.

10 MR. ARAMBURU: I would be happy to help you out,
11 Mr. McMahan.

12 A. That is the right one to get us over to the A-1
13 through 7 line. If you look at the northwest slope, you can
14 see that there are several different shading that indicate
15 the topography, and the references spur ridges are the ridges
16 that are protruding perpendicular to the main ridge that the
17 turbines would be built on that, and all that refers to is
18 that ideally you would place the turbines where those spur
19 ridges would intersect the main ridge because that gives you
20 a broader area to work, and it also keeps you away from the
21 potential headward erosion of the spur valleys.

22 BY MR. McMAHAN:

23 **Q. So do you know either from your site investigation**
24 **or any map or maybe even in this how many spur ridges are**
25 **along that lower second of the A-string, A-1 through 7?**

1 A. Well, looking at the map, and again this is a lower
2 resolution map, but it appears that there are approximately
3 five spur ridges.

4 **Q. So if this project's final design includes five**
5 **versus seven turbines in that location would that satisfy**
6 **that mitigation requirement that you recommend?**

7 A. That would be better, yes.

8 **Q. So minimizing the number of turbines in this**
9 **location in fact would best implement your recommendations?**

10 A. Correct.

11 **Q. Do you know, do you have -- you're not an engineer.**
12 **You said that repeatedly. Do you have any information that**
13 **would lead you to believe a 2.5 to 2.0 megawatt turbine would**
14 **in fact require a larger or different configuration of**
15 **foundation than you have described?**

16 A. I wouldn't be able to address that. I don't know.

17 **Q. What about weight? Is there anything about that**
18 **that you would suggest would change your opinions?**

19 A. I'm not versed in wind turbine design or
20 construction.

21 **Q. So the foundation design here that's referenced is**
22 **purely for illustrative purposes; is that correct?**

23 A. Yes, it's as its face conceptual.

24 **Q. There's a sentence that Mr. Aramburu didn't ask you**
25 **to quote, and it's the last one on that conclusions and**

1 **recommendations section. Would you read that to the Council?**

2 A. The final sentence is, "It is URS's opinion that
3 the proposed SWE facilities can be constructed and operated
4 without danger to human life or the surrounding environment
5 due to landslide hazards.

6 **Q. Mr. Meier, I gather that your geotechnical analysis**
7 **did not take any test pits on those slopes on either side of**
8 **the ridge lines; is that correct?**

9 A. That's correct.

10 **Q. Why didn't you do that?**

11 A. It is ideal to disturb steep slopes as little as
12 possible.

13 **Q. So if you'd done test pits what might happen?**

14 A. You could introduce a point of erosion, of
15 increased erosion.

16 **Q. When you looked at those slopes on either side -- I**
17 **can't figure out the north, south, east, west bearings. I'm**
18 **just going to say on either side. Either side of that A-1**
19 **through 7 string can you describe to the Siting Council your**
20 **observations concerning potential slide risk for soil**
21 **instability on either of those sides.**

22 A. Yes. Particularly the northwest side where the
23 steepest slopes are it was fairly heavily logged. There were
24 a few patches of remaining forest, but the slopes were in
25 very good condition. There were no signs that I could see of

1 erosion. Certainly no signs of deeper seated larger
2 landslide type features; generally in really good shape.

3 **Q. Is that true on both sides?**

4 A. Yeah, the other side was the same but not as steep
5 so not as critical.

6 **Q. Given a 100-plus year history of logging would you**
7 **expect to see evidence like that if you thought there was to**
8 **be instability considerations?**

9 A. If the soils were highly erodible, yeah, you would
10 expect to see some at least minor erosion scars.

11 **Q. Your test pits on the ridge now why did you not go**
12 **to a depth of 30 or more feet on your test pits?**

13 A. Well, the maximum reach of the equipment that was
14 being used was I believe 15 or 16 feet. In some cases we met
15 refusal which means that the equipment that was being used
16 could no longer penetrate the rock.

17 **Q. What does that mean about the nature of the rock**
18 **where your equipment can no longer penetrate?**

19 A. Well, it depends on the piece of equipment, but it
20 generally means that the surficial -- the upper 14 feet minus
21 is weak enough to be penetrated by a piece of excavation
22 equipment. The rock where it was encountered was either
23 strong enough or in this case of the test pit where you have
24 confinement that the machine was unable to get a tooth on it
25 or get a hold of it.

1 Q. So you've been asked a number of questions about
2 the nature of the anchoring that is depicted on figure
3 whatever it is, Figure 4, the rock anchors which are
4 different from the bolts. Right?

5 A. Correct.

6 Q. You are not here with an opinion concerning on how
7 best to install rock anchors or under what nature of design;
8 is that correct?

9 A. Correct.

10 Q. And that's not within your purview?

11 A. Yes, the design of the foundation is not something
12 that I would be directly involved. I only provide the
13 conditions, the soil and rock conditions.

14 Q. Mr. Aramburu asked you a question: Is it -- his
15 words -- "of concern" that installation may create vibration
16 on surrounding soils? And your answer was, no, but you were
17 not given an opportunity to explain that answer. So would
18 you explain that answer to the Siting Council.

19 A. Well, the amount of vibration required or vibration
20 is probably the wrong word. The amount of shaking required
21 generally to mobilize landslides is of a greater, much
22 greater amount and also probably lower frequency. I really
23 can't talk too much to attenuation or anything like that
24 because I don't know what the attenuation of these vibrations
25 are through concrete and rock.

1 **Q.** Okay. One final question. Could you explain to
2 the Council and for the record -- I think the Council
3 probably knows -- but for the record the difference really,
4 the difference in your work in conducting preliminary
5 investigation and final analysis that's done at the time of
6 construction and why it's so critical to have that dividing
7 line in the opinion you're able to offer today.

8 A. Well, the initial investigation is done as a
9 combination of feasibility for the site, for the proposed
10 facility, and also to determine whether there are safety
11 hazards that cannot be mitigated and to determine what level
12 of mitigation, if any, may be necessary going forward; not to
13 design the mitigation but to determine whether there is a
14 potential need for it.

15 **Q.** Is that a standard practice in your work in working
16 on energy projects?

17 A. Yes, it's common to have at least a two-phase
18 sometimes more approach to the geotechnical investigation
19 work. You need to know where the -- you have targets to
20 design a final investigation in order to concentrate your
21 efforts on correct areas.

22 **Q.** Is this even similar to the approach you take with
23 natural gas pipelines?

24 A. Yes. We've worked on siting natural gas pipelines,
25 and we've had other siting councils where we've basically

1 taken the same approach, and even all the way through I
2 believe the Oregon Supreme Court the approach has been
3 vetted.

4 **Q. Then one final question or couple questions on the**
5 **C-string location. Now it's my understanding that some**
6 **mapping was done at 1 to 100,000 scale -- is what that is?**

7 A. Yes.

8 **Q. -- concerning a potential landslide area; is that**
9 **right?**

10 A. Yes, there is a -- it's actually shown on our
11 geologic map which, oh, I think it's Section 3, Section 4
12 Figure 3.1-1.

13 **Q. In the application. Correct?**

14 A. Correct.

15 **Q. All right. Did your site investigation -- tell me**
16 **about your site investigation in that area, what you**
17 **concluded in the C-string.**

18 A. We looked at stereo air photos, several sets of
19 stereo air photos, and there are drainages in that area that
20 appear to be, could be related to a landslide, and there is
21 some what we would call geomorphology that indicates a
22 possibility of a landslide. But after looking at the air
23 photos and doing a site visit, my conclusion was that if
24 there is a landslide there it is of such a great age that
25 most of the morphology has been eroded, and we also would

1 recommend that during the final investigation that area is
2 closely looked at to determine whether or not there is
3 landslides and to the extent if there is.

4 MR. McMAHAN: I have nothing further for this
5 witness.

6 JUDGE WALLIS: Recross?

7 RECCROSS-EXAMINATION

8 BY MR. ARAMBURU:

9 Q. I put up on the screen, Mr. Meier, a photograph
10 taken from the visual portion of these proceedings, and this
11 is Figure 4.2-11, Viewpoint 7 of Mill A. Is the area of the
12 steep slope that you have been describing shown on that
13 photograph?

14 A. I have no idea where this photograph is taken from
15 or what it's looking towards.

16 Q. You haven't looked from the bottom of this slope
17 up?

18 A. I have not looked at this slope from this
19 perspective, no.

20 MR. ARAMBURU: Thank you. Nothing further.

21 JUDGE WALLIS: Any Council questions?

22 There appears to be nothing further for this
23 witness.

24 Mr. Meier, you're excused from the stand at this
25 time.

TESTIMONY OF RICHARD TILL - JANUARY 10, 2011

1 Let's be off the record for a moment.

2 (Discussion off the record.

3 JUDGE WALLIS: Let's be back on the record,
4 please. Witness Richard Till has taken the stand.

5 (Richard Till sworn on oath.)

6 MR. KAHN: By way of background, Mr. Wallis, this
7 witness is a little bit different category than others. For
8 the benefit of counsel we've submitted nine documents as
9 attachments to declarations of Mr. Till just to explain what
10 they were. At one of the prehearing conferences there was
11 an objection to his testimony and the ruling was that the
12 documents would not be deemed admitted, but he could be a
13 witness and answer questions as if he had pre-submitted
14 testimony. So I intend to ask him a dozen or so questions
15 explaining, basically laying a foundation for what the
16 exhibits are.

17 At this point we are also not going to seek the
18 introduction of Exhibits 24.02 through 24.08. So the only
19 exhibits at this point that we are going to seek to
20 introduce are 24.01 and 24.09, and I will have Mr. Till
21 explain how he came up with those exhibits and what they
22 are.

23 MR. PEEPLES: Your Honor, I'm going to object.
24 This is suppose to be prefiled testimony. You did not allow
25 the declaration in. They filed this without any of this

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1 information. We have not reviewed it. We have not been
2 able to discuss this with other experts to see what they're
3 going to try to lay a foundation. This is brand new
4 testimony period. It should not be allowed. If they wanted
5 to submit new testimony, you know, they should have
6 submitted when they filed this as prefiled testimony.

7 And I think he misstated your ruling. You did not
8 allow this, and this is clear expert testimony. And, you
9 know, now they're playing this is the first time we heard
10 that they're not going to put in a couple of the other
11 exhibits, and I object to any questions beyond the scope of
12 the prefiled testimony. That's what everybody has stuck to.
13 This is now new testimony at the last minute.

14 MR. KAHN: Your Honor, I believe the point is your
15 ruling allows this. That's what you did in one of the
16 prehearing orders when you rejected the testimony. You said
17 that he could come as a witness and explain what he did, and
18 that's all we are doing.

19 MR. PEEPLES: The exhibit is not entered yet, Your
20 Honor, and I believe your order was if he wanted to try to
21 do this by prefiled testimony, you would consider it at that
22 time.

23 JUDGE WALLIS: Very well. We believe that the
24 appearance of this witness under circumstances that are
25 identified are consistent with the ruling and counsel may

1 proceed.

2 MR. KAHN: Thank you, Your Honor.

3 RICHARD TILL,

4 having been first duly sworn on oath,

5 testified as follows:

6
7 DIRECT EXAMINATION

8 BY MR. KAHN:

9 **Q. Mr. Till, who do you work for?**

10 A. Friends of the Columbia Gorge.

11 **Q. And what's your title?**

12 A. Conservation legal advocate.

13 **Q. Could you please briefly explain the scope of your**
14 **duties.**

15 A. My primary duties involve reviewing development
16 applications in or near the National Scenic Area. I review
17 over 250 applications a year for consistency of local land
18 use laws and make recommendations to the permitting agencies.

19 **Q. When you say development applications are these**
20 **basically requests for some sort of a permit from a local**
21 **government?**

22 A. Yes, anything from an addition to a house to forest
23 service, forest restoration activities or recreation lands.

24 **Q. Do you also review proposed developments that are**
25 **outside and that have an impact on the National Scenic Area?**

1 A. Yes, I do.

2 **Q. Do you have any experience in using GIS software?**

3 A. Yes, I use it on a regular basis.

4 **Q. In connection with reviewing development**
5 **applications?**

6 A. I use the GIS software as part of the review of
7 every development application.

8 **Q. Have you had any practical training in the use of**
9 **that software?**

10 A. We have a GIS consultant that put together the
11 software package and the data layers we use, and she ran me
12 through a one-day training when I started my position on just
13 the basics of using the software, and then as needed I
14 consult with her for additional instruction on how to add new
15 lawyers or how to explore certain functions with that
16 software.

17 **Q. How often do you use the GIS software in your**
18 **professional duties?**

19 A. On a weekly basis.

20 **Q. For how many years?**

21 A. Over four years.

22 **Q. You indicated you use this to evaluate**
23 **approximately 250 projects a year?**

24 A. Yeah, approximately. That's the average based on
25 our data.

1 **Q. So over four years that's roughly a thousand**
2 **projects?**

3 A. That is true.

4 **Q. You submitted nine exhibits to your prefiled**
5 **testimony. We're only going to focus on the first and the**
6 **last today; so just Exhibit 24.01 and 24.09, both of which**
7 **are maps of some sort. Correct?**

8 A. That is correct.

9 **Q. Have you ever created any maps similar to exhibits**
10 **24.01 and 24.09 using GIS data?**

11 A. Yes, depending on the level of review we're going
12 through and whether I need to circulate information data to
13 other coworkers or agencies, I'll make maps on a frequent
14 basis.

15 **Q. We have up on the screen there what was attached to**
16 **your declaration as Exhibit 24.01; is that correct?**

17 A. That is correct.

18 **Q. Can you identify --**

19 MR. KAHN: Council Members, this should be
20 attached to the original declaration that you should have.

21 BY MR. KAHN:

22 **Q. Can you explain what this map purports to be,**
23 **please.**

24 A. This map according to the exhibit it explains all
25 that, but it includes a topographical layer, a road layer,

1 the scenic area boundary layer, and then the wind speed
2 classes that were provided by the National Renewable Energy
3 Laboratory through their website. GIS layer that has been
4 prepared by a company called True Power, also known as True
5 Wind, and it's the data that has been validated by NREL.

6 **Q. Let's look at the exhibit itself. It looks like**
7 **part of it has topographical lines and part does not. Can**
8 **you tell me what the distinction is.**

9 A. Our GIS programs focus on --

10 MR. ARAMBURU: Mr. Kahn, do you want the lights
11 down to see it better?

12 MR. KAHN: It's up to the Council. That might
13 help a little bit.

14 JUDGE WALLIS: Off the record for a minute.

15 (Discussion off the record.)

16 JUDGE WALLIS: Let's be back on the record,
17 please.

18 BY MR. KAHN:

19 **Q. What were you saying, Mr. Till? What's the**
20 **distinction with the topo lines?**

21 A. The topo has GIS layers. Our basic set up focuses
22 on the scenic area so we don't have general data on the
23 topography and various subarea information outside the scenic
24 area whereas the NREL data layer does include information
25 outside the scenic area. Similarly the turbine locations

1 that were provided are a GIS layer that we obtained from the
2 Applicant, and obviously that's outside of the scenic area as
3 well.

4 **Q. So you're saying the little dots with the numbers**
5 **A, F, E, B are the turbine locations based on the information**
6 **provided you directly from the Applicant?**

7 A. Yes, they provided a data layer and I simply opened
8 it through our GIS program.

9 **Q. The different colors on that map correlate with**
10 **different wind speeds as found in the original data that you**
11 **obtained from the NREL?**

12 A. That is correct. I did modify the color so that it
13 reduced how much say a Class 1 would appear. I tried to
14 minimize the appearance of that so people could focus on the
15 other wind speeds, but each cell corresponds. It's simply
16 the NREL data cell that's provided by NREL.

17 **Q. There are maps in the record that have different**
18 **colors correlating with those different wind speed classes;**
19 **is that correct?**

20 A. That's correct.

21 **Q. Did you just change the color to make it easier to**
22 **see?**

23 A. Well, when I did those it -- when I opened the
24 file, it had some colors noted and I just changed a couple of
25 the colors to ensure that they're readily identifiable. Some

1 of them were an array of pastels that blended together quite
2 a bit, and it was hard to distinguish between them. So I
3 just modified the color. I didn't modify the color. I
4 didn't modify the content. I wouldn't be able to modify the
5 content.

6 **Q. So you didn't change any of the boundaries of where**
7 **the colors show?**

8 A. No.

9 **Q. Just the actual color correlating; for example -- I**
10 **can't even see that clearly, but yellow correlating with one**
11 **may be a different color correlating with Class 1 on a**
12 **different map; is that correct?**

13 A. That is correct.

14 **Q. Can you tell me based on this map where the highest**
15 **wind speed is on that map and what class that is?**

16 A. It appears to be some Class 6 outstanding wind
17 speed adjacent to near the top of Underwood Mountain and also
18 some Class 5.

19 **Q. Do you have a pointer that --**

20 MR. PEEPLES: Your Honor, I'm going to object
21 again. This is brand new testimony we are only hearing now.
22 This is completely new. This is not trying to submit some
23 exhibits. This is testimony.

24 MR. KAHN: Which is exactly what you said we could
25 do.

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1 JUDGE WALLIS: Yes.

2 MR. PEEPLES: Prefile it.

3 MR. KAHN: We tried and it was objected.

4 JUDGE WALLIS: Mr. Peeples, we understand your
5 objection. The purpose of this inquiry is to determine
6 whether the witness has the qualifications to support the
7 exhibits according to my recollection of the ruling.

8 MR. PEEPLES: Then you're done with it, Your
9 Honor. I mean seriously. This is now new testimony.

10 MR. KAHN: Can I proceed?

11 JUDGE WALLIS: You may proceed, Mr. Kahn.

12 MR. KAHN: Thank you.

13 BY MR. KAHN:

14 **Q. You were saying that the highest wind speeds on**
15 **that map were where, Mr. Till?**

16 A. I believe this is Class 6 according to the legend.
17 The colors correspond right above that is one of the
18 400-meter cells of Class 5, and there's more Class 5 right at
19 the summit of Underwood Mountain which is right here I
20 believe.

21 **Q. The areas you just referred to the highest speed I**
22 **think you said Class 6. Are they within the project area?**

23 A. No.

24 **Q. Are they in fact within the National Scenic Area?**

25 A. Yes.

1 **Q. Thank you. Okay. Now if you could look at**
2 **Exhibit 24.09. Can you tell us what this exhibit shows.**

3 A. This is a map that was provided by the Applicant
4 through discovery, and what I did -- and along with that
5 information provided through discovery the Applicant also
6 provided coordinates for the turbines that were to be
7 simulated in the visual simulations. So these turbine
8 locations correspond to those along lat and long coordinates
9 that were provided to us.

10 What I did was many of the maps referencing wind
11 speeds refer to the AWS True Power or True Wind and they
12 have a website called or a program called the Wind Navigator
13 that provides wind speeds. And I went to that program and
14 collected plugged in the lat and long coordinates and spat
15 out wind speeds for those specific coordinates, and I
16 entered these coordinates for those wind speeds adjacent to
17 the corresponding turbines.

18 **Q. When you say lat and long are you referring to the**
19 **latitudinal coordinates and longitudinal coordinates?**

20 A. That's correct.

21 **Q. Let's sort of break that down one at a time. The**
22 **location of the turbines on this Exhibit 24.09 where did you**
23 **get that from?**

24 A. The Applicant.

25 **Q. That's based on the coordinates provided you by the**

1 **Applicant?**

2 A. That's correct.

3 **Q. So you didn't do any subjective analysis other than**
4 **just plotting them on a map.**

5 A. That is correct. I just cut the coordinates and
6 pasted them to the program and it generated that outcome for
7 me.

8 **Q. Now, none of what you got from them had these**
9 **numbers that correlate with the wind speed at each turbine;**
10 **is that correct?**

11 A. That's correct.

12 **Q. Tell us step by step how do you obtain that**
13 **information?**

14 A. The Wind Navigator Program has an option to enter
15 in latitude and longitudinal coordinates. I plugged the
16 coordinates provided by the Applicant into those field,
17 pressed enter, and the wind speed came up.

18 **Q. And the wind speed, to your knowledge the wind**
19 **speed that came up was derived from the same set of maps that**
20 **your Exhibit 24.01 or the same database that Exhibit 24.01**
21 **was based on?**

22 A. This is actually I believe an 80-meter above hub
23 height for this particular data so it's a slightly different
24 data set than the AWS True Wind Produced.

25 **Q. When you say the 80-meter height for this, you're**

1 referring to the height above ground for the measuring of the
2 wind?

3 A. Yes.

4 Q. The earlier based exhibits was based on 50-meter
5 height?

6 A. Correct.

7 Q. But the same location, just a different wind speed
8 at the height.

9 A. Correct.

10 Q. Were some of the same database that you used for
11 these pictures relied on by the Applicant in the application?

12 A. Yes, I believe there's three exhibits that used
13 wind speed data that NREL produced -- not NREL, True Power
14 produced. NREL validated the wind speed.

15 Q. So you were using the same database that other
16 exhibits submitted by the Applicant consist of?

17 A. Yes, Exhibits No. 1.08c, 1.09c, and 1.10c are all
18 based on the same data that I used in Exhibit 24.01. Thank
19 you.

20 MR. KAHN: At this point, I'd ask that Exhibits
21 24.01 and 24.09 be admitted. Again at this point we're not
22 offering 24.02 through 24.08.

23 (Exhibit Nos. 24.01 and 24.09 offered into
24 evidence.)

25 MR. PEEPLES: May I voir dire this witness, Your

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1 Honor?

2 JUDGE WALLIS: Does this conclude your examination
3 of the witness?

4 MR. KAHN: Yes, it does.

5 JUDGE WALLIS: Mr Peeples.

6 CROSS-EXAMINATION

7 BY MR. PEEPLES:

8 **Q. Did you graduate from college?**

9 A. Yes.

10 **Q. You went to WSU. Right?**

11 A. That is correct.

12 **Q. And your degree was in philosophy?**

13 A. That is correct.

14 **Q. And then you went to law school; is that correct?**

15 A. Eventually, not right away.

16 **Q. So did you work in meteorology before that?**

17 A. No.

18 **Q. You are now an attorney; is that correct?**

19 A. I'm licensed in the state of Washington.

20 **Q. What's your bar number?**

21 A. Let me look that up. I don't have it memorized.

22 MR. KAHN: Your Honor, for clarification, was
23 there a ruling on the exhibits or did you reserve that?

24 JUDGE WALLIS: No.

25 A. 35539.

1 BY MR. PEEPLES:

2 Q. What is your job with Friends of the Columbia Gorge
3 or Friends of the Gorge or whatever?

4 A. My title is conservation legal advocate.

5 Q. So you're a legal advocate. Right? Have you been
6 sitting at the counsel table?

7 A. I have sat at counsel table now.

8 Q. We're in the of state of Washington. Correct?

9 A. Correct.

10 Q. You are a member of the Washington State Bar.
11 Correct?

12 MR. KAHN: Your Honor, I'm going to object to this
13 line of questioning. I don't know what it has to do with
14 either his testimony or the maps.

15 JUDGE WALLIS: Mr. Peeples, I think you've asked
16 those questions and they've been answered.

17 MR. PEEPLES: Okay.

18 BY MR. PEEPLES:

19 Q. Now, with regard to if you look at -- if you take
20 what's been marked as I guess Exhibit No. 2.

21 MR. KAHN: Exhibit what, please? We have
22 Exhibit 24.01 and 24.09.

23 MR. PEEPLES: 24.01. It's my understanding you're
24 only asking to put in 24.01 and 24.09?

25 MR. KAHN: To keep things simple at this point,

1 yes.

2 BY MR. PEEPLES:

3 **Q. Okay. How did you get from 24.01 to 24.09 or 24.02**
4 **to 24.09?**

5 MR. KAHN: We haven't asked for 24.02.

6 BY MR. PEEPLES:

7 **Q. 24.01.**

8 A. I did not get from 24.01 to 24.09. They're
9 separate maps with different sources.

10 **Q. Well, what were you using the other exhibits for?**

11 MR. KAHN: Could you specify which exhibits?

12 MR. PEEPLES: The rest of them in between.

13 MR. KAHN: We have not offered them. Those aren't
14 in evidence.

15 MR. PEEPLES: Your Honor, they were just withdrawn
16 right now including --

17 MR. KAHN: They've never been offered. If
18 Mr. Peeples would like to offer them feel free, but we
19 haven't offered them.

20 MR. PEEPLES: Referring to your Exhibit No. 24 --

21 CROSS-EXAMINATION

22 BY MR. McMAHAN:

23 **Q. Mr. Till, Tim McMahan for the record. On 24.01,**
24 **please.**

25 A. Yes.

1 **Q. Is it your testimony that wind speed follows parcel**
2 **numbers, parcel maps?**

3 A. No.

4 **Q. So this map shows wind that's mapped based on**
5 **parcel lines; is that correct?**

6 A. No.

7 **Q. I'm referring to the colors on 24.01.**

8 A. Yes, those colors are similarly done at the wind
9 speed -- those are cells created by True Power, validated by
10 NREL that have wind speed data associated with them.

11 **Q. So this would seem to indicate that wind follows**
12 **parcel numbers.**

13 MR. KAHN: I think he's already answered that.

14 A. There is no parcel data on this map. I
15 specifically removed that data when I was generating it.

16 BY MR. McMAHAN:

17 **Q. Okay. Well, let's try this then. You've got**
18 **straight vertical, straight horizontal lines. Is it your**
19 **testimony that the wind follows straight vertical and**
20 **straight horizontal lines?**

21 A. No, the resolution of the NREL is 400 meters so
22 that corresponds to a quarter mile. So these are quarter
23 mile cells, and that's why they're straight lines and blocks.

24 **Q. Okay. So the NREL data then follows fairly gross**
25 **information and assumptions; is that correct?**

1 A. I couldn't testify whether that's gross or precise.

2 Q. Okay. So what do you know about the algorithms and
3 methodology that's at the bottom of these maps? What do you
4 know about that?

5 A. That's beyond the scope of my testimony and
6 expertise.

7 Q. Okay. So it's beyond your expertise. So you don't
8 understand the algorithms and the methodologies of the
9 foundation of these maps; is that correct? Is that what
10 you're saying?

11 MR. McMAHAN: Your Honor, I think he should answer
12 the question.

13 A. No. I'm relying on NREL's validation of True
14 Power's use of those modeling techniques.

15 BY MR. McMAHAN:

16 Q. Did you take a course or did you go to a seminar
17 about True Power?

18 A. No.

19 Q. So you are not familiar then with the algorithms
20 and the methodology underpinning True Power's program; is
21 that correct?

22 MR. KAHN: I believe he's answered that question
23 twice, Your Honor.

24 JUDGE WALLIS: Mr. McMahan, once should be enough.

25 MR. McMAHAN: All right. Thank you.

1 BY MR. McMAHAN:

2 Q. So let me understand this testimony then. You are
3 adopting a mapping data from a source whose methodologies
4 you're not schooled in. Correct?

5 A. I'm not mapping any data.

6 Q. You certainly have mapped data. Exhibit No. 24.09
7 is --

8 A. The data was mapped by True Power, validated by
9 NREL. I simply uploaded that data onto a -- I formatted the
10 heading and its color, but I didn't actually map any data.
11 That data was mapped by True Power and validated by NREL.

12 Q. Has NREL been on the Whistling Ridge Energy Site?

13 A. Not that -- I have no idea.

14 Q. Do they have met towers up there?

15 A. I have no idea.

16 Q. How about True Power?

17 A. I don't know.

18 Q. So you're not aware of whether there's any on-site
19 meteorological data that in any way verifies or validates
20 this information in any way?

21 A. I don't have knowledge of that.

22 Q. Do you know who perhaps has put up met towers on
23 this site?

24 A. I could speculate, but I personally do not know.

25 Q. Like probably the Applicant?

1 MR. KAHN: Which I might add, Your Honor, we tried
2 luciferously to get the data and it was rejected.
3 Mr. McMahan outright argued in several of the briefs when
4 this issue came up that this information is available
5 through nonproprietary information and could be held to by a
6 layperson which has been the solace and the subject of your
7 prehearing hearing order 11 and 12 which is exactly what
8 we've done.

9 MR. McMAHAN: I think this somewhat goes beyond
10 what was suggested in those orders, but I will move on.

11 BY MR. McMAHAN:

12 **Q. So what are you saying here? That the Applicant**
13 **would propose a project on site that has, what, very low wind**
14 **speed? Is that what you're suggesting?**

15 MR. KAHN: Objection, calls for speculation on the
16 part of the witness to what the Applicant might or might not
17 propose.

18 JUDGE WALLIS: The objection is sustained.

19 MR. McMAHAN: All right.

20 BY MR. McMAHAN:

21 **Q. You were here for Mr. Spadaro's testimony earlier**
22 **in the week regarding the wind data; is that correct?**

23 A. No, I was not.

24 **Q. Oh, you weren't here for that. Okay.**

25 MR. McMAHAN: Your Honor -- actually one other

1 thing.

2 BY MR. McMAHAN:

3 **Q. I would point you to what's been identified as**
4 **Exhibit 24.10c. Are you aware of that information?**

5 A. Oh, yes. I don't have it in front of me, but I'm
6 familiar with that. I have reviewed that exhibit.

7 MR. McMAHAN: One moment please, Your Honor. Bear
8 with me for a second.

9 BY MR. McMAHAN:

10 **Q. At the top of the page in an e-mail in Brian Litt**
11 **dated August 13, 2010, you state, "I did receive the disk**
12 **that took a look at the data files. Unfortunately I don't**
13 **have the GIS experience to shape into meaningful information.**
14 **I'll be visiting the Forest Service Office next Wednesday and**
15 **will be taking a look at their GIS data."**

16 **So you're indicating here that you don't have GIS**
17 **experience to shape data into meaningful information; is**
18 **that correct?**

19 A. No, that's not correct.

20 **Q. But that's what you state in this e-mail. Correct?**

21 A. That's not what I say in that e-mail.

22 MR. McMAHAN: I have nothing further, Your Honor.

23 MR. KAHN: One or two questions in response. I
24 mean my only question would be aimed at the foundation for
25 these two exhibits. If we can get a ruling on that, I may

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1 not need to ask him anymore questions.

2 JUDGE WALLIS: What I'd like to do is complete the
3 current examination and then go into recess and come back
4 with a ruling.

5 MR. PEEPLES: Are these documents in? I guess
6 we're trying to figure that out. Are they in or not?

7 JUDGE WALLIS: They are not in at this time.

8 REDIRECT EXAMINATION

9 BY MR. KAHN:

10 **Q. Mr. Till, do you use a word processing software?**

11 A. Yes.

12 **Q. What do you use?**

13 A. Particularly Microsoft Word, occasionally Word
14 Perfect.

15 **Q. Do you have any understanding of the code that went
16 into writing Microsoft Word?**

17 A. No.

18 **Q. Are you capable of using Microsoft Word?**

19 A. Yes.

20 **Q. Do you use it in many of the respects without
21 understanding the bases that went into it?**

22 A. Yes, I use it everyday.

23 MR. KAHN: Thank you. Nothing further.

24 JUDGE WALLIS: Is there anything further?

25 MR. MARVIN: Are we past the point of voir dire or

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1 are we at a point where we can actually have
2 cross-examination of the witness?

3 JUDGE WALLIS: I have not determined yet whether
4 the exhibits would be entered into the record.

5 MR. MARVIN: Would it be appropriate for me to
6 continue or shall we --

7 JUDGE WALLIS: What's the nature of your
8 questions? Are they aimed at determining the qualifications
9 of the witness or aimed at the substance of the documents
10 that have been presented?

11 MR. MARVIN: I think they're aimed at following up
12 on the direct and cross-examination that was presented and
13 also finding out what the relevance of these documents have
14 to the project?

15 JUDGE WALLIS: What I would like to do at this
16 point is confine any inquiry to the qualifications of the
17 witness and the derivation of the documents rather than
18 their substantive consequences.

19 MR. MARVIN: I understand. I would be glad to
20 hold off conducting cross until a determination has been
21 made.

22 JUDGE WALLIS: Very well. Let's be off the record
23 for just a moment.

24 (Discussion off the record.)

25 JUDGE WALLIS: Let's be back on the record,

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1 please.

2 Council Member Moss.

3 MR. MOSS: Thank you, Judge Wallis. There was a
4 mention during the voir dire of an Exhibit 24.10c, and I
5 don't seem to have that in my notebook, and I guess that
6 could be easily remedied. But my question is whether that
7 is something that the Applicant is offering or just
8 mentioned?

9 MR. PEEPLES: 24.10 is the map.

10 MR. KAHN: No, it isn't. 24.10c is your exhibit.

11 MR. BAKER: 24.10c is an e-mail that was
12 circulated by the Applicant on Monday as a cross-rebuttal
13 exhibit. It was in a packet with a rubber band around it
14 and our copy.

15 MR. MOSS: I was just wondering whether that was
16 being offered as well as these other two?

17 MR. McMAHAN: That is correct, Your Honor. That
18 is qualifications. I'm sure the great Ms. Talburt has it
19 appropriately tabbed in the back and it was offered on
20 Monday in a timely fashion as a cross-examination exhibit
21 for this witness.

22 (Exhibit NO. 24.10c offered into evidence.)

23 JUDGE WALLIS: Very well. Let's take our lunch
24 break at this time. I'm going to suggest that we return at
25 1:30, if that's acceptable to the Council?

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1 Very well. We will return at 1:30.

2 (Lunch recess from 12:19 p.m. to 1:30 p.m.)

3 JUDGE WALLIS: Let's be back on the record.

4 During our noon recess the Council convened for a
5 session to consider the objection to Mr. Till's appearance
6 and has decided to grant that objection. Mr. Till did not
7 demonstrate the degree of knowledge about the subject matter
8 of the proposed exhibits to support them, and consequently
9 his testimony and the exhibits will not be received in
10 evidence.

11 (Exhibit Nos. 24.01, 24.09 and 24.10c rejected
12 from evidence.)

13 MR. KAHN: May I ask a question or two then? When
14 Mr. Spadaro was testifying he was testifying about data from
15 the same source. He could not identify where on the project
16 site his answers were coming from. We asked to strike that
17 testimony and that wasn't done. Does he have anymore of a
18 background than Mr. Till such that his testimony is
19 admissible and Mr. Till's isn't?

20 JUDGE WALLIS: Mr. McMahan wants to say something.

21 MR. McMAHAN: Yes, actually this is very
22 interesting. This is quite consistent with this tribunal's
23 ruling. Mr. Spadaro said I lack the expertise to tell you
24 where on the site this NREL data fits. It's too grand a
25 scale. It involves methodologies or algorithms that are not

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1 subject to my expertise. I am not an expert in this issue.
2 That's what Mr. Spadaro testified to, Your Honor, and he
3 didn't begin to delve into the merits of whether the NREL
4 data supported any particular wind resource map on the
5 project whatsoever. That testimony speaks for itself and
6 this ruling is entirely consistent with that.

7 MR. KAHN: Mr. Spadaro testified that there were
8 Class 4, 5, and 6 winds on the project based on the same
9 database Mr. Till was using; yet he couldn't identify where
10 on the project it was, and that testimony is allowed to
11 stand. It seems patently unfair that he can't point out to
12 where it is, but he knows it's there based on data that's
13 not in the record. We have the only submission of evidence
14 that is on point and comes from the same database and it's
15 rejected. It seems patently unfair.

16 MR. McMAHAN: Your Honor, the Spadaro testimony
17 will speak for itself on review.

18 JUDGE WALLIS: Very well. The ruling will stand
19 and Mr. Till is excused from the stand.

20 MR. MARVIN: I would like to ask a few questions
21 of Mr. Till just in regard to background and why this
22 evidence was being offered because I do think it's relevant.
23 I understand that EFSEC has made a ruling that this
24 information is not available because it goes to the economic
25 viability of the project; however, I do believe that it is

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1 relevant to issues regarding mitigation or alternative site
2 location. I thought that it would be perhaps interesting to
3 see what Mr. Till had to say about that.

4 JUDGE WALLIS: How, Mr. Marvin, do his
5 qualifications enable him to respond to those questions?

6 MR. MARVIN: I think it would provide an
7 additional -- my understanding of your ruling is it's not
8 available to the question to economic viability of the
9 project or it goes to economic viability of the project. I
10 believe that this information we are being offered this
11 project as a take or leave it proposition with regard to how
12 it's being sited and used for turbine corridors, and I think
13 there are issues of aesthetic impacts that relate to this
14 type of information that it's based on are significant and
15 relevant, and I mean I would be interested in hearing what
16 Mr. Till has to say on that subject.

17 JUDGE WALLIS: Mr. McMahan.

18 MR. McMAHAN: Your Honor, I think the Council's
19 ruling speaks for itself. It has absolutely nothing to do
20 with economic viability. The fact is he has not the
21 qualifications to sit here and answer the very question you
22 want to ask him, Mr. Marvin. Furthermore we've gone into
23 this. I have a series of objections concerning the
24 materiality and relevance of his testimony. I think the
25 Council's ruling is appropriate and needs to stand.

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1 JUDGE WALLIS: Mr. Marvin, the witness has been
2 excused from the stand, and I do not hear justification in
3 your comments that would lead to a decision to allow him to
4 return.

5 MR. KAHN: Your Honor, may I just make a point.
6 I'm not arguing with your ruling. In light of the ruling on
7 the original submission of Mr. Till's testimony in which you
8 gave us opportunity to present him as a witness and to
9 provide the information as where it's available from other
10 sources, we may have the latitude to submit the same
11 evidence with a declaration of a person who is a GIS expert
12 and can explain in detail exactly how it was done?

13 We've attempted to follow the instructions of the
14 Council at every stage. We're just asking for another
15 opportunity when the rules seem to be changing a little bit.
16 May we have the latitude to submit in evidence with a
17 declaration or prefiled testimony or whatever you want to
18 call it from a person trained and a specialist in GIS?

19 JUDGE WALLIS: In my view the rules are consistent
20 and consistently applied in that you presented this
21 testimony as prefiled evidence based on this witness, and
22 that was the prefiled testimony that was allowed to come
23 into consideration in the proceeding, and the issue posed by
24 the Council has been resolved as a result of his appearance
25 so I believe the matter is closed.

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1 MR. ARAMBURU: Mr. Wallis, I would like to make a
2 motion in light of your ruling today. Mr. Spadaro sponsored
3 certain portions of the application, including a description
4 at page 2.1-6 again of the application in which Mr. Spadaro
5 proposes to provide information to the Council regarding
6 wind speeds and classes of wind speeds under the standard of
7 the NREL laboratory material in particularly the fourth
8 paragraph on page 2.1-6 of the application. In light of the
9 fact that Mr. Spadaro did not even attempt to qualify
10 himself as having any background with respect to wind speed
11 with respect to GIS information, with respect to the NREL
12 materials, his testimony with respect to wind speeds and
13 wind classes on the site should be stricken as well as the
14 testimony of Mr. Till to maintain the consistency of these
15 proceedings. So I would move the Council to strike and not
16 consider the fourth paragraph on page 2.1-6 of the
17 application.

18 MR. McMAHAN: Your Honor, first of all, the
19 application obviously is application versus testimony. Yes,
20 Mr. Spadaro sponsors that portion in the application.

21 I have several comments on this. First of all,
22 the text itself talks about the wind speeds in this area as
23 potential good class for winds. One constituted area within
24 the project area is identified as having outstanding Class 6
25 project potential. I don't think there's anything

1 inconsistent about anything here. This doesn't attribute
2 those winds to any particular portion of the project, any
3 particular string, exactly that, and Mr. Spadaro said he had
4 no expertise to do. Moreover this is a general -- as I
5 stated over and over, this is a general introductory
6 paragraph. Frankly it's not responsive to any criteria
7 which gets me to the relevance and the materiality issue
8 that we have raised from the very beginning when this issue
9 came before the Siting Council in a discovery motion. There
10 is nothing relevant, no materiality in having to prove wind
11 speed one way or the other within the project site. This is
12 a general statement. It doesn't answer any particular
13 criteria. Mr. Baker offered a rather ridiculous explanation
14 in a prehearing conference that it related to the
15 meteorological data that's required to get an air permit for
16 a thermal plant. That's the only thing I've even heard that
17 they can hang it on somehow within the context of the Siting
18 Council standards.

19 JUDGE WALLIS: I don't believe that the
20 objection -- strike that. Let me start over.

21 I am going to deny the motion to strike and
22 believe it's consistent with Mr. McMahan's argument that the
23 circumstances are different in this situation and just leave
24 it at that.

25 MR. ARAMBURU: I want my strong objection to show

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1 for purposes of the record. If what Mr. McMahan says is
2 true that it is not relevant to these proceeding, then he
3 should readily agree that this material should be stricken
4 from the record. The application in the manner that it is
5 presented is now presented to this Council as substantive
6 evidence as a result of this testimony. This paragraph on
7 page 2.1-6 becomes substantive evidence. So I'm not arguing
8 with you, Mr. Wallis. I understand your ruling. But I want
9 to take strong objection to what appears to be a very
10 different standard to be applied to the Applicant's
11 information and what has attempted to be brought in by the
12 intervenors. Thank you.

13 JUDGE WALLIS: I will note that no objection was
14 posed before this point to the issue that you're addressing.
15 Let's move on.

16 MR. KAHN: Actually, Your Honor, that's incorrect.
17 I did object and that that testimony from Mr. Spadaro both
18 orally and in page 2.1-6 be stricken at the time he
19 testified. I made that same motion because he didn't know
20 where the wind speeds were. So it's incorrect to say there
21 was no objection to his testimony at the time.

22 JUDGE WALLIS: Very well. Thank you for that
23 correction.

24 Let's move on. Mr. Andersen.

25 MR. ANDERSEN: Good afternoon, Your Honor, Brad

1 Anderson. I'm pitch hitting for Ken Woodrich who's the
2 attorney for the Skamania County PUD, and so on his behalf I
3 will be calling Bob Wittenberg, Robert Wittenberg who is the
4 manager for the Skamania County PUD.

5 ROBERT WITTENBERG,

6 having been first duly sworn on oath,

7 testified as follows:

8
9 DIRECT EXAMINATION

10 BY MR. ANDERSEN:

11 Q. Mr. Wittenberg, would you go ahead and spell your
12 last name for the record.

13 A. W-i-t-t-e-n-b-e-r-g.

14 Q. And you're the manager for the Skamania County
15 Public Utility District?

16 A. Yes.

17 Q. Prior to today you had a chance to review your
18 prefiled direct testimony which is Exhibit No. 43?

19 A. Yes.

20 Q. Is that prefiled direct testimony generally
21 accurate and consistent with the answers that you would give
22 to those questions that are posed in that exhibit?

23 A. Generally.

24 Q. Is there some concerns that you have and you want
25 to point out to this Commission?

1 A. Yes, on page 5, line 16 and 17 is the statement
2 there is no natural gas utility in Skamania County, and
3 that's not correct. I believe North Bonneville and I'm sure
4 Stevenson and Carson are served by Avista for residential,
5 commercial, those utilities.

6 JUDGE WALLIS: Mr. Wittenberg, would you please
7 sit forward a little bit and pull the microphone a little
8 bit closer to you and speak directly into the microphone so
9 that everyone in the room can hear?

10 THE WITNESS: Thank you.

11 BY MR. ANDERSEN:

12 **Q. So your statement then on page 5 of your prefiled**
13 **testimony is that in fact there's some people in Skamania**
14 **County that actually do have access to natural gas?**

15 A. Yes.

16 **Q. You would not know because you don't have access to**
17 **natural gas?**

18 A. No.

19 **Q. Do you see any benefits to the Whistling Ridge**
20 **project to those citizens you serve as the manager for the**
21 **PUD and if so could you describe that to the Commission?**

22 MR. ARAMBURU: Mr. Chairman, I thought we were
23 here for cross-examination, not an additional direct
24 examination this afternoon.

25 MR. ANDERSEN: I also think -- I mean this is my

1 last question of this witness. I can't imagine what the
2 number of witnesses you have. Sometimes it's nice to know
3 exactly what role this witness plays. So that's the last
4 question I have of this witness so that you at least have
5 some context of why it is that he's providing testimony.

6 JUDGE WALLIS: The witness may respond.

7 THE WITNESS: Thank you for that.

8 A. Yes, the communities of North Bonneville,
9 Stevenson, and Carson to incorporate a community and county
10 seat in the senate of our population of our county do not
11 have an alternate transmission feed. They are from the
12 Bonneville substation on the north side of the river from
13 Bonneville Dam. This project affords the opportunity for
14 significant back feed reliability on the 115 kV transmission
15 line.

16 BY MR. ANDERSEN:

17 **Q. So right now if there was a landslide or something**
18 **along those lines those that live in North Bonneville,**
19 **Stevenson, and Carson now do not have an alternative source**
20 **of energy. Is that what you're saying?**

21 A. If that happens and these lights go out, yes,
22 that's what I'm saying.

23 MR. ANDERSEN: That's all I have, Your Honor.

24 JUDGE WALLIS: Mr. Aramburu?

25 MR. ARAMBURU: Thank you, Mr. Wallis.

CROSS-EXAMINATION

1
2 BY MR. ARAMBURU:

3 Q. Mr. Wittenberg, Rick Aramburu. We met just before
4 the hearing today. Good afternoon.

5 A. Thank you.

6 Q. Mr. Wittenberg, are you here today supporting the
7 Whistling Ridge Project?

8 A. I guess, yes, I certainly would like to see it for
9 a variety of reasons.

10 Q. Have you thoroughly reviewed the application to
11 consider whether or not the project is consistent with
12 environmental and other standards?

13 A. No.

14 Q. Let me also understand your testimony. As I
15 understand it, your particular concern in these proceedings
16 is that Skamania County PUD be able to take power from the
17 substation that might be built if this project is
18 constructed.

19 A. What was the question? I didn't understand what
20 you said.

21 Q. As I understand from for your testimony, the
22 principal benefit from this project that you see is that you
23 will be able to take advantage of a tap into that 115 kV
24 substation that would be constructed as a part of this
25 project.

1 MR. ANDERSEN: Objection vague. Go ahead and
2 answer if you can.

3 A. I can but I have to twist what you're saying a
4 little.

5 BY MR. ARAMBURU:

6 **Q. I have answers to my questions twisted all the**
7 **time. Go ahead.**

8 A. The construction of the substation that I
9 understand is going to be built tapping into the 230 kV line
10 adjacent to a 115 kV line does afford Bonneville Power
11 Administration the ability to back feed into their line which
12 then delivers to our substations.

13 **Q. So if the substation was to be constructed -- let's**
14 **assume that just the substation was constructed and the**
15 **Whistling Ridge project was not, you would still have the**
16 **same benefits, would you not?**

17 A. Yes.

18 **Q. So we're really talking about tapping into that**
19 **line at this point.**

20 A. That's my concern.

21 **Q. Okay. Okay. I just want to see where we were.**
22 **How long have you been the manager of the Skamania County**
23 **PUD?**

24 A. Since May 1, 2001.

25 **Q. Were you an employee or otherwise associated with**

1 **Skamania County PUD before May of 2001?**

2 A. No.

3 **Q. Were you a resident of Skamania County at that**
4 **time?**

5 A. No.

6 **Q. Where did you come from?**

7 A. My last employment was 18 years with Emerald
8 Peoples Utility District in Eugene, Oregon where I was the
9 engineering manager.

10 **Q. You currently live in Underwood?**

11 A. Correct.

12 **Q. Now, do I understand correctly that Skamania County**
13 **PUD is a preference customer of BPA?**

14 A. Yes.

15 **Q. Although I think Council Members know what that**
16 **means, what is a preference customer in BPA's parlance?**

17 A. In BPA parlance?

18 **Q. Yes, In anyone's parlance.**

19 A. Obviously Skamania County PUD.

20 **Q. Okay.**

21 A. As a publicly owned utility in the Northwest we
22 have preference to the output of the federal-based system
23 over the investor-owned utilities and over DSIs, direct
24 service industries.

25 **Q. As the present time all of the power that is taken**

1 that -- start that over.

2 As I understand it at the present time all of the
3 power that is used by Skamania County PUD customers comes
4 from the BPA?

5 A. Yes.

6 Q. And the utility does not have any independent
7 generating facilities of its own?

8 A. I don't understand the word independent.

9 Q. Do you have your own generating facilities?

10 A. We are participants in the Columbia Generating
11 Station and the Packwood Hydro Project.

12 Q. Outside of BPA.

13 A. Those are owned by essentially the members of
14 Energy Northwest and the participants in those projects.

15 Q. Do you have your testimony in front of you, sir?

16 A. Yes.

17 Q. Would you look at page 2, lines 14 through 16.

18 A. I don't have page 2. I have 1, 3, and 5.

19 Q. That happened to a lot of us actually.

20 MR. ARAMBURU: Brad, can you help him out there?

21 MR. ANDERSEN: Yeah.

22 MR. McMAHAN: I'll just have to trust that you
23 will give it back.

24 THE WITNESS: Okay.

25 BY MR. ARAMBURU:

1 Q. So do I understand correctly, Mr. Wittenberg, that
2 the transmission lines that serve Skamania County PUD are
3 owned and operated by the Bonneville Power Administration?

4 A. That's correct.

5 Q. And you've expressed concerns about the reliability
6 of those lines; is that correct?

7 A. Yes.

8 Q. Has Bonneville in terms of any of its planning
9 decided to upgrade or otherwise protect those transmission
10 lines against outages?

11 A. I am not fully aware of their plans. I have heard
12 rumblings of some work on the section from Carson to
13 Underwood that goes over Auspurger Mountain. I have not
14 heard much work on the rest of it. I've not heard discussion
15 or read any documents that they've had any maintenance on the
16 rest of it.

17 Q. So as far as you know the owner of the transmission
18 lines we're talking about, the 115 kV line here, Bonneville
19 Power Administration does not have current plans to upgrade
20 or reroute those lines?

21 A. I am not aware of any.

22 Q. Have you made any requests to the Bonneville Power
23 Administration to otherwise improve that 115 kV line?

24 A. I certainly had discussions with them on the
25 quality of service, the hardware breakdowns, and the loss of

1 a little bit of back feed we have when Condit goes out, yes.

2 **Q. But so far that has not been put on any plans of**
3 **the BPA for future construction?**

4 A. I'm not aware of any.

5 **Q. Now over on page 3 of your testimony you have**
6 **gotten 2, 4, and 6 now I take it?**

7 A. Yes.

8 **Q. At the top of page 4 there's an answer from you**
9 **that says Skamania County PUD has historically received**
10 **back-up power from the east of Condit Dam. Do you see that?**

11 A. I see that, yes.

12 **Q. Preparatory to that question can you tell me how**
13 **many -- I guess we're going on to 11 years that you've been**
14 **manager of the PUD. Around how many outages have occurred on**
15 **that 115 kV line that lasted more than a couple of hours?**

16 A. More than a couple hours?

17 **Q. Yes.**

18 A. I am thinking three to four, but that's what I'm
19 thinking. I can't name that exactly.

20 **Q. Three or four times?**

21 A. Yes.

22 **Q. Over that period of time?**

23 A. Yeah.

24 **Q. What's the longest outage been?**

25 A. Probably that really cold weather that was

1 January 4 time frame, and I think I had said 2004. But I
2 could try and relate that to when I lived in the basement of
3 the house we were building. It could have been back in 2005.
4 I'm not sure. That one lasted I want to say roughly
5 10:45 p.m. the power went out. Underwood was restored in the
6 neighborhood of 7:00 a.m. the next morning. Carson and
7 Stevenson were later. Some parts of the west didn't get
8 restored until nine o'clock in the morning.

9 **Q. What was the cause of the outage?**

10 A. A tree hit the 115 kV.

11 **Q. You've indicated in your testimony concerns**
12 **respecting the slides of the land. How many outages during**
13 **your tenure as manager have occurred because of the rock**
14 **slides, landslides, that kind of thing?**

15 A. I heard you say outages and so that's a big number,
16 if it's on the distribution side. So I'm staying with that.
17 It's a big number if you just say outages.

18 **Q. Let's take the line then that's the 115 kV from the**
19 **Bonneville Dam up to let's say Underwood substation.**

20 A. I am not aware of any land movement outages on that
21 line yet.

22 **Q. We're back to the top of page 4, Mr. Wittenberg,**
23 **please. On lines 4 through 7, you say that the SCPUD has**
24 **historically received its backup power from the east through**
25 **Condit Dam. On how many occasions has Skamania County PUD in**

1 **your tenure received backup power from Condit Dam?**

2 A. It's more than the three or four I mentioned
3 before. There have been planned switching arrangements that
4 have brought power from the east.

5 **Q. That's because of maintenance work or repair work**
6 **on the lines that are within the system?**

7 A. Yes.

8 **Q. And how many times?**

9 A. A handful or more. Maybe a hand and a half.

10 **Q. But that power from the east was supplied by BPA**
11 **under your contracts with them; is that correct?**

12 A. That's correct.

13 **Q. Do you know whether the power came from Condit Dam**
14 **or from another source?**

15 A. I can't idea identify where it came from.

16 **Q. I've looked at the attachment to your testimony,**
17 **the BPA line route. Could you look at that.**

18 MR. ARAMBURU: And to the Council Members it's a
19 separate exhibit.

20 I think, Mr. Andersen, it's just at the end of his
21 testimony?

22 MR. BAKER: I believe that was an exhibit that has
23 been assigned the number 43.01.

24 MR. ARAMBURU: Okay.

25 BY MR. ARAMBURU:

1 **Q. Looking at 43.01, Mr. Wittenberg, what's the**
2 **purpose of this drawing?**

3 A. Many purposes. One of them is for our own
4 alignment to identify where the switches are, where the
5 sectionalizing points are, where the substations are, and
6 where our communications with Bonneville when we speak of
7 particular line sections.

8 **Q. Okay. I'm looking at the area down the page from**
9 **Bald Mountain on the lower right-hand side of the drawing.**
10 **Do you see that?**

11 A. Yes.

12 **Q. It indicates that there's a feed from the east to**
13 **the Bald Mountain Substation; is that correct?**

14 A. That's correct.

15 **Q. And there is very possibly an additional feed to**
16 **that line from Condit Dam; is that right?**

17 A. I don't think so. I am not sure I understood your
18 question.

19 **Q. As I read the diagram power comes from the east,**
20 **comes to Skamania County PUD or other sources into the Bald**
21 **Mountain substation and then feeds back into Underwood,**
22 **Carson, and Stevenson.**

23 A. Try again. I'm sorry.

24 **Q. Am I correct that the power is brought from the**
25 **east, from the east of Underwood through the Bald Mountain**

1 **substation to serve the communities in Skamania County?**

2 A. You're close, but I think, no, is the answer.

3 **Q. Why is that?**

4 A. I heard communities plural. I'm not sure what
5 you're asking me.

6 **Q. I'm asking you about whether you can take power**
7 **from the east to serve loads within the Skamania County PUD?**

8 A. A small portion.

9 **Q. A small portion. Is that a certain number of**
10 **customers or?**

11 A. The normal -- Bonneville will not let us carry
12 anymore than the Underwood substation from the east. That's
13 about the load limit of that delivery point.

14 **Q. So if the 115 kV line went out for some reason,**
15 **there is always that backup power from the east that would**
16 **come and would serve the Underwood area; is that correct?**

17 A. That is correct if Condit Dam is running.

18 **Q. But there's still a line that runs from Klickitat**
19 **PUD to the Bald Mountain substation, does it not, it's under**
20 **construction?**

21 A. That's not exactly correct.

22 **Q. Okay. You want to explain it?**

23 A. The 69 kV line you're talking about comes from the
24 Hood River substation, and it's delivery from Bonneville to
25 Pacific Power and Light where it's transformed from 115 to

1 69. That 115 comes from the old BPA Powerhouse No. 1 just as
2 the source that serves us does. From the Hood River
3 Substation 69 kV serves Pacific Power & Light loads, and some
4 of the Hood River co-op loads went through Powerdale, the
5 powerhouse when it was operating, or over on crossing the
6 Columbia River into Klickitat that serves the Klickitat
7 County Loads and then up to Bald Mountain where it connects
8 to the powerhouse from Condit Dam and 115 connects into the
9 Bald Mountain substation also.

10 **Q. Okay. So my question is can't you bring the power**
11 **into those in Skamania County from the east through the Bald**
12 **Mountain substation?**

13 A. The reason I say only when Condit Dam is running is
14 voltage support. The electricity unless you have path,
15 then instead of 120 volts out of the wall you will have 90 or
16 80 or some such number. You need the voltage support of the
17 8 megawatts generation or more at Condit Dam, and it depends
18 on a few other factors of generation that's on that line.

19 **Q. Did Skamania County PUD ever contract with**
20 **PacifiCorp to receive power from Condit Dam?**

21 A. Not that I'm aware of.

22 **Q. None that you are aware of? But you're the manager**
23 **who would have dealt with it.**

24 A. I know in last ten years the answer is no. Ever?
25 I don't know that in the '30s or '40s.

1 **Q. That's fine. Now looking at also on page 3, I**
2 **understand that the Condit Dam is about to be breached and**
3 **removed; is that correct?**

4 A. Well, that's the rumor. I put no stock on the
5 date.

6 **Q. But that's the plan. The decision has been**
7 **approved by the necessary agencies, the federal agencies to**
8 **happen; is that right?**

9 A. If I think so is a fair answer. I haven't followed
10 it so I don't know that all of the permits, processes are
11 completed, but I agree that as certainly been the plan.

12 **Q. Now, do you recall that the breaching or removal of**
13 **Condit Dam was subject to some proceedings before the Federal**
14 **Energy Regulatory Commission?**

15 A. Yes.

16 **Q. And do you recall if they need to approve the**
17 **removal of Condit Dam?**

18 A. I didn't hear it clearly.

19 **Q. I said were you aware that they needed to approve**
20 **the removal of the Condit Dam, that is FERC?**

21 A. I don't know that process. I know that they held
22 some hearings out here. I didn't know what their authority
23 was.

24 **Q. Did you either go to -- as manager of the PUD did**
25 **you either go to the Federal Energy Regulatory Commission or**

1 to BPA and ask that special conditions be put on the removal
2 of Condit Dam that would allow Skamania County PUD to receive
3 alternate power?

4 A. I believe I testified at one of the public hearings
5 that FERC held, and I can't tell you where. I attended I
6 thought two and indicated that this would cause a problem, a
7 loss of reliability for the customers in Underwood. I
8 verbalized that on a variety of occasions to our transmission
9 account representatives at Bonneville and to our engineering
10 folks at Bonneville, transmission engineering folks at
11 Bonneville of my concern for losing the level of reliability
12 that we currently have.

13 Q. What was the outcome of that? Was there conditions
14 placed on the removal of Condit to satisfy your concerns?

15 A. Not that I know of.

16 Q. At the bottom of page 3 there is a sentence that
17 describes plans for new generation on the Elwah River to
18 supply loss of Condit. Do you see that?

19 A. I see that at line 25 on page 3.

20 Q. By the way did you write all this testimony
21 yourself?

22 A. No.

23 Q. Who did?

24 A. I think this was from conversations I had with an
25 attorney.

1 Q. Which attorney?

2 A. Erin Anderson.

3 Q. Was that the attorney from Stoel Rives that's been
4 a part of the proceedings?

5 A. She's with Stoel Rives.

6 Q. She helped you write this?

7 A. Yes.

8 Q. Now, the line here about the new generation on he
9 Elwah River did that come from you or Ms. Anderson?

10 A. Ms. Anderson I assume.

11 Q. I'm not as familiar as you might be with Southwest
12 Washington, but the only Elwah River that I know in the state
13 of Washington is on the Olympic Peninsula. Is that the Elwah
14 River you're talking about?

15 A. This is one of those areas where Brad asked about
16 general correctness. I'm not sure what she's talking about
17 there.

18 Q. Now, do you have any kind of contract with
19 Whistling Ridge Energy if they develop the Whistling Ridge
20 Project to provide Skamania County PUD with electrical
21 energy?

22 A. No.

23 Q. Are you contemplating such a contract?

24 A. Our commissioners are not. I've heard that
25 nothing -- we had general discussion and they said no.

1 **Q. Your principal concern here is the reliability of**
2 **service. Am I correct about that?**

3 A. That's correct.

4 **Q. Now, as I understand your testimony here the**
5 **mechanism by which this service would be, this new service**
6 **would be provided would be to take a tap off of the line of**
7 **the new substation to be built for the Whistling Ridge**
8 **Project; is that correct?**

9 A. Generally.

10 **Q. And is that proposed tap is that something that is**
11 **going to be bought and paid for by Skamania County PUD?**

12 A. We're having those discussions with Bonneville on
13 an informal basis.

14 **Q. So is it your request that Bonneville pay for this**
15 **instead of using the funds now payable to the Skamania County**
16 **PUD?**

17 A. We would certainly like to see them participate
18 substantially in the cost of that reliability improvement,
19 especially since we're losing all the reliability that we
20 enjoyed.

21 **Q. What's the cost of providing you with a tap into**
22 **their line?**

23 A. I don't know that we're far enough along to have a
24 good estimate yet.

25 **Q. Would it be necessary as a part of that operation**

1 **to install and operate a new transformer?**

2 A. A transformer from 230 to 115 would be required.

3 **Q. So a stepdown transfer will be required.**

4 A. Yes.

5 **Q. And what's the approximate cost of that**
6 **transformer?**

7 A. Well, what size?

8 **Q. No, the cost.**

9 A. I don't know because I need more parameters around
10 it like what size is it, and the other side I need to tell is
11 I've never installed a 230 kV transformer. I've purchased
12 several 115. I take that back. I have bought two 230 kV
13 transformers for the Marcola Substation in 1998. That's the
14 limit of my exposure. Those were 230 to distribution
15 voltage. So I've never purchased or been involved in the
16 purchase of a transformer of this type, and I don't know what
17 would be the best answer.

18 **Q. Very good. Thank you. You indicate on page 4 of**
19 **your testimony that the Rock Creek area is geologically**
20 **unstable. Is that another sentence that came from**
21 **Ms. Anderson?**

22 A. No.

23 **Q. It' not? Then what's your basis for saying there**
24 **is geological instability?**

25 A. I think when the houses fell in Rock Creek and the

1 land slid. That was probably what told me that.

2 **Q. So you're talking about one event then?**

3 A. There's evidence. I've seen LIDAR studies and
4 other studies that show lots of other places that have moved
5 and are moving.

6 **Q. Have you brought these to the attention of BPA?**

7 A. Verbally, yes.

8 **Q. But at the present time BPA doesn't see any need to**
9 **do anything at that time?**

10 A. I don't think that's correct, no.

11 **Q. So what are they doing about it?**

12 A. I think they see a need. I think it hasn't come up
13 as high on their priority list as it is on mine. The
14 competition for dollars is great.

15 **Q. Let me ask you at the bottom on page 5 of your**
16 **testimony, Mr. Wittenberg, you indicated concerns about the**
17 **water supply in the Carson-Underwood area in the event of an**
18 **outage of power on your 115 kV line; is that correct?**

19 A. Yes.

20 **Q. I wanted to ask you a couple of questions about**
21 **that. Does the utility have water storage tanks for these**
22 **communities?**

23 A. Yes.

24 **Q. You're the manager. You probably know this. Do**
25 **you know how big those tanks are?**

1 A. Most of them.

2 **Q. Well, you've indicated concern about the**
3 **Carson-Underwood areas here in your testimony. Do you recall**
4 **what storage capability is available to the Carson and**
5 **Underwood areas?**

6 A. Carson has one 750,000 gallon reservoir and a
7 90,000 gallon reservoir up river a ways.

8 **Q. And that's to serve Carson.**

9 A. That's Carson.

10 **Q. What about Underwood?**

11 A. The brand new one which we just put on line this
12 spring and it's 300,000. It's next to the one at Scoggins
13 Road. 125,000? No, that's too much. I think it's more like
14 90, and below that there's the Ternahan reservoir. It's an
15 oak wood reservoir. It's not very big. I want to say it's
16 70 to 90,000. Creighton was being retired. Little Buck
17 Creek is less than 10,000. That is being retired. Then the
18 one at Shepherd's is a regulation 10,000 gallon tank.

19 **Q. So you've been testifying here and adding that up I**
20 **am coming up with something like just less than**
21 **600,000 gallons for the Underwood area?**

22 A. I didn't add them up, but okay.

23 **Q. And generally how much in Carson?**

24 A. Well, 750,000 plus 90,000.

25 **Q. So 840,000 in Carson. I understand that those**

1 reservoirs or storage tanks are served by electrical pumps
2 that's pumping the water to them?

3 A. Yes.

4 Q. In ordinary conditions say in the wintertime if the
5 power was to go out, how long would the potable water from
6 those reservoirs last to serve the community?

7 A. Carson I'm real rough on this point because I'm
8 not -- I don't feel good about how much our average usage per
9 day is in the winter. I start to grab a number in my head
10 and divide that into the 800,000 and say we got this much,
11 but I am not really confident in that number that's in my
12 head.

13 Q. We don't use by the minute, but however a day would
14 be fine for my question.

15 A. That's what I'm saying. I don't have data handy to
16 give an answer. I'd rather not give you an answer. It would
17 be a wild guess, and I don't think that's what you want.

18 Q. But it would be a couple of days of supply,
19 wouldn't it?

20 A. I believe it's at least a couple of days in Carson.

21 Q. In Carson. And in Underwood it looks like we've
22 got just short of 600,000 gallons of storage capacity. Would
23 that last another couple of days for the Underwood community?

24 A. In the winter, yes.

25 Q. So as far as I can see from your testimony the

1 longest outage that you've or we've experienced in this area
2 has been in the vicinity of 10 to 12 hours; is that right?

3 A. Yes.

4 Q. So it looks to me like the current storage
5 capabilities in your system would continue to meet the need
6 of the residents in the area at least in the wintertime.

7 A. Only on the water needs you mentioned. We are also
8 responsible for the fire flow, and we would lose fire flow
9 quite a bit faster.

10 Q. But is fire flow a less of a concern in the winter
11 as opposed to the summer?

12 A. Yes, it's a year-around concern.

13 Q. But in the summertime you would need fire flow to
14 fight grass fires and forest fires and other fires that are
15 not based in buildings?

16 A. We're required to keep the hydrants pressurized to
17 the requirements of the state of Washington, whatever the
18 fire department wants them for whatever purposes.

19 Q. So what's your minimum fire flow you need?

20 MR. ANDERSEN: Objection, relevancy, Your Honor.

21 MR. ARAMBURU: I will strike the question.

22 BY MR. ARAMBURU:

23 Q. I understand that Skamania County PUD could install
24 generators at the locations of its current electric pumps
25 that are served by the power from BPA; is that correct?

1 A. We could.

2 **Q. And has any movement been made toward doing that?**

3 A. Planning.

4 **Q. There has been a plan made to do that?**

5 A. Yes. Not all, some.

6 **Q. What is the status of that plan so far?**

7 A. The plan requires money so there's some financial
8 components to the plan, including rate increases which we
9 have administered some, and the budget for 2011 in Carson
10 contemplates another rate increase. Our board has finally
11 got to the point of agreeing a rate increase shall be ten
12 percent. They have not agreed on how that rate increase
13 shall be structured. To implement these plans requires the
14 money that's not in the rates today.

15 **Q. And what's your budget for January?**

16 A. I think one generator at the Carson industrial site
17 which is the site of the well. It's a 300-gallon-a-minute
18 well put in the river, and that's the only generator pondered
19 in 2011.

20 **Q. What is the approximate cost of that?**

21 A. Installed with engineering I think we're looking at
22 43,000 as an estimate.

23 **Q. It would appear to me, Mr. Wittenberg, that you can**
24 **put in a whole lot of generators for the cost of a tap to the**
25 **115 kV line at the Whistling Ridge project?**

1 MR. ANDERSEN: Your Honor, I'm going to object.
2 We have moved from electricity to water, and it just seems
3 like for purposes of what this Commission is looking at
4 we're getting very far afield. We need backup electricity.
5 That's all he's testifying to so I'm going to object to
6 relevancy.

7 JUDGE WALLIS: Mr. Aramburu?

8 MR. ARAMBURU: Well, part of Mr. Wittenberg's
9 testimony that's on page 5 is his concern over providing a
10 constant source of water supply to the community, and the
11 question is about whether he knows they can. I think that's
12 a fair question to give an estimate.

13 JUDGE WALLIS: The question is allowed.

14 A. I've lost the track. What was the question?

15 **Q. I have sort of too. Let me try again.**

16 JUDGE WALLIS: Would you like the reporter to read
17 it back?

18 MR. ARAMBURU: No.

19 BY MR. ARAMBURU:

20 **Q. The question was can't you buy a very large number**
21 **of generators for the cost that it would take to put in a new**
22 **transformer and then tap into the 115 kV line at the proposed**
23 **facility substation?**

24 A. Certainly you could buy a lot of generators for the
25 same amount of money, yes.

1 **Q. Thank you. I've submitted a series of exhibits on**
2 **cross-examination for your testimony. Have you been provided**
3 **with those exhibits?**

4 A. I don't think so.

5 MR. ARAMBURU: Counsel, could we provide him with
6 our cross-examination exhibits?

7 MR. McMAHAN: Mr. Wittenberg, sorry. It's
8 actually neatly organized in my volume there by number after
9 the little tabs with little red dots.

10 THE WITNESS: Oh, yes I see. Did you say red
11 dots?

12 MR. McMAHAN: Maybe they're blue. I can't
13 remember the color. There's dots on them.

14 MR. ANDERSEN: He will give you a number and just
15 turn to it.

16 BY MR. ARAMBURU:

17 **Q. I have some questions about these exhibits, and the**
18 **first one is have you had a chance to review these exhibits**
19 **in advance of your testimony?**

20 MR. ANDERSEN: Which exhibits?

21 MR. ARAMBURU: The cross-examination Exhibits
22 43.01 to 43.06.

23 MR. ANDERSEN: My book only goes to -- do you have
24 43, Bob?

25 A. I've seen 43.01 recently.

1 JUDGE WALLIS: Maybe it would help if we identify
2 these documents for the record. 43.01c is a diagram of the
3 BPA line routing. 43.02c is the BPA power generation chart.
4 43.03c is Skamania County PUD informal discovery response.
5 43.04c is Skamania County PUD/BPA power sales agreement.
6 43.05c is a Bonneville Power/Skamania County Public Utility
7 District service agreement, and 43.06c is the Department of
8 Health water use efficiency for Underwood; is that correct?

9 MR. ARAMBURU: Well, I think that maybe for the
10 first one but the balance of these --

11 JUDGE WALLIS: Let's be off the record, please.

12 (Discussion off the record.)

13 JUDGE WALLIS: Let's be back on the record,
14 please.

15 Mr. Aramburu.

16 BY MR. ARAMBURU:

17 **Q. I had some questions about these exhibits before**
18 **you, Mr. Wittenberg. First about the chart that is 43.02.**
19 **Do you know what that shows?**

20 A. Pardon?

21 **Q. Looking at the colored chart which is 43.02 have**
22 **you had a chance to study that document?**

23 A. I've looked at it.

24 **Q. Do you happen to know what it shows?**

25 A. It's foreign to me.

1 **Q. Are you aware that this diagram shows the amount of**
2 **wind power generated on the BPA system?**

3 MR. ANDERSEN: Objection, Your Honor. He's
4 testified it's foreign to him, and now he's being asked to
5 interpret it. So I think there's a lack of foundation for
6 this witness to be testifying about that particular
7 document.

8 MR. ARAMBURU: We will withdraw that.

9 BY MR. ARAMBURU:

10 **Q. The next document is Exhibit 43.03c which is the**
11 **letter from Mr. Woodrich, your counsel. It includes some**
12 **additional material. Are you familiar with this document?**

13 A. This one, yes, I have seen.

14 **Q. Was this material prepared in response to questions**
15 **that I asked of the PUD regarding certain information of**
16 **power generation and other information?**

17 A. Since Ken Woodrich prepared this document he should
18 answer that question. I've got questions for Ken Woodrich.

19 **Q. The next two pages of that exhibit is that material**
20 **that you prepared yourself?**

21 A. No.

22 **Q. Mr. Woodrich prepared it all?**

23 A. I believe so. I think it was a telephone
24 conversation.

25 **Q. Did you approve this before it went out?**

1 A. I think I scanned it.

2 Q. Did you review it to make sure in fact they were
3 being representative and were correct?

4 A. Quickly.

5 MR. ARAMBURU: I am going to move the admission
6 the 43.03, the exhibit of discovery request to Skamania
7 County PUD and the answers that are given with regard to the
8 issue of that.

9 (Exhibit No. 43.03 offered into evidence.)

10 MR. ANDERSEN: I think that's 43.03 and I have no
11 objection, Your Honor.

12 JUDGE WALLIS: 43.03 is received.

13 (Exhibit No. 43.03 admitted into evidence.)

14 MR. ANDERSEN: We do object to 43.02.

15 MR. ARAMBURU: Yes, I have withdrawn that.

16 MR. ANDERSEN: At this point just so I don't
17 forget will you agree to have 43.01 introduced which was
18 that diagram?

19 (Exhibit No. 43.01c offered into evidence.)

20 MR. ARAMBURU: Yes, no objection to 43.01.

21 MR. ANDERSEN: Thank you.

22 JUDGE WALLIS: Let's just for the record state
23 that 43.01 is received, and that this witness sponsored his
24 original testimony as 43.00 and that also is received. Is
25 that a complete description of the documents that we've

1 discussed so far?

2 (Exhibit Nos. 43.00 and 43.01c admitted into
3 evidence.)

4 MR. ANDERSEN: Then 43.03 counsel just moved to
5 admit and I didn't object to that.

6 JUDGE WALLIS: Thank you.

7 BY MR. ARAMBURU:

8 Q. On Exhibit 43.03 at the bottom of the first
9 paragraph there the last sentence says that Mr. Wittenberg
10 points out in this response to informal discovery requests.
11 Mr. Woodrich stated that you were responsible for writing
12 that material.

13 A. What was that last phrase you said?

14 Q. Let's skip that. We will go onto the next one.
15 Exhibit 43.04 is entitled the Full Service Power Sales
16 Agreement between BPA and the PUD. Do you see that document
17 in your papers?

18 A. Yes.

19 Q. Is this the contract between BPA and Skamania
20 County PUD with BPA?

21 A. Yes.

22 Q. And Exhibit 43.05 would be the service agreement
23 between BPA and PUD No. 1; is that correct?

24 A. Yes.

25 MR. ARAMBURU: I move for the admission of 43.04c

1 and 43.05c.

2 (Exhibit Nos. 43.04c and 43.05c offered into
3 evidence.)

4 MR. ANDERSEN: Objection, relevancy.

5 MR. ARAMBURU: The witness seemed to indicate in
6 his testimony or alludes in his testimony that Skamania
7 County PUD somehow manages its own resources in reference to
8 Condit Dam and otherwise. The point is these two exhibits
9 which are contracts with BPA point out that Skamania County
10 PUD relies entirely on BPA for its services.

11 MR. ANDERSEN: Your Honor, we'll stipulate to that
12 fact. I think the witness testified they have two contracts
13 with BPA, and one is to buy electricity and the other one is
14 to transmit that electricity. I think he said that all of
15 the electricity that serves Skamania County is purchased
16 exclusively from BPA so I think these documents will just
17 add to your pile. I don't think you need them.

18 MR. ARAMBURU: I would like to have them part of
19 the record.

20 JUDGE WALLIS: Very well. The documents for
21 better or worse are already in our files so they are
22 demonstratively relevant. Let's receive them in evidence.

23 (Exhibit Nos. 43.04c and 43.05c offered into
24 evidence.)

25 MR. ANDERSEN: Thank you, Your Honor.

1 BY MR. ARAMBURU:

2 Q. Exhibit 43.0 -- I guess we are at -- 6 now is a
3 water use efficiency report from the Department of Health.

4 Do you see that?

5 A. Yes.

6 Q. What is this exhibit? What does this show?

7 MR. ANDERSEN: Objection to the form of the
8 question. What do you mean what does it show?

9 BY MR. ARAMBURU:

10 Q. What is the purpose of that report?

11 A. I think you would have to ask the Department of
12 Health. I have a vague understanding of that. That is all.

13 Q. Help us out. What is that?

14 A. I think that it's part of House Bill 1338 in 2003
15 set up what's called the municipal water law, and part of
16 that was some new regulations regarding water use efficiency.
17 I don't know if this is directly a result of that, but we've
18 done this sort of thing in the past, but I really should
19 refer to our water distribution manager. This report was
20 submitted by Tom Vance. He could answer those question.

21 Q. But let me ask you this question, Bob. The exhibit
22 it talks about distribution leakage summary. Do you see
23 that?

24 A. Yes.

25 Q. And that indicates that of the total water produced

1 **and purchased some 24 percent is lost through leakage in the**
2 **system. Is that a particular figure that you produced?**

3 A. It's a figure Tom produced.

4 **Q. Is that reasonably accurate?**

5 MR. ANDERSEN: Objection. This witness lacks the
6 foundation, knowledge. He's saying that Tom Vance is the
7 one that prepared this information.

8 BY MR. ARAMBURU:

9 **Q. Are you generally aware that your water systems at**
10 **the PUD have a substantial amount of leakage in them?**

11 MR. ANDERSEN: Objection to the form of the
12 question. Substantial?

13 BY MR. ARAMBURU:

14 **Q. Go ahead.**

15 A. I'm aware that we have leakage, yes.

16 **Q. What are the measures that are being taken to**
17 **prevent or correct the leakage in your system?**

18 MR. ANDERSEN: Relevancy, Your Honor. We're
19 talking water.

20 MR. ARAMBURU: He's concerned about the amount of
21 potable water supply in the system. This indicates that a
22 great deal of that water is actually leaking out of it.

23 MR. ANDERSEN: I don't see the way the windmills
24 could provide us water. This argument doesn't make sense,
25 Your Honor. I object to the relevancy of a Department of

1 Health report relating to how much water is leaking from the
2 various systems on relevancy grounds.

3 JUDGE WALLIS: I am going sustain the objection.

4 BY MR. ARAMBURU:

5 **Q. Exhibit 43.07 can you identify that for me, please.**

6 A. Is it a letter from the Department of Health on
7 Department of Health letterhead to Tom Vance dated
8 October 14, 2009?

9 **Q. It is. Can you identify this document. Do you**
10 **know what this is?**

11 MR. ANDERSEN: I think he just did, Your Honor.
12 He cited a letter from the Department of Health dated
13 October 14, 2009.

14 BY MR. ARAMBURU:

15 **Q. Do you know what the purpose of this report is?**

16 A. I don't know the frequency, but occasionally the
17 Department of Health engineer comes down and does sanitary
18 surveys on our two systems, Carson and Underwood. This
19 appears to be a report for the Underwood system.

20 **Q. Has the Department of Health continued to approve**
21 **your system even though there are not backup generators or**
22 **other sources of power to your electric pumps?**

23 A. We're operating with no restrictions at this time.
24 Yeah, we are in full clear license to go.

25 **Q. This is a report dated October 2009. Would you**

1 **look at the last page of that report.**

2 A. At the bottom it says this is not a bill. Is that
3 the page?

4 MR. ARAMBURU: This is not a bill. I am going to
5 withdraw 07.

6 BY MR. ARAMBURU:

7 **Q. Mr. Wittenberg, we are about done.**

8 A. We're about done?

9 **Q. Let me see if I've got another couple of questions**
10 **for you. Has the concern with respect to potable water**
11 **supply and keeping the pumps running has that been a concern**
12 **ever since you took over as manager of the PUD?**

13 A. Yes.

14 **Q. Over that almost ten-year period amount of time now**
15 **has the water system plan ever been amended to include**
16 **auxiliary pumps or generators?**

17 A. We did a water system plan in '96 before I came.
18 We're required to do them every six years. We did another
19 one in 2004. We're doing another one currently for Carson
20 and next year for Underwood, and the one in Carson identifies
21 the need for backup generation at the industrial site well.

22 **Q. And that's a forty some thousand dollar generator?**

23 A. In that neighborhood.

24 **Q. Does your water system plan include a generator for**
25 **the Underwood community?**

1 A. I don't think it's in the plan as of thou shalt do.
2 I think it might be a suggestion.

3 **Q. And the Underwood plan is being done this year?**

4 A. Next year.

5 **Q. Next year. Is there going to be a generator put in**
6 **at that time?**

7 A. Excuse me. We've had a new years. The Underwood
8 plan will be done I think by the end of 2011.

9 **Q. Will that include a backup generator?**

10 A. I don't know.

11 MR. ARAMBURU: No further questions.

12 MR. ANDERSEN: I have some redirect unless there's
13 some other cross.

14 JUDGE WALLIS: Is there any other cross?

15 Mr. Kahn, do you have questions.

16 MR. KAHN: I have no questions.

17 JUDGE WALLIS: Mr. Marvin?

18 MR. MARVIN: No.

19 JUDGE WALLIS: Mr. Andersen.

20 MR. ANDERSEN: Thank you.

21 REDIRECT EXAMINATION

22 BY MR. ANDERSEN:

23 **Q. If I'm understanding correctly is even with Condit**
24 **Dam today you don't have a means to provide backup**
25 **electricity for the communities of Carson, Home Valley,**

1 **Stevenson, and North Bonneville?**

2 A. If we lose the 115, if Bonneville loses the 115 and
3 it goes out, yeah, those people are in the dark.

4 Q. So even with Condit Dam you can't provide for a
5 large percentage of the population in Skamania County. All
6 you can provide for is Underwood right now.

7 A. That's correct.

8 Q. And it gets a little confusing. I think you were
9 trying to explain this to me earlier, and I finally got it is
10 that it's not so much that Condit Dam provides backup
11 electricity because Condit Dam provides -- I'm going to use
12 the wrong word -- transformer or something that transforms
13 the electricity that can go along with your system; is that
14 correct?

15 A. Voltage support.

16 Q. Yes, thank you. Is that right?

17 A. Voltage support, yes.

18 Q. But what is it that the Whistling Ridge Project is
19 going to bring to the system that doesn't currently exist
20 today?

21 A. I will use the word full capacity, and you saw my
22 wheels churning thinking in terms of transformer size because
23 there's been some general discussions with BPA about what
24 size of a transformer might be installed there. It's not
25 nailed down. But it clearly will be full capacity to carry

1 out our entire system. So our system peaks in the
2 neighborhood of 36 megawatts now. With growth you would
3 certainly put in a bigger transformer. So the substation
4 interconnection from 230 to 115 kV in the area of Whistling
5 Ridge would provide the full capabilities that we need for
6 our counties from one end to the other.

7 **Q. If I was to -- I think you explained it to me.
8 Picture yourself being me. If this is a box and it should be
9 square. I'm holding up a square.**

10 JUDGE WALLIS: For the record Mr. Anderson is
11 holding a notebook.

12 BY MR. ANDERSEN:

13 **Q. I'm calling it a box, but Whistling Ridge will
14 bring electricity into the system into a box, and BPA will
15 continue to then tap into the BPA lines running I guess east
16 and west, and then there's going to be a fourth side of this
17 box that you can tap into. Am I understanding that
18 correctly?**

19 JUDGE WALLIS: In layman's terms.

20 A. In layman's terms I think you're describing a
21 four-sided ring bus at the substation.

22 BY MR. ANDERSEN:

23 **Q. That's the word, yes. Is that something that's
24 going to help you do your job having that box?**

25 A. Yes. Well, yes. We're only interested in one side

1 of the ring bus. Like you say, on the 230 one goes east, one
2 goes west. A third side would be the feed from the wind
3 energy project, and the fourth side could be to a 230, 115 kV
4 transformer with the proper circuit breakers and protection
5 and all that stuff, and that would be a tap to the 115 kV
6 line, yes.

7 **Q. You've had discussions with the Applicant about**
8 **this opportunity; is that right?**

9 A. Some, yes.

10 **Q. You were asked some questions about landslides and**
11 **unstable land forms in Skamania County. You're an engineer,**
12 **yes?**

13 A. I am an engineer.

14 **Q. Does Skamania County have some lands that are prone**
15 **to landslides, and, if so, does that cause you any concerns**
16 **with regard to electric transmission lines?**

17 A. I think I hear two questions.

18 **Q. Okay.**

19 A. The first one was we lose lots of distribution. We
20 had lost some distribution lines. Both underground lines
21 have been stretched to the point of breaking by landslides
22 and poles have moved sufficiently out of line or down a hill
23 to where pretty soon the overhead wires break. We have
24 not -- I am not aware of a problem where landslides have yet
25 caused an as outage on the 115 kV line, but I think that's a

1 matter of time.

2 **Q. What do you mean by that? Are we prone to**
3 **landslides more in Skamania County than in most areas?**

4 A. I don't know about most areas.

5 MR. ARAMBURU: Lack of foundation for this
6 witness.

7 MR. ANDERSEN: He was asked a bunch of questions
8 on cross about his concerns.

9 JUDGE WALLIS: Your question is allowed.

10 A. I've looked at the LIDAR studies in Skamania County
11 in that Rock Creek area, and I see and they see the land has
12 moved and is moving, and it's a big concern to us. If that
13 will takes out a 115 kV tower then we're in trouble.

14 **Q. Skamania County has been described as a geological**
15 **wonder. Is that consistent with your understanding?**

16 MR. ARAMBURU: I'm going to object as a leading
17 question and lack of foundation.

18 A. I mean geologic wonder or --

19 JUDGE WALLIS: Mr. Andersen, Perhaps you can
20 rephrase that.

21 MR. ANDERSEN: I'll withdraw it.

22 BY MR. ANDERSEN:

23 **Q. Is the ground unstable?**

24 A. Yes.

25 **Q. And that causes you concerns as the one responsible**

1 **for providing electricity to residents of Skamania County?**

2 A. Yes.

3 MR. ANDERSEN: That's all I have, Your Honor.

4 JUDGE WALLIS: Let's be off the record for a
5 moment.

6 (Discussion off the record.)

7 JUDGE WALLIS: Let's be back on the record.

8 There was a question from the Council.

9 CHAIR LUCE: Mr. Wittenberg, Jim Luce, Chair of
10 the Council. My understanding from your testimony was that
11 Skamania County PUD needed a reliable source of power; is
12 that correct?

13 THE WITNESS: Yes.

14 CHAIR LUCE: Maybe I misunderstood you, but I
15 believe that this issue would be resolved by a 230 kV tap on
16 a Bonneville substation.

17 THE WITNESS: Yes.

18 CHAIR LUCE: That's correct. Right?

19 THE WITNESS: Yes.

20 CHAIR LUCE: So if Bonneville built a standalone
21 substation would that satisfy your needs?

22 THE WITNESS: Oh, yes. At their cost?

23 CHAIR LUCE: Cost is always a matter of
24 negotiation between parties. So what you're saying -- and I
25 don't want to put words in your mouth. I'm just asking to

1 clarify this. If the substation was built without the
2 project and you were able to tap into 230 kV you would be
3 okay.

4 THE WITNESS: From a reliability standpoint, yes,
5 that solves my problem.

6 JUDGE WALLIS: Mr. McMahan, you had a question?

7 RECROSS-EXAMINATION

8 BY MR. McMAHAN:

9 Q. Mr. Wittenberg, just a couple. Tim McMahan for the
10 record. Just a couple questions. If the substation is
11 associated with Whistling Ridge Project is it not true that
12 the cost to Bonneville is considerably less than a standalone
13 substation?

14 A. Way less.

15 Q. What do you mean way less?

16 A. Two things. I doubt they would build such a
17 substation without another cause. You're talking tens of
18 millions of dollars I think. I heard that number battered
19 around once. So, yeah, I don't think they would build it.

20 Q. Then secondly there was some testimony questions
21 about there's some opportunity of putting these generators in
22 the water system. Do you recall those questions?

23 A. Some of them, yes.

24 Q. What would be the fuel source for those generator?

25 A. Gasoline or diesel.

TESTIMONY OF ROBERT WITTENBERG - JANUARY 10, 2011

1 MR. McMAHAN: I have nothing further.

2 JUDGE WALLIS: Mr. Aramburu, you had another
3 question. Is that correct?

4 MR. ARAMBURU: I think it was Mr. Luce's question
5 actually so I have nothing more.

6 JUDGE WALLIS: Very well. Mr. Andersen?

7 MR. ANDERSEN: Nothing more.

8 JUDGE WALLIS: Anything further of the witness?
9 It appears that there is none. So, Mr. Wittenberg, you're
10 excused from the stand at this time. Let's be off the
11 record for just a moment for scheduling.

12 (Discussion off the record.)

13 JUDGE WALLIS: During a brief scheduling
14 discussion we determined that we will pick up tomorrow
15 morning with Mr. Yourkowski at 8:30 and give Mr. Usibelli a
16 little bit longer to make the trip down from Olympia. With
17 that, our schedule tomorrow will also include Mr. Pearce at
18 about 1:00 and Mr. Lang at about 1:30 depending on how the
19 morning session goes, and we will be addressing some longer
20 term scheduling issues at the conclusion of the morning
21 session. Unless there's anything further, let's be in
22 recess.

23 MR. ANDERSEN: Your Honor, just to save me for
24 having to be here tomorrow morning, there was a stipulation
25 for Eric Hovee's testimony. I had Mr. Hovee this morning

1 sign a declaration of authentication which is Document No.
2 41.03 which I gave the original to the clerk and also the
3 same is true for the Port's Manager John McSherry. He also
4 signed a declaration of authentication which is Document No.
5 44.01. So I've submitted the originals to your clerk both
6 of those documents.

7 JUDGE WALLIS: Very well. Thank you very much,
8 and I'm going to ask that we address that tomorrow, and I
9 believe it would be a good idea for us to spend a little
10 time and go through Council's record of the documents and
11 compare those with the court reporter's records and ensure
12 for the benefit of all parties that the exhibits are clearly
13 identified in the record as to their disposition and the
14 timing of that disposition. So let's be in recess until
15 8:30 tomorrow morning.

16 * * * * *

17 (Whereupon, the hearing was adjourned at 4:30
18 p.m.)

I N D E X

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3 In re: Whistling Ridge Energy Project
4 Application No. 2009-10
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9 A F F I D A V I T
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11 I, Shaun Linse, CCR, do hereby certify that the
12 foregoing transcript prepared under my direction is a
13 full and complete transcript of proceedings held on
14 January 10, 2011, in Stevenson, Washington.
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18 Shaun Linse, CCR 2029
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